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SCENARIOS OF IMPROVEMENT / OR REFORM OF AGRICULTURE EXTENSION SYSTEM IN EGYPT

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SCENARIOS OF IMPROVEMENT / OR REFORM OF AGRICULTURE EXTENSION SYSTEM IN EGYPT

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Finally, this study hopes it will be of great benefit and efficient to reform and strengthen the current agriculture extension system in Egypt to cope with the current and future national and international challenges. Additionally, to improve Egyptian farmers potentials especially small-scale farmers in accessing marketing opportunities via providing them with strong and sufficient extension advisory services which will eventually increase their income and livelihoods.

ABBREVIATIONS

AAS	**Agricultural Advisory Service**
AC	**Agricultural Council**
ACDI	**Agricultural Cooperative Development International**
ADAS	**Agricultural Development Advisory Services**
AE	**Agriculture Extension**
Ag COOP	**Agricultural Cooperatives**
AG	**Agricultural Groups**
APEK	**Corporation of Population and Environment Knowledge within Agriculture Extension**
ARC	**Agricultural Research Center**
CAAE	**Central Administration for Agriculture Extension**
CAEPNET	**Caribbean Agricultural Extension Providers Network**
CAOA	**Central Agency for Organization and Administration**
CAPMAS	**Central Agency for Public Mobilization and Statistics**
CECADI	**Distance Education Center**
CIHEAM	**International Center for Advanced Mediterranean Agronomic Studies**
DANIDA	**Danish International Development Agency**
DROSOS	**Swiss Charity Foundation**
ENPARD	**European Neibourhood Program for Agriculture and Rural Development**
FAODA	**Fayoum Agro Oganic Development Association**
FBO	**Farmer Based Organization**
FFS	**Farmers Field Schools**
FTF	**Farmer – to- Farmer**
GAHI	**General Authority for Health Insurance**
HEIA	**Horticultural Export Improvement Association**
ICPM	**Integrated Crop Pest Management**
ICT	**Information Communication Technology**
IFAD	**International Fund for Agriculture Development**

IICA	**Inter American Institute for Cooperation and Agriculture**
IPPMP	**Integrated Production Pest Management Programs**
MALR	**Ministry of Agriculture & Land Reclamation**
MANAGE	**National Institute of Agricultural Extension Management**
MSS	**Ministry of Social Solidarity**
NGOS	**Non-governmental Organizations**
PBDAC	**Principle Bank for Development and Agricultural Credit**
PROCISUR	**Program for Development of Agricultural Technology in the Southern Cone**
RADCON	**Rural and Agricultural Development Communication Network**
SAP	**Structural Adjustment Program**
SFD	**Social Fund for Development**
SHG	**Self-help Groups**
SMS	**Subject Matter Specialist**
UPEHC	**Union of Producers and Exports of Horticultural Crops**
UPOV	**International Union for Protection of Plant Varieties**
VERCON	**Virtual Extension and Research Communication Network**
WTO	**World Trade Organization**

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Notice:

The provided opinions and suggestions are the conclusions of three workshops that took place in collaboration with Foreign Agriculture Relationship in the Ministry of Agriculture & Land Reclamation (MALR) in Egypt. In total 40 participants attended the workshops representing various stakeholders in the agriculture sector: top level executives and cadres in MALR, researchers from ARC, Academics, agriculture cooperatives representatives, farmers, representatives from NGOs and private sector (list of participants attached).

Summary

In 2015, the European Neibourhood Programme for Agriculture and Rural Development (ENPARD)-Phase II started, in recognition of the important socio-economic role played by agriculture and rural areas in the development of the South Med countries. The ENPARD programme has helped, on the long run, the South Med countries to build their national programmes in an open and collaborative process in close cooperation with all relevant stakeholders and according to the countries needs. The EU chose the International Center for Advanced Mediterranean Agronomic Studies in Montpellier (CIHEAM-IAMM) as a specialized international organization in the Mediterranean region to implement ENPARD activities.

The programme deals with policies supporting farmers and development of rural areas by encouraging partnership and cooperation through continuous dialogue and exchange of best practices with relevant stakeholders from neighboring countries in the Southern Mediterranean basin. The CIHEAM-IAMM experts provided technical support to define the important issues that needs to be developed by establishing the "Think-Tank" which is a joint working group that involves various stakeholders, i.e. top level executives in Ministry of Agriculture and Land Reclamation (MALR), researchers, academics, NGOs, producers and agricultural cooperatives, to provide recommnedations that enables decision makers to develop appropriate policies via various meetings. Two main topics were identified as priorities that needed to be addressed which were: Good agricultural practices (GAP), and Reform of the agricultural extension system in Egypt.

Thus a workshop was held on the reform of the agriculture extension on 13 and 14 March 2016 which provided an accurate diagnosis of the current agricultural extension situation and concluded the necessity to change the current agricultural extension system to cope with the national and international challenges. Further workshops were needed to have a deeper understanding of the requirements of the extension system, therefore 2 workshops took place in Egypt, one was held on 18 and 19 April 2016, where both the Think-Tank Committee along with relevant stakeholders and MALR personnel, the Central Department of Agricultural Extension (CAAE) provided a vision of 3 scenarios to reform the system. In this workshop it was recommended to conduct a study that gives an accurate diagnosis and analysis of the current Agricultural Extension in Egypt (historical background, policies and institutional changes, local and international experiences).

In addition to providing an in-depth review of the proposed scenarios, within the national and international context, the study aims to select the more relevant and convenient scenario to be applied. The third workshop was held on 20 and 21 November, 2016 to present the results of the study to all partners and relevant stakeholders for analysis and review, and finally to chose the appropriate scenario.

There is no doubt that the agricultural extension system in Egypt held a strong place in the agriculture sector since its establishment in 1953, and went through various phases that had positive and negative impacts. Thus the system had its ups and downs due to accelerating agricultural policies, overlapping jurisdictions, legislations and ministerial decrees and lack of young human cadres as well as financial resources.

The extension system applied in the period 1950-1970 was consistent with agricultural policies at that time, which eventually could not cope with the current challenges i.e. shifting the agricultural policies towards market-oriented economy since 20 years, declined average of land holdings, fragmented agricultural lands, duality between most of small family land holdings and big farms.

Additionally, significant changes occurred during the last three decades such as the enormous pressure on water resources as a result of high population growth rates, increased cultivated areas, high energy prices, lack of market information especially for small farmers and finally there are about 4 million farmers that own less than 2 feddans.

Though, there was an essential key question which needed to be tackled; is the current agricultural extension system capable of coping with the local and regional challenges, moreover does it reflect the needs, problems and competitiveness of all actors involved?

The study includes two main parts:

The first part deals with: 1) the historical background and development of Egypt's agriculture extension system, 2) policies and institutional changes that affected and shaped the current extension system, and 3) local and international experiences, and lessons learned.

The second part provides the three main scenarios to improve and reform the current extension system in Egypt as per discussions that took place in April, 2016 following which one scenario was chosen in the November 2016 workshop.

The three scenarios are as follows:

1. **Improvement of the current public system,**
2. **Privatization,**
3. **Co-management and partnership between public and non-public sectors.**

In each scenario the objectives, functions, financial resources, advantages and challenges will be explained as follows:

Scenario 1: Improvement of the current public system

This scenario deals with the notion that the public extension organization is the only actor that provides extension services.

Objectives of Agriculture Extension

- **Combat poverty in rural areas through increasing the income of rural families.**
- **Increase of agricultural production and improve its quality to have healthy food.**
- **Upgrade the relative advantages of areas and its products.**
- **Environmental preservation.**

Functions of Agriculture Extension

- **Strengthen the relationships between research and field applications.**
- **Develop technical capacities of farmers.**
- **Develop capacities of women and rural youth.**

In order to carry out such functions, specialized extension workers in production, marketing, irrigation and social aspects are needed.

Organizational Structure

This scenario suggests the reform of current extension administration body in which information dissemination depends on the Ministry of Agriculture and Land Reclamation, particularly the services related to agricultural research presented in the Agricultural Research Center (ARC) as well as governorates services.

Though, it was suggested to establish the Supreme Agricultural Extension Council that includes representatives of research, university, finance, cooperatives, farmers, private Agro-food companies, input supply companies in order to reach full coordination among agricultural policies, research policies, and agricultural extension policies. The aim is to integrate the Central Administration for Agriculture Extension (CAAE) that is responsible for the implementation of agricultural extension activities within the research sector. Thus, the new structure of CAAE will include the following general departments: extension programs, training, rural women and youth, marketing, environment, monitoring and evaluation (M&E).

In this scenario, the ministry of agriculture will be mainly responsible for issuing laws and legislations, monitoring their application through an accurate M&E system and offer 50% of the budget allocated for agriculture extension sector.

Financial Resources

This scenario maintains the public or government character, as it contributes with 50% of the budget allocated to agriculture extension and with gradual decrease of such governmental contribution to be replaced by other financial resources such as:

- **Percentage of profits gained by agricultural cooperatives.**
- **Percentage of profits gained by banks and financial institutions.**
- **Percentage of taxes on agricultural lands.**
- **Fees and compensations paid by farmers in return of some agricultural services.**

Challenges and Problems

The challenges and problems for this scenario can be divided into three categories, as follows:

- **Institutional and legislative challenges: restructuring the organizational framework of MALR, the absence of institutional coordination between those at the decision making level and other relevant bodies (i.e. scientific research centers and those who apply research results) and the absence of a legislative frame for quality control standards related to agricultural input supply.**
- **Education and training challenges: education system at university level is not market-oriented, thus there is a need to determine specific employment criterion for extension workers/agents. Regarding training, it suffers from the dominance of traditional training techniques and lack of training tools and approaches.**
- **Policies challenges related to priorities of agricultural policies: poor task apportionment at the long run and possible rejection of some relevant actors to contribute to financing the agriculture extension.**

Advantages of this scenario is relying on an existing extension organization which enables the coverage and serves various lands; reinforcing the accumulation of experiences; ensuring the process of follow-up, monitoring and evaluation of agricultural extension activities, and benefits from its integration within the organizational structure of the agricultural research center.

Scenario 2: Privatization

The agriculture extension objectives are: rural development, development of human capital and increase farmers' income to improve their livelihoods.

Functions of Agriculture extension

The agriculture extension should carry out the following functions:

- **Reinforce technical capacities and skills of farmers.**
- **Facilitate marketing and export process.**
- **Provide advice, guidance and information for environmental preservation.**

At the beginning extension activities will be carried out using traditional methods and techniques, then gradually shift towards new communication techniques (i.e. internet, mobile phones, etc.) on the medium run especially when addressing young farmers.

Organizational Structure

In this scenario the delivery of agricultural extension activities will be under supervision of Agricultural Research Center (ARC) to be in close contact with agricultural research activities.

The extension structure consists of 4 regional departments to take the characteristics and needs of each region into consideration as follows: risk management (i.e. environmental changes), partnership with the private sector and NGOs, as for the other two departments which are follow-up, monitoring and evaluation, and quality standards are cross-cutting with all activities in the previous departments. This structure allows partnership with various bodies, institutions such as NGOs and private companies and other relevant institutions, and can be considered as a transitional phase that eventually leads to an independent extension system.

Financial Resources

In the first phase, public finance is relatively important and gradually the finance system becomes independent. Resources for financial mobilization are as follows:

- **Percentage of the profits of agricultural input supply companies and veterinary companies.**
- **Percentage of the agricultural cooperatives profits.**
- **Contributions from NGOs, through deducting a specific percentage from the total sum allocated for the implemented projects.**
- **Farmers syndicates.**
- **Fees paid by farmers in return of some services.**

It is important to point out that contributions of some actors can be in the form of in-kind contributions such as introducing training.

Challenges and Problems

- **Existence of effective mechanisms for mobilizing financial resources: these mechanisms require some legislative reforms in many disciplines.**
- **Absence of a legal and legislative framework to organize and coordinate partnership between public and private sectors.**
- **History of conflicts and absence of transparency make collaboration between public and private sector a very complex process.**
- **Difficulties in convincing farmers to pay in return of some extension services as they used to receive such services for free, which might be difficult for the farmers to accept.**

The implementation of this scenario will be very complicated as it requires gradual accurate planning to ensure its success without any contradiction between public and the private sectors on the long run.

Advantages of this scenario

The previous challenges and problems do not underestimate the advantages of this scenario, as the suggested public structure is less complicated than the current one, besides it reduces duplication and improves the coordination process among the relevant actors. Finally, the proposed M&E system allows gradual and continuous improvement of the system.

Scenario 3: Co-management Partnership between public and non-public Sectors

This scenario is based on a principle that the public (government) sector undertakes policy and strategy tasks, while the non-public sector, in its broader context is responsible for executive tasks.

Therefore, the Objectives of agriculture extension are: qualifying farmers, providing technical guidance, and acting as a mediator between farmers and other relevant actors in marketing.

Functions of Agriculture Extension

They are foreseen as general functions that are capable of covering many needs such as:

- **Dissemination of knowledge and technology which is considered the main function of the extension process.**
- **Contribute to the entrepreneurship of the agricultural sector and its development along the entire value chains.**
- **Marketing and playing the mediator role between producers and other actors particularly those engaged in the market (processors, traders, exporters, etc.).**

Organizational Structure

The organizational structure of this scenario is completely different than the previous ones, as it separates between political and executive functions. Thus, political functions are undertaken by the public sector, e.g. MALR, whereas the executive functions are undertaken by the private sector particularly professional and civil society organizations.

The tasks for MOA can be shown as follows:

- **Prepare specific strategies and plan for extension activities that cope with the priority of agricultural policies and its trends.**
- **Training extension workers/agents.**
- **Certify individuals involved in extension services.**

Those certified individuals by the Central Administration for Agricultural Extension will be working as extension workers/agents and will work with professional civil society organizations.

Financial Resources

In this scenario, the percentage of the public budget allocated for agricultural extension activities will be dedicated only for tasks related to MALR. The financial resources for carrying agricultural extension activities will be as follows:

- **Fees for agricultural extension services which will be determined according to the farmers' category and type of provided service.**
- **Percentage of taxes on agricultural lands.**
- **Percentage of profits gained by agricultural products export companies.**
- **Percentage of marketing contracts profits that are signed within the contract farming scheme.**

Challenges and Problems

As this scenario differs significantly from previous scenarios in terms of design, thus the main challenge is the acceptance of decision makers and agriculture extension personnel. Also lack of compatibility between the legal legislative framework and reality represents a major obstacle to the application of this scenario especially radical change is needed regarding acts and laws to allow co-management between MALR and producers and organize relationships among them, besides determining the civil society laws. The last challenge is capability of providing extension services all across the regions, as farmers' organizations and civil society organizations are insufficient to cover all areas.

Advantages of this scenario

In spite of all above challenges and problems this scenario has the following advantages:

- **Flexibility and simplicity of the extension structure design especially the public component.**
- **Creating real partnership between the public and private sectors.**
- **Supporting producers and civil society organizations.**

In conclusion, the three scenarios take into consideration the current and future decline in financial resources allocated for the agriculture extension system and therefore suggest diversification of the financial resources. The scenarios have common problems/challenges i.e. current legislations needs changes, mobilization of other and diversified financial resources and not to depend on the government's budget.

In return, these scenarios provide various options regarding the institutional and administrative structure. As in the first scenario, the public sector still exists but is totally modified. In the second scenario, the structure tends to be more simplified and open to partnership with the private sector as a transitional stage that leads to total privatization Whereas the third scenario is a more simplified system to allow co-

management, as the public sector will be responsible of strategic and political tasks, while the private sector, the civil society organizations and professional ones are responsible of the implementation.

Finally, these scenarios remain under discussion and reviewed by top officials at the ministry level and partners in order to select a new convenient trend for agriculture extension in Egypt that copes with the current and future challenges.

Introduction

Agricultural extension services played a great role in Egypt's agriculture development for many years, depending on knowledge transfer to the public sector. Extension system is currently in a transitional period and is moving towards decentralization of programming decisions and operations on one hand, and being involved in community development and not only focus on agriculture on the other hand. The agriculture extension system faces great challenges e.g. lack of organizational and institutional coordination which weakened its role, difficulty to convince farmers to change their old or traditional agricultural practices (Shalaby et al, 2011), besides weak links and slow communication between extension and research, lack of farmers' participation in setting priorities and decreasing number of extension workers. The number of extension workers in Egypt is 6604 of which 5359 male and 1245 female (Central Administration for Agriculture Extension "CAAE", 2012).

Egypt's agricultural extension services had been delivered by vast network of specialized research institutions, central laboratories, and regional research stations along with the extension administration. The transfer of knowledge followed largely the top-down and one-way approach, from extension workers to farmers.

To address these challenges, the extension units needed to move away from a reactive mode to a more proactive one and to see the beneficiaries of their services not simply as receivers of information, but also as providers of information (FAO, 2010).

There were various and diversified experiences that adopted new approaches in order to face the challenges within the new developments for instance MALR and FAO along with some Egyptian organizations launched two projects tackling ICT in extension and RD were implemented, first the Virtual Extension and Research Communication Network (VERCON) initiated in 2000 and second Rural and Agricultural Development Communication Network (RADCON) initiated in 2004.

Both projects aimed at strengthening communication among stakeholders in agricultural and RD, RADCON was built on the experience of VERCON. In addition to farmers field schools (FFS) approach, which is part of a long-term strategy of sustainable agriculture development applied by MALR and aims at improving the standard of living of rural inhabitants from gender perspective, by increasing their skills and access to knowledge. FFS was initiated for the first time in Fayoum governorate in 1989 to improve tomato crop by establishing 3 female farmers' schools followed by IPM-FFS in 1999.

The agricultural extension system is facing new challenges due to shifting the agricultural policies towards market-oriented economy since 20 years, declined average of land holdings, fragmented agricultural lands, duality between most of small family land holdings and big farms, and also to overlapping jurisdictions, legislations and ministerial decrees and lack of young human cadres as well as financial resources.

The study includes two main parts:

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The three scenarios are as follows:

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Each scenario will be presented according to four main points: objectives, functions, financial resources, advantages and challenges.

PART ONE

EVOLUTION OF AGRICULTURE EXTENSION IN EGYPT AND INFLUENCING FACTORS

This part includes an overview on Agriculture Extension in Egypt by addressing its historical background, the role of the central administration of agriculture extension (CAAE), and current challenges, expected role and future vision. Then tackling the institutional context, institutional preconditions and recent changes, and finally reviewing local and international experiences, and financing agriculture extension activities.

What is Agriculture Extension?

In a rapidly changing global economy, acceleration in mass media and communication means, there is a need to shift the pluralistic agriculture extension and advisory services towards the broader goal of improving rural livelihoods and not only on increasing farmers income.

Agriculture extension system provides applicable tools used by various actors to improve the provided extension services, yet such tool is no longer focused on achieving traditional goals e.g. increasing and improving production but to include other dimensions and sciences such as environment, climate change, economic and health impacts on local communities, besides other social phenomena e.g. poverty, crime and unemployment.

The dissemination and use of improved agricultural technology and management practices can be traced back thousands of years in different parts of the world, including China and Egypt. The origins of public and or government- funded extension and advisory systems can be traced back to Ireland and United Kingdom.

The term *extension* itself was first used to describe adult education programs organized by Oxford and Cambridge Universities in England starting in 1867 which helped to extend the work of university to neighboring communities.

In most developing countries, the terminology used to establish public agricultural extension or advisory institutions was commonly recommended by the donor agency that created these public agricultural extension and advisory systems (The World Bank, 2010).

CHAPTER 1

AGRICULTURE EXTENSION IN EGYPT

1.1 Historical background

Agriculture extension in Egypt is mainly governmental and it evolved through five stages and the organizational structure (Central Administration of Agriculture Extension "CAAE", 2014).

The first stage, could be described as the "scattered" extension efforts in unspecialized groups or organizations i.e. agriculture cooperatives and some commercial institutions, in addition to some visits carried out by engineers working in family farms to provide such services to large scale farmers to guide and help them increase their productivity.

In the second stage, extension services were to some extent determined and supervised by various authorities, upon issuing the Village reform act no. 30/1944.

This act aimed at establishing agricultural groups covering an area of about 15,000 Feddans to promote agriculture reform and also forming an agriculture council for each group responsible for dissemination of Ministry of Agriculture guidelines, in addition to providing some technical lectures. This stage was marked in general by the absence of an independent agricultural extension service system and was considered as a "secondary" job for some agricultural non-specialized organizations and lack of services targeting small-scale farmers.

The third stage resulted as a response to solve the problems of the previous stage via unification and independency of the extension system to provide outstanding services within an organizational framework in 1953. This stage was affected by two events, first the extension conference in the Near East held in Syria in 1953, which encouraged the establishment of independent extension services. FAO recommended in the conference to establish agriculture extension centers in the region. The second event was the 1952 revolution which paid attention to agriculture extension as one of the important programs for social and economic development.

During the forth stage, agriculture extension evolved between 1953 and 1983 (thirteen years). From 1953 to 1958 agriculture extension was recognized as an official organization in Egypt, by establishing an Agriculture extension department under the umbrella of the General administration of agrarian culture in the Ministry of Agriculture that included four branches at the central level: programs, training and technical services, agricultural units, demonstration fields and cooperatives services, and rural organizations. Whereas at the local level agriculture extension was represented only by a supervisor or an assistant supervisor at the governorate level along with an extension engineer at the district level (markaz) in the agriculture unit. These agricultural units reached at that time about 62 units (figure 1).

From 1963 to 1964, the Agriculture extension department became the General administration of agriculture extension and training, and for the first time research and extension tools were included.

Then between 1964 and 1968 training was separated again and the Central administration for agriculture extension (CAAE) became directly under the supervision of Ministry of Agriculture.

In 1968-1976 the High council for agriculture extension was established by the ministerial decree no. 251/1968 and formed by representatives from universities, high agricultural institutions, farmers, cooperatives, research and services departments related to the Ministry of agriculture. This council played

a consultative role to address agriculture problems and suggest appropriate solutions, recommendations to direct extension policy. This decree was followed by another one no. 478/1968 that organizes the General administration for agriculture extension. This period was distinguished by paying more attention to agricultural research and its activities were extended from improving agriculture production to rural developmental activities.

In 1976-1979 there were additional organizational changes, and this period was marked by the establishment of new directorates to expand extension activities. Within the period 1979-1983 the agriculture extension administration was re-organized by the ministerial decree no. 151/1979 to maximize the agriculture production via educational activities to farmers using demonstration fields and modern visual and audio-visual aids (figure 2).

And in the fifth stage, from 1983 untill now, agricultural extension administration became under the supervision of the Agricultural research centre (ARC) by the ministerial decree no. 744/1982, to integrate agriculture extension with agriculture research. Accordingly, three divisions were established; agricultural research, production and stations, and agriculture extension.

In spite of all these efforts, agriculture extension faced many problems regarding the continuous change in its title besides spatial and organizational problems since 1983-1990 until the organized framework and structure assigned by ARC and MALR and approved by the Central agency for organization and administration (CAOA), taking into consideration that the CAAE remains a dependent body at the level of administration.

As indicate in figure 2, the general administration of agriculture extension has specific responsibilities e.g. maximization of agricultural land productivity, design and implementation of extension programs. Each directorate has its own responsibilities for instance the program directorate is responsible for supervising the planning of extension programs in all governorates, campaigns and meetings.

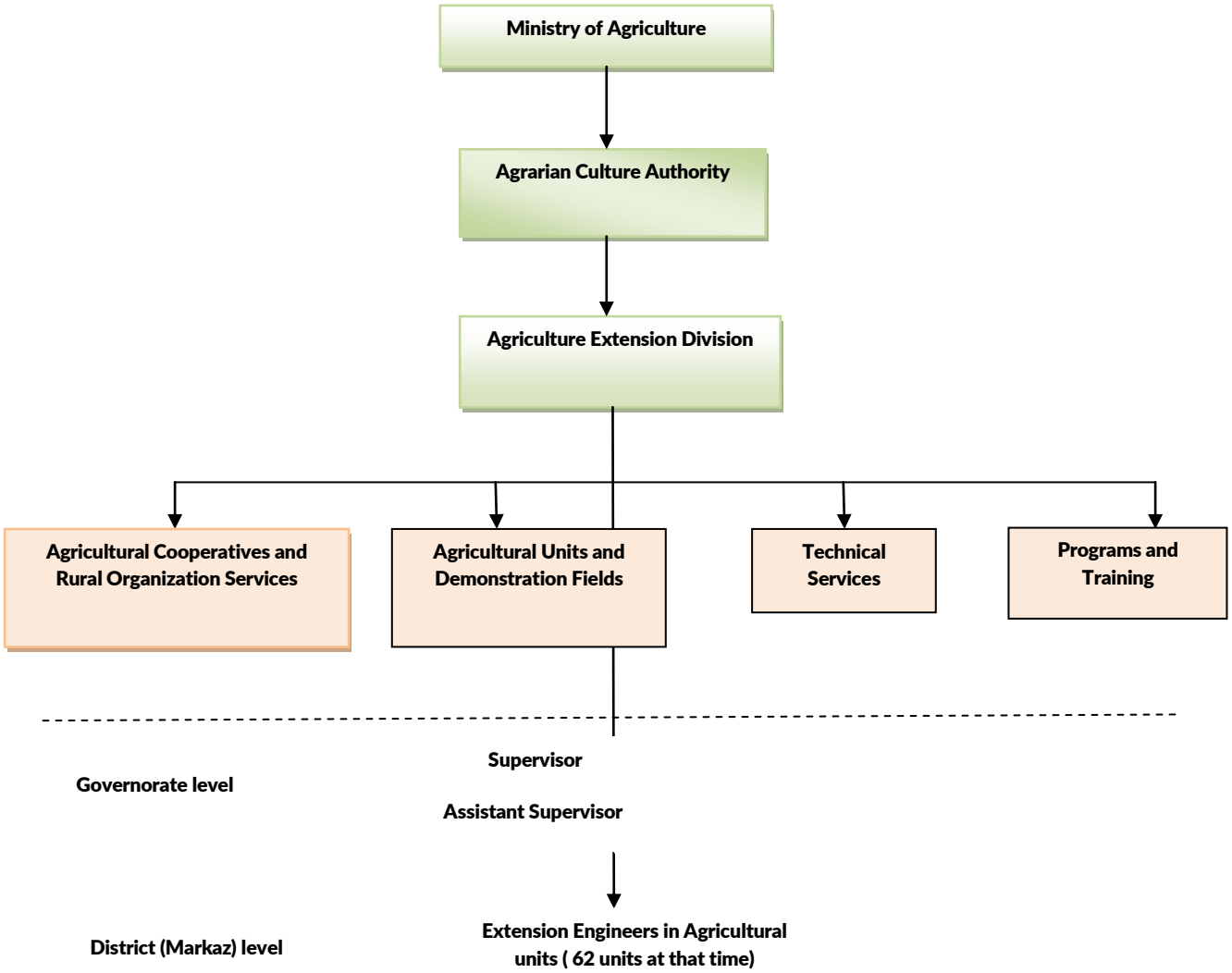

Figure 1: Extension Organizational Structure

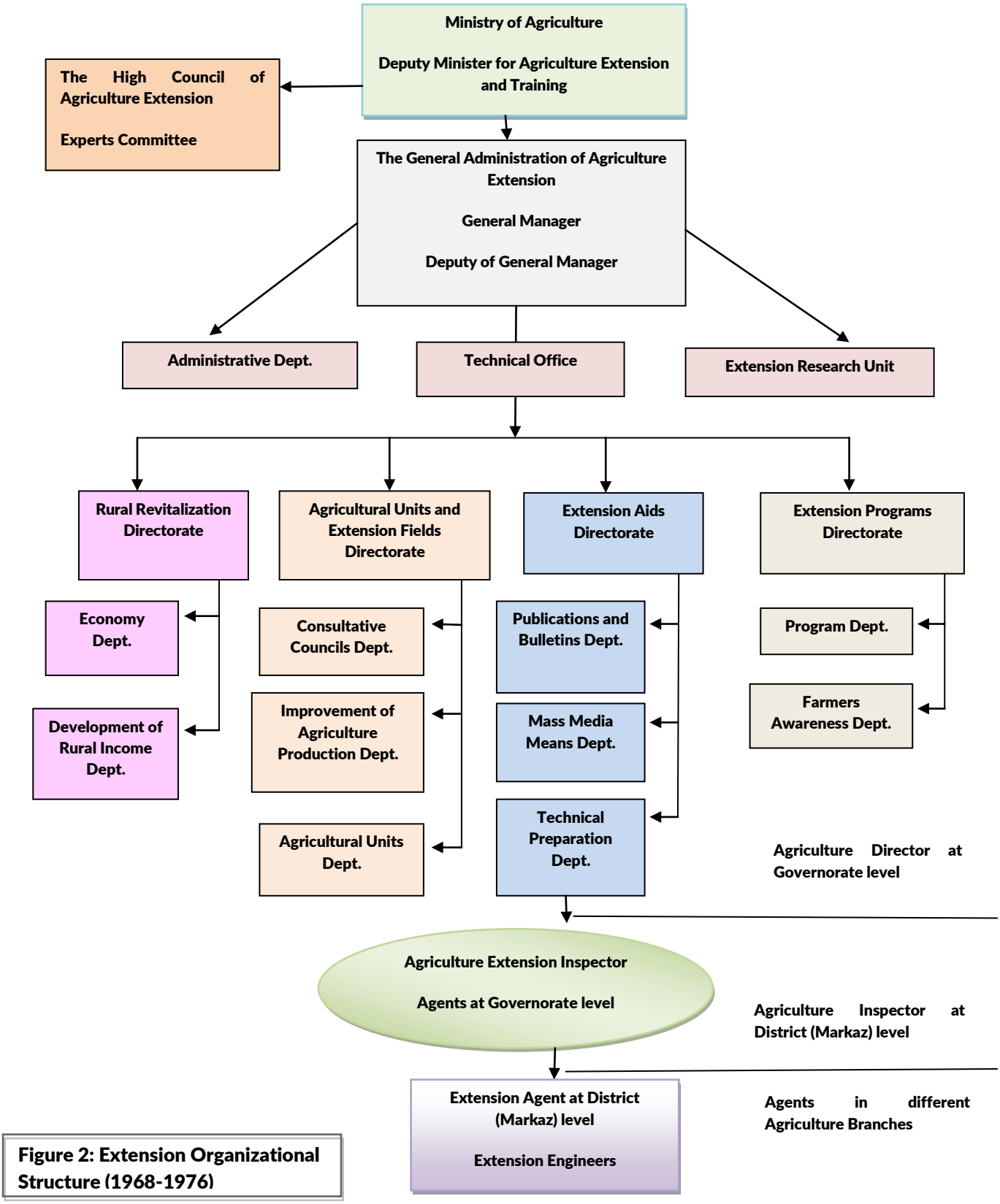

Figure 2: Extension Organizational Structure (1968-1976)

1.2 The role of the central administration of agriculture extension (CAAE)

CAAE is responsible for reducing the productive gaps in various fields to increase self-reliance rate of strategic crops, incorporate both research and extension activities, participate in providing and dissemination of technologies in rural areas regarding production and marketing of field and horticulture crops, besides animal production and rural development.

Additionally, CAAE developed new extension methodologies i.e. participatory extension via farmers field schools (FFS), farmer-to-farmer extension (FTF) and corporation of population and environment knowledge within agriculture extension (APEK). CAAE encourages the bottom-up approach in extension program planning in various agriculture production fields, supervision and monitoring extension and training programs in the governorates, responds to farmers new educational needs within globalization context. Moreover, it is concerned with human resources development through internal and external training, producing agriculture programs andusing media audio-visual aids besides participating in local and international exhibitions. Finally, CAAE aims at increasing the productive efficiency of rural families by implementing small-scale projects and providing awareness in nutritional extension and rationalization of consumption, population, health and environmental areas.

The current CAAE organizational structure, as illustrated in figure 3, is composed of 21 departments and covers nine geographical areas in Egypt. There are specialists, i.e. in rural development (RD), sugar crops, and new lands, at both governorate and agricultural unit levels, besides extensionists at village level. CAAE possesses 4 communication development support centers in 4 main areas in Ismailia governorate, in Malawy (Menia governorate), Mariout (Alexandria governorate) and Dekernis (Dakhlia governorate) (Central Administration for Agriculture Extension "CAAE", 2014).

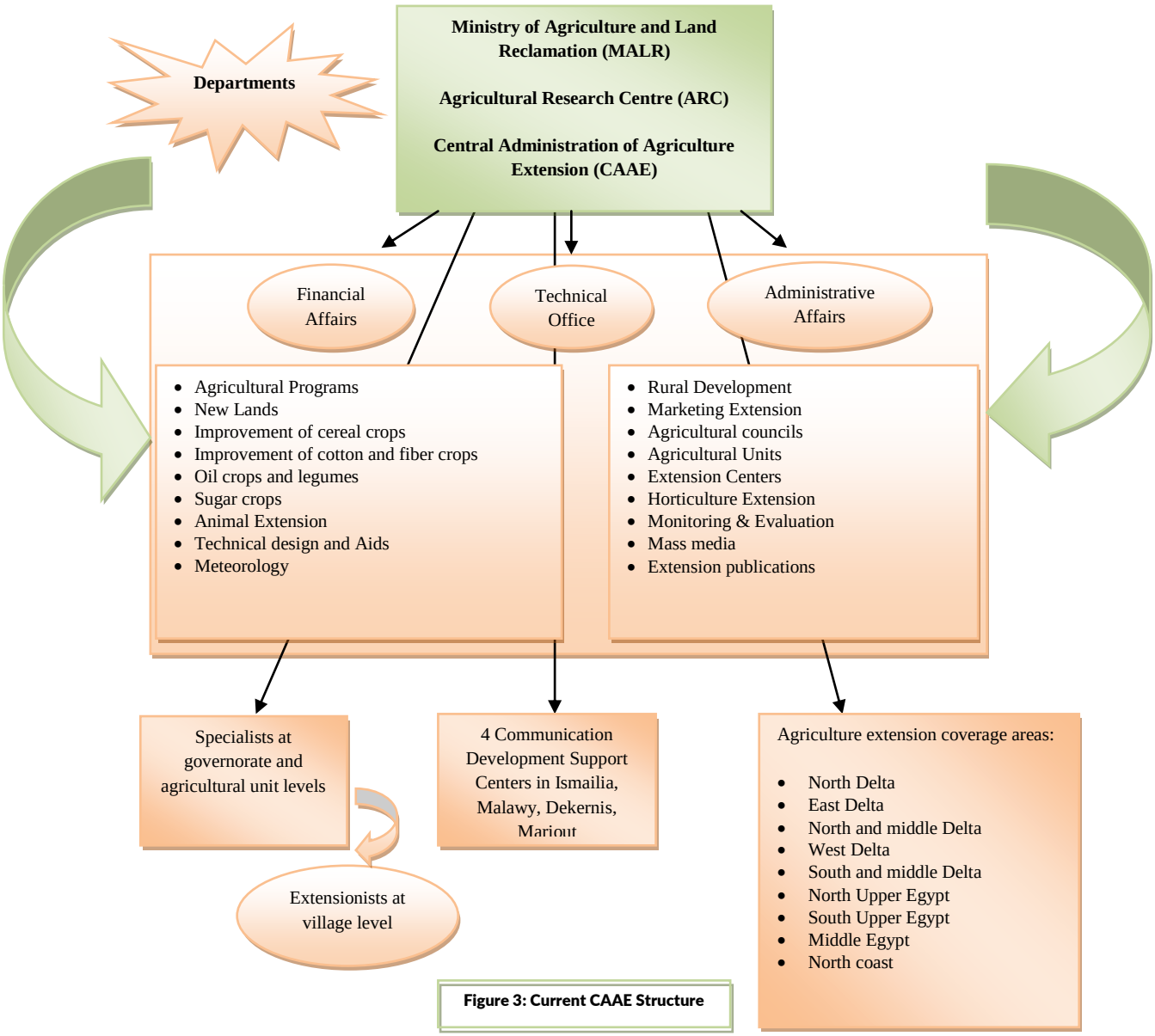

Figure 3: Current CAAE Structure

1.3 Current challenges, expected role and future vision

In the last few years, agriculture extension has faced many problems and its role weakened but it still has an important and vital role to play with farmers, rural people and their communities, thus extension services as mentioned no longer depend on agriculture or helping farmers only but to expand and extend their role to cover the livelihood of the communities. Therefore, improving crops, animal wealth, poultry, fishery, water resources from one hand and people's life quality and living standards from another hand is what ought to be the coming role of extension in Egypt and in developing countries.

1.4 The Current Situation of Agricultural Extension Service in Egypt

The Egyptian agricultural extension organization is currently shrinking which started many years ago and the situation is getting worse as time goes on. Due to many constraints such as the dramatic decrease of budget and staff, performance of the extension function is unsatisfactory. Examples of unsatisfied performance include incomplete coverage of the following:

1. **Extension efforts are mainly addressing the male farmers while females and youths receive a minimal level of attention.**
2. **Extension efforts are mainly addressing small holders but commercial farmers do not receive enough attention.**
3. **Extension service is nearly not existent in the new land which is the main source for providing people with vegetables and fruits plus exportation crops.**
4. **Extension service is mainly focusing on field crops and sometimes on horticultural crops while it is away from producers of livestock, poultry, honey, and added value activities such as food and dairy processing.**

As the performance of the extension function is unsatisfactory, the support of politicians and lead farmers is nearly absent in spite of the absolute faith in the importance of agriculture extension service to the agriculture sector and the entire society.

Clear and comprehensive understanding for the current situation of the Egyptian agricultural extension organization requires showing the following dimensions:

The organizational structure of the Egyptian agricultural extension is complex. Regarding the affiliation of the extension organization, it has changed more than once over the history of agriculture extension in Egypt. The current affiliation of extension personnel in governorate, districts and village levels goes under the municipal authorities while the affiliation of the Central Administration for Agriculture Extension (CAAE) that is located in Cairo goes to the Agricultural Research Center (ARC). Although CAAE affiliation comes under ARC, linkages between extension and research are week except for the national campaigns for increasing productivities for some crops. It is important to clarify that the concept of linkage implies the communication and work relations established between two or more organizations pursuing commonly shared objectives in order to have regular contact and improved productivity (Havelock, 1986).

Human resources and staffing: **As the government ended the recruitment of university graduates since 1984, the extension organization, as a governmental organization, did not nearly receive new applicants since that time. In addition, individuals who reach the age of 60 years leave the service and retire when they reach pension age.**

Consequences of this situation led to the extreme shrink of the number of staff that decreases from 25 000 workers of which 4 151 where extension workers in 1983 to reach 3 500 in 2014 and 2 130 extension workers only in 2015.

Although inadequate number of extension agents is one of the main problems that the extension organization suffers from, there are some other problems that negatively affect the performance of this organization. Among the problems of aging of the current extension agents, low salaries, low percent of female extension agents, low capacities due to insufficient training and traditional training styles and contents. The current staff capacities are also associated with the traditional methods of delivery and the absence of using ICTs in extension work (table 2).

Facilities: **In general, the agricultural extension system is poor in terms of facilities where there is no transportation means for staff and offices are lacking in desks and computers. Offices of Village Extension Agents are located inside the village agricultural cooperative that is really very poor in any facilities which includes desks, chairs and computers. In addition, extension services lack labs for soil analysis or disease diagnoses and there is no cooperation protocol that enables extension agents to be supported with such verification tools.**

The only exception of poor facilities is the existence of extension centers where there is about 236 centers that are supported with training rooms, audio visual aids, desks and chairs. In spite of the good buildings that are devoted for offering extension services, these centers are rarely visited by farmers and they do not have subject matter specialists (SMS) who do not even visit these centers except during the one day training sessions that are held from time to time. In addition, there are no supporting facilities such as soil labs or plant clinics or farm supply outlets.

Budget: **The CAAE budget declined severely in the last 7 years particularly since 2010 until now as indicated in table 1, in 2010 it was 14 million EGP and became only 230,000 EGP in 2015/2016. The budget includes agricultural extension activities, programs, maintenance and facilities e.g. PCs, stationary and audio-visual aid apart from employees salaries. This decrease affected the implementation of extension activities and caused difficulties in delivering extension services to various categories and areas.**

Table 1: CAAE budget from 2010-2016

Fiscal Year	Budget (Million EGP)
2010/2011	14
2011/2012	12
2012/2013	10.2
2013/2014	8.25
2014/2015	8.3
2015/2016	230 thousand

Source: CAAE, 2016

Table 2-a: Number of agriculture extension staff in CAAE at governorate levels

Item	Governorate	Directorate level			Administration and extension centers level			Village level								Total staff		
		No. of SMS						No. of Coop.	Head of unit	Coop. manager	Village extension worker		Basin supervisor	Others	Total extension workers			
		M	F	Total	M	F	Total				M	F				M	F	Grand total
1	Matrouh	15	6	21	35	8	43	63	0	0	0	0	0	0	0	50	14	64
2	Alexandria	8	38	46	31	21	52	1	0	1	27	51	3	0	78	66	110	176
3	Behira	15	4	19	169	26	195	400	0	394	216	22	0	0	238	400	52	452
4	Nubaria	15	1	16	12	4	16	24	0	0	24	0	0	0	24	51	5	56
5	Dakhlia	35	13	48	133	34	167	400	153	360	303	34	1101	0	337	471	81	552
6	Dammitta	9	2	11	53	11	64	70	55	40	48	13	76	0	61	110	26	136
7	Kafr Al -Sheikh	12	5	17	174	29	203	209	81	132	341	37	374	0	378	527	71	598
8	Gharbia	12	2	14	166	20	186	325	325	0	226	352	1897	0	578	404	374	778
9	Menofia	24	8	32	155	22	177	290	287	280	246	42	943	0	288	425	72	497
10	Sharkia	16	12	28	180	27	207	459	387	456	42	20	1066	0	62	238	59	297
11	Port Said	10	3	13	20	7	27	4	4	4	9	3	0	0	12	39	13	52
12	Ismailia	29	33	62	60	21	81	39	40	33	22	10	68	0	32	111	64	175
13	Suez	3	12	15	4	1	5	7	7	7	7	0	0	0	7	14	13	27
14	Qualiobia	16	8	24	71	12	83	187	0	0	89	23	793	0	112	176	43	219
15	North Sinai	8	1	9	47	6	53	53	0	0	53	5	0	0	58	108	12	120
16	South Sinai	8	3	11	11	2	13	1	0	1	4	0	1		4	23	5	28
17	Cairo	4	8	12	10	9	19	0	0	0	13	8	0	0	21	27	25	52
18	Giza	4	2	6	3	2	5	15	0	10	17	9	0	0	26	24	13	37

Source: CAAE, information center, 2014

Table 2-b: Number of agriculture extension staff in CAAE at governorate levels

Item	Governorate	Directorate level			Administration and extension centers level			Village level								Total staff		
		No. of SMS						No. of Coop.	Head of unit	Coop. manager	Village extension worker		Basin supervisor	Others	Total extension workers			
		M	F	Total	M	F	Total				M	F				M	F	Grand total
19	Helwan	3	3	6	4	3	7	3	0	25	10	7	3		17	17	13	30
20	6 of October	6	4	10	46	13	59	112	0	32	22	12	0	0	34	74	29	103
21	Fayoum	14	24	38	111	16	127	164	45	164	69	0	505	0	69	194	40	234
22	Beni Suef	20	25	45	111	6	117	222	96	138	215	5	901	0	220	346	36	382
23	Menia	17	2	19	132	13	145	288	169	264	225	8	178	0	233	374	23	397
24	Assuit	21	8	29	141	12	153	210	202	168	173	0	1584	383	173	335	20	355
25	Sohag	5	0	5	71	2	73	266	0	266	200	0	884	0	200	276	2	278
26	Quena	8	2	10	92	6	98	161	100	0	77	0	0		77	177	8	185
27	Luxor	5	4	9	34	2	36	58	25	40	0	0	167	0	0	39	6	45
28	Aswan	6	1	7	33	2	35	76	73	75	89	0	72	0	89	128	3	131
29	Wadi Al-Gadid	7	0	7	22	5	27	40	0	0	72	0	0	0	72	101	5	106
30	Red Sea	7	3	10	27	5	32	0	0	0	0	0	0	0	0	34	8	42
	Grand total	362	237	599	2158	347	2505	4147	2049	2890	2839	661	10616	383	3500	5359	1245	6605

Source: CAAE, information center, 2014

As indicated in table 2,the total number of subject matter specialists (SMS) are 599 at director level, while at centers level are 2505 and these numbers varies from one governorate to another. The total number of extension workers at village level is 3500 of which 2839 are males and 661 females. The grand total of extension staff is 6604 but this number includes the number of SMS and extension workers at village level.

Since 2010 until 2016 the number of field extension workers decreased from 3917 of which 3290 are male and 627 are female in 2010, to 793 in 2016, which reflects the severe shortage in extension staff especially at field level, thus extension services were inadequately provided and in some areas do not exist.

In order to evaluate the current challenges facing agriculture extension, SWOT analysis was carried out based on review of literature as illustrated in table 3 (Elmenofi, et al, 2015).

Table 3. SWOT analysis of current agriculture extension condition in Egypt

Strengths	Weaknesses
• Extension service providers exist either public or private • Legislations availability • Experienced extension staff • Farmers increased demand to improve their conditions via extension services • The existence of the Sustainable agricultural development strategy	• Low number of extension workers • Weak role of agricultural cooperatives • No gender balance in extension providers and recipients • Budget constraints • Extension workers overloaded with reporting for agriculture land violations
Opportunities	**Threats**
• Incentives to attract young extension workers • Improved coordination and cooperation among relevant stakeholders • Training for young extension workers • Decentralization with minimum supervision at ministry level	• Limited markets access to small-scale farmers • Losses in agricultural lands • Scarcity and deterioration in natural resources • Poverty and food insecurity • High marketing competition locally and internationally

Source: Review of literature and CAAE

It is important to address that extension structure changed rapidly in Egypt since its establishment in 1953 until 1983 and remained static without noticeable changes but was tied with the agricultural policy.

As stated in the 1953 act: "in order to achieve the goals of the agricultural policy along with its principles which demands improvement of agriculture methods and people's livelihoods via creating public awareness especially among actors involved in agriculture through guiding and training farmers". Additionally, extension at that time had a worldwide perspective – local and regional- aiming at reaching all farmers, each individual in rural areas in order to help in solving their problems (Agriculture Extension 1953-1983, 1983).

1.5 Global Challenges facing agriculture

After reviewing local challenges that face the current traditional extension practices, it is also important to show global challenges that make extension reform a matter of necessity. As the world became like a small village due to extraordinary progress in communication patterns, various applications of ICT in all aspects of life, the growth of globalization and the escalating international trade operations worldwide etc., there is no doubt that global changes effects the environment of business and development in all countries.

As governments have realized many years ago that public dominance is a trend that is difficult to continue and other non - governmental actors should be participating in introducing a variety of services for people, there is a worldwide movement towards privatization. Globalization is inextricably linked to privatization, and countries are finding themselves confronted by a new and highly competitive global market. Major economic restructuring is taking place in both the developed and the developing countries, and has greatly changed the balance of responsibility between the public and private sectors (Fresco, 2000).

It has also been noted that globalization is more likely to be in favor of developed countries while economic situations in developing countries is, in general, getting worse. In other words, poverty rates are getting high which mostly and or intensively taking place in rural areas and one way of reducing poverty is to generate incomes through the training and information-sharing that agricultural and rural extension services can provide (Yonggong, 1998).

Global developments that affect agricultural extension work captured the attention of more than one famous author such as Rivera and Kamar who has gathered global developments that make reforming extension a matter of necessity, these developments are globalization and market liberalization, privatization, pluralism, decentralization and devolution, client participation in decision-making, natural and man-mad disasters, information technology revolution, rural poverty, food insecurity and HIV/AIDS epidemic, integrated multi-disciplinary, holistic and sustainable development.(Kamar, 2005)

With the exception of natural and man-made disasters and HIV/AIDS epidemic, these developments can be categorized as follows:

- **Ideological changes: includes globalization, market liberalization, pluralism and privatization where these trends are shaping international and national trade operations where farmers had to learn whether they should continue in farming practices which they have been used to for a long time or should they turn into new farming systems or cultural operations. Consequences of continued practices that do not fit these changes have negative influence on farmers which create new educational requirements to be able to continue in farming business and get the minimal level of income needed to meet the escalating needs of their families.**

- **Technological changes: It mainly includes information technology revolutions; this revolution opens wide prospective for extension organization to reach a higher number of participants that are located in huge geographical areas. There are many challenges that face reaching clients such as low level of infrastructure; unavailability of transportation means and insufficient extension personnel. The use of mobile phones to transfer extension messages is one of the current applications of ICT in extension work that are currently seen in many developing countries. In addition, using internet as a mean for dissemination of knowledge are widely used in USA and Canada.**
- **Management / democratic changes: includes decentralization and devolution and client participation in decision-making. Top-down management styles and the absence of clients' participation in planning extension programs and activities should be replaced with participatory approaches which will require the adoption of decentralization and devolution. There is no doubt that applying such principals can improve the performance of extension service and increase the support of people and political powers to the extension organization.**
- **Changes in approaches: this includes integrated multi-disciplinary, holistic and sustainable development. These approaches are not actually new but top extension mangers should learn from previous experiences where focusing on specific discipline or sector or geographical area or targeted group ends with unbalanced results that will not enhance the overall welfare of the majority of people in any country or society. In addition, working in teams will save time and increase effectiveness of efforts.**
- **Other changes; includes rural poverty and food insecurity which became a worldwide problem in developing countries that requires extensive extension work to enable poor people to increase production and income.**

The worldwide emphasize on sustainable development is creating new learning requirements for both substance and commercial farmers in developing countries. The time is indeed ripe for policy-makers in developing countries to challenge and revisit the discipline of extension within a global context, so as to let the extension function to be performed with excellence in line with the global challenges to their economies and especially to their agriculture sector. Cosmetic changes to the existing national extension systems will be of little benefit, as will be the repeated training of staff in stereotyped agricultural subjects (Kamar, 2005).

1.6 A major challenge for the agriculture in Egypt: the Land Tenure System

The land tenure system in Egypt was exposed to several drastic changes since the Agrarian Reform laws in 1952 and 1954. Political trends for equal distribution and access to land resources among actors in rural areas led to prevalence of small and fragmented farms. Inheritance was another factor intensified in this trend but only in old lands. Yet, the amendment of these laws to liberalize the relations between owners and tenants by the law of

1992 that was fully implemented in 1997 after a five years grace period that created new dynamics which affected both the social and economic conditions in old rural areas.

Liberalization by the last law left hundreds of thousands of previous tenants landless, unemployed and hence fell in the poverty trap. On the other side this new situation helped slightly to restore unity of many, previously, tiny rented and fragmented farms that belong to same ownership. This law did not affect much the situation in the new lands that was kept out of such fragmentation due to the tendency to allow large scale farms since the early distribution of these lands among beneficiaries. Commercial and highly modernized farms that are mostly linked with international market, for export, exist only in new lands.

Nowadays there are 6.37 million labor force working in agriculture and hunting in 2006 (CAPMAS, 2007, p. 83). They do not all work in rural areas but the majority, of course, do. The detailed structure of actors in agriculture was available only from the agricultural census of 2000. The current structure in old lands would not change drastically from that one, if not worse. The land tenure structure during the period from 1950 to 2010 is shown in the following two tables (tables 4 & 5).

Table 4: Distribution of the Cultivated Lands by Farm Size and Holders during the Period 1950-2000[1]

Categories of Farm Area (Feddan)	Census 1950					Census 1990					Census 2000				
	No. Of Holders (x000)	%	Total Holding Area (x000 Fed.)	%	Average Farm Area (Feddan)	No. Of Holders (x000)	%	Total Holding Area (x000 Fed.)	%	Average Farm Area (Feddan)	No. Of Holders (x000)	%	Total Holding Area (x000 Fed.)	%	Average Farm Area (Feddan)
No land	-	-	-	-	-	-	-	-	-	-	823.9	18.1	0	0	0
< 1	214.3	21.4	111.8	1.8	0.52	1050.9	36.1	508.1	6.5	0.48	1615.6	35.6	722.3	8.1	0.4
1-	572.5	57.1	1311	21.3	2.29	1566.1	53.8	3329.5	42.4	2.13	1398	30.8	2271.3	25.4	1.6
3-											346.5	7.6	1222.3	13.7	3.5
5-	122.4	12.2	818.4	13.3	6.69	198.9	6.8	1250	15.9	6.28	234.5	5.2	1441.6	16.1	6.1
10-	52.5	5.2	705.3	11.5	13.43	60.9	2.1	793.7	10.1	13.03	81.5	1.8	1049.6	11.8	12.9
20-	26.5	2.6	792.1	12.9	29.89	27.3	0.9	770.4	9.8	28.22	33.6	0.7	923.2	10.3	27.5
50-	8.4	0.8	579.1	9.4	68.94	4.5	0.2	287.6	3.7	63.91	5.7	0.1	357.1	4.0	62.6
100+	6.5	0.6	1826.3	29.7	280.97	1.6	0.1	909.8	11.6	568.63	2.7	0.1	941.1	10.5	348.6
Total	1003	100.0	6143.9	100.0	6.13	2910.3	100.0	7849.2	100.0	2.7	4542	100.0	8928.5	100.0	2

(1) Calculated from the data presented in the Egypt Statistical Year Book (different issues), CAPMAS *1 feddan= 4200 m^2

Table 5: Distribution of the cultivated lands by farm size and holders in 2010(*)

Categories of Farm Area (Feddan)	2009/2010*				
	No. Of Holders	%	Total Holding Area (x000 Fed.)	%	Average Farm Area (Feddan)
No land	964863	17.85	-	0	-
< 1	2143888	39.67	923638	9.49	0.43
1-	1600089	29.61	2500002	25.69	1.56
3-	329661	6.1	1153189	11.85	3.5
5-	231329	4.28	1408174	14.47	8.27
10-	90710	1.68	1147357	11.79	12.65
20-	35543	0.66	961004	9.88	27.04
50-	5425	0.1	332043	3.41	61.21
100-	2456	0.00045	413590	4.25	168.40
500-	218	0.00004	138224	1.42	634.06
1000+	213	0.0000394	753557	7.74	3537.83
Total	5404395		9730785		2.19

*Source: MALR, 2015, Results of the Agricultural Census 2009/2010

1. The landless who reached about 821 thousands represent about 17.9% of the actors in agriculture in the agricultural census of 2010.
2. Small farmers with holdings of less than 1 feddan, with an average of 0.43 feddan represent about 39.7% of the actors in agriculture in the agricultural census of 2010. Their number increased from 1615600 in census 2000 to about 2 143 888 in census 2010 which impose greater burden on any extension system.
3. Small farmers hold one feddan up to less than 3 with an average of about 1.6 feddans constitute about 29.6 % of the actors in agriculture in the agricultural census of 2010.
4. The above mentioned three categories that represent about 87.2% of all actors in the agriculture sector, according to the agricultural census of 2010, are either poor or vulnerable to poverty. The 69.3% who hold lands are almost subsistence farmers.

They mostly produce traditional crops to satisfy most of their family consumption of cereals and animal feed hence their needs for extension is mostly related to the production of these traditional crops. Yet, in near urban areas they might allocate part of their lands for production of vegetables to be sold in the wholesale markets. Thus they might need extension services on a dispersed base and for a very wide range of products.

The linkages of this category with the agricultural markets are marginal except for inputs and food consumption. However, in conclusion they are mostly net purchasers of food. This situation makes them affected by food price soaring negatively.

5. **Medium and large farms in the old lands with 3 and more feddans hold family farms would have more marketable surplus and thus likely to have need for marketing extension. Although they are negatively affected by volatile input prices but they are net sellers of food and can absorb chocks. Their cropping patterns tend to be more traditional but with more tendency to include more horticultural and cash crops. The majority of beneficiaries, called small farmers and graduates, in new lands would have the same productive patterns specially after crossing the marginal productivity stage. In a recent evaluation mission of the development projects in newly reclaimed lands in 2016 it was found that more than 50% of the lands in these new areas have been shifted to produce only fruits. Thus the extension needs in such areas are mostly different from the needs in old lands.**
6. **Large farms with 100 feds and more, tended to increase from about 10.5% in the census of 2000 to about 13.41% in the last census of 2010.**
7. **Many of these large farms are located in the new lands. Their size reach hundreds and maybe thousands of feddans and they usually grow high value crops such as vegetables and fruits with some fodder crops and livestock. Many of these farms apply modern and sometimes highly sophisticated agricultural technologies. They emphasize on agro-industrial complexes and produce for either local market or export to foreign markets and need no extension service from the state.**
8. **The average farm size in the last census of 2010 (2.19 fed.) tended to be higher than that of the previous census of 2000 (2.00 fed.). This might be a result of the amalgamation process of land holdings expected and targeted by the tenancy law of 1997 where the land market is liberalized by that law.**

In order to understand the factors beyond these challenges it is essential to overview the policies and institutional changes that shaped the current agriculture extension system in Egypt from one hand and to question whether the current system can meet the current and future challenges or there is a need to shift from the traditional extension services to a new system to cope with local and regional rapid changes.

CHAPTER 2

LOCAL AND INTERNATIONAL EXPERIENCES

Learned lessons from experiences of others are considered to be an excellent source for learning new concepts and techniques. This concept applies on international experiences as well as local experiences.

2.1 Local experiences

The extension work in Egypt witnessed various experiences, as it has been suffering over the last 30 years from the shortage of facilities and financial resources and lately human resources, most, if not all experiences, came as a result of collaboration with international development projects. Among these experiences the following key points could be addressed:

- ***Extension services are needed in new lands:*** **New reclaimed lands in Egypt include a variety of clients' categories and each one of them needs extension services. The ministry of agriculture has an administrative unit that is called in some areas "Control Units" which manage the process of receiving new settlers, distribute lands, receive due payments, etc. In some other areas e.g. Nubaria there is a governmental agricultural cooperative in each village. Neither cooperatives nor control units has extension service. The government encouraged the implementation of development projects that provide settlers with extension services especially IFAD. Thus, targeted groups in new lands have shown interest to participate in such projects but the main learned lesson is simply the absence of sustainability where all development services which include extension services disappear by the end of these projects.**
- ***Extension for women in new lands:*** **Rural Women in new lands have also extension needs that are unmet. There is just one project that was originally funded by DANIDA that established specialized training units in some areas that are located in about 7 governorates. Although these units have been provided with equipment and facilities for various value added activities such as food processing, dairy processing, needle works, and bakery facilities, they are almost closed unless training courses are offered. As the same training course is repeated over and over again, women lost their interest to participate in such poor training scheme.**
- **The main learned lessons include opening such units always to attract women to come and learn as needed in a variety of disciplines or topics. In addition, women should be provided with marketing support to help them to sell what they produce.**
- ***Small land holders need small income generating activities:*** **It is rare to see a project that devotes extension and other services to go exclusively for small farmers that own or rent less than 3 feddans such as the implemented project in Minya governorate.**

  This specific project will end by the end of this year; it is implemented by one of the local NGOs and financed by DROSOS Foundation (Swiss Foundation). The main learned lesson

from this project is that small holders are in need for small income generating activities as the size of land would not be able to meet the escalating needs of their families.

- ***Marketing should be considered before production:*** **There are some efforts that encourage the production of organic crops. One of these efforts was a project in Sakkara area in Giza governorate where farmers were interested in producing organic food. The main leaned lesson is opening marketing channels first is a must before guiding farmers to produce organic crops or any other types of crops. This is an important topic that raises the need for the application of "Contract Farming "on many crops to minimize the risk that farmers are facing.**
- ***Showing farmers is better than telling farmers:*** **Farmers prefer always "to see" rather than "to hear". There are three adaptive research farms that have been used few times in one of the development projects in Nubaria area to transfer extension messages to farmers in this area. Farmers have shown great interest but no support from top officials was given to assure its sustainability. The main learned lesson for extension officials is to pay additional attention to use adaptive research farms to show results of new ideas and techniques in agriculture.**
- ***Using TV in extension communication:*** **"Sir El Ard" TV episodes was an innovative project that introduced extension recommendations and messages through TV drama. The project was implemented by Agricultural Cooperative Development International (ACDI) in collaboration with the ministry of agriculture. Episodes covered many topics and the Egyptian TV still broadcast them. ACDI does not fund the production of TV episodes anymore but the ministry of agriculture still produces some episodes based on self-financial resources.**

Box 1: learned lessons

- Extension messages should be introduced in non-traditional ways to make them attractive for the targeted groups.

- TV can be used as an excellent mass media mean to transfer extension messages.

- ***Farmers as a source of information:*** **Farmer to Farmer Project is a project that promotes the transfer of knowledge to farmers by other well experienced farmers. It started in Egypt in 1988 and continued until 1996 where ACDI was the implementing agency. The project came back in between 2009 and continued until 2013, then came through Land O' lakes International in 2014 and is currently going on until 2018. As implementing agencies are Americans, farmers who introduce knowledge and expertise should be Americans.**

  The idea itself was successful which led Care organization to carry out an entire project (1999-2000) that relies mainly on the concept of "peer training "where all farmers were Egyptians.

Box 2: Learned lessons

Farmers believe in farmers more than any other source of information but master farmers who introduce their expertise are in need to be supported by extension personnel to help them to prepare slides presentations and add the scientific knowledge that support their expertise as needed.

Exchange of expertise is more likely to succeed when all participants (master farmers and the audience) are from the same society or at least same level societies like south – south societies or countries.

- ***Extension for commercial farms and other farming activities is needed:*** **There is a focus on crop extension while livestock extension is missed on the ground. Extension agents are not specialized on any specific matters but mainly having general knowledge on crops. Ag-Link was a specialized project for commercial dairy and beef farms that has been carried on from 1997 until 2001. The project was mainly targeting big farmers who have shown interest and agreed upon paying against good services. The project relies on the provision of technical experts who directly visit farmers where they are located. Learned lessons from this project are shown in the following box.**

Box 3: Learned lessons

There is nearly no livestock extension agents at village level and the general extension agent mainly has knowledge on crop production.

Big farmers are still in need for extension to increase productivity and they are able to pay fees against services.

2.2 International experiences

Changes in extension systems are taking place worldwide with a variety of models to fit diversification of various people, environments and cultures. Studying those extension systems can enrich the knowledge base on such important topic that lead to some concepts and ideas that might fit the process of strengthening the Egyptian extension system.

As there are many extension systems that are applied worldwide, it was difficult to study these systems on country basis. Instead, a revise of those systems on regional basis have been performed based on information availability. The following part will show main selected ideas, concepts and applications of extension system on regional basis.

In a later phase of this study, lessons learned from these systems will be captured, reviewed, screened, summarized and added to the overall vision for strengthening the Egyptian extension system.

2.2.1 Asia & Australia

South Asia: Extension in many countries is still largely managed by the public sector "ministries". A diversity of agriculture extension and advisory services in East Asia is seen in China with Public – private partnership, Bangladesh and India have developed a highly pluralistic extension system. At the same time, there are numerous NGOs and private entities providing advisory services to farmers in India via various means, including ICTs.

Pluralistic extension system is seen in South Korea and Taiwan. Although some countries that are primarily public extension oriented, it includes private sector companies that provide specialized commodities extension delivery services. With the influx of NGOs and private companies, countries in South Asia are gradually moving toward pluralistic extension systems.

Central Asia: The extension systems in this area are a mix, including a public- private partnership in Turkmenistan, public –private parastatal (quasi) arrangement in Kazakhstan and more pluralistic arrangements in Tajikistan and Kyrgyzstan. There are informal linkages with NGOs and organizations that provide elements of extension services.

West Asia: The public extension system is still the dominant provider of agriculture extension and rural advisory services in nearly half of the countries in this region. In Jordan, there are only 84 extension agents and services that are supported by the private sector, input supply dealers, NGOs and farmers organizations. In Georgia, the public sector provides extension through various ministries and several semi-governmental organizations.

2.2.2 Africa

Eastern Africa: Ethiopia has farmers training centers and Malawi has numerous NGOs that use public extension staff at local level and provide them with some funds.

Central Africa: Sub-regional countries appear to have developed or be moving toward pluralistic agricultural extension systems. A notable trend is the increased provision of extension services through more commercialized farmer organizations. Most central African countries have employed the Farmer Field School (FFS) model in advancing a "demand – driven" agricultural extension system.

West Africa: As well as in other parts of Sub-Saharan Africa, agriculture is divided between commercial and resource poor farmers. The corporate private sector works almost entirely with commercial farmers, while farmer organizations, NGOs, and FFS programs tend to target the small resource poor farmers.

In the "ministry–led systems", participatory extension is gradually being developed and in some cases becoming "demand-led" through the use of new market information systems. There are considerable efforts in raising the capacity of farmers associations.

W. Africa has several regional Integrated Production Pest Management Programs (IPPMP). There is also an integrated crop pest management (ICPM) – FFS program is also present in Ghana, Nigeria, Cameron, Sera Lion and Ivory Coast.

North Africa: Pluralism is at a minimum except for export companies that handle cash crops. Private companies play an important role in the high potential areas producing fruits and vegetables.

2.2.3 Latin America and the Caribbean

Central and South American countries and the Caribbean: There is an important organization in this area that is called Inter American Institute for Cooperation on Agriculture (IICA), its objectives are research improvement, innovation and technology transfer/ extension for competitive and sustainable agriculture. It has also a distance education center (CECADI) that provide services to build (learning webs) to its members countries. These services include videoconferencing, development of multimedia products for education, training, information, online courses through the Interactive Virtual Environment for Agriculture (e-VIDA) online platform. The (e-VIDA) platform includes courses on best agricultural practices, knowledge management and information strategies for agriculture.

It has been agreed in a regional meeting that has been held in San Jose in 2011 that extension and training services are a key component of agriculture innovation; this resulted in a commitment to (promote direct and sustained investment in the generation of new knowledge and strengthening of the extension systems to assure the transmit ion of these through innovation methodologies), Thus, agriculture extension in this region is a vision framed in the concept of innovation.

In the Caribbean, the newly established Caribbean Agricultural Extension providers network (CAEPNET) was launched in 2013 to promote and bring more attention to these vital services.

Central America: Public - private partnership arrangements exist in Costa Rica, Mexico and Belize. Most of countries adopt pluralistic extension but few still have the dominance of public extension service. Swanson (2008) suggest that agricultural technology will increasingly be developed and run by private –sector companies, and as a result, the process of technology transfer will be increasingly privatized and handled by private sector firms.

South America: There is a big cooperative program for the development of agricultural technology in the Southern Cone (PROCISUR) which promotes collaboration between the national agricultural research institute of each country with the Inter- American Institute for Cooperation on Agriculture (IICA) and other sciences, technology and innovation actors at the international level.

This collaboration includes the transfer of institutional and technological capacities to promote the integration of the sustainable development of family agriculture.

2.2.4 Europe

In East Europe where pluralistic agricultural advisory systems appear to be in progress but the dominant provider of extension services in most of these countries remain the public sector ministry departments and centers. NGOs and farmer organizations operate in some countries and a private company supplements government services through farmer- to -

farmer program. Poland and the Czech Republic referenced the internet as providing access to information.

2.2.5 Canada & US

Extension in Canada is focused on youth development through 4-H, and the country has a 4-H Council that seeks to train rural youth and young farmers about successful farm management, including the development of value chains.

In USA, extension focuses on youth development through 4-H clubs, agriculture leadership development, natural resources, consumer sciences and economic development. However, in terms of agriculture, there is a great expansion in (often university- based) internet information.

Conclusion

The evolution of the agricultural extension has never faced any legislative difficulty since its organization and implementation are governed by ministerial decrees and not laws that need to pass through supreme legislative maker; i.e. the parliament. Yet, it was clear from the past that the state has used agricultural extension as a good tool in orienting and directing farmers and specially the small categories towards implementation of its policies. It shows that the state was always behind the good or fair interest in agricultural extension. However, under the central planned economy the extension public agencies adopted the supply driven approach in providing its cervices. Since liberalization of the agricultural sector this approach in not valid anymore except in very few cases where the problem was felt by the decision makers and politicians and not the public. Under the free market economy only the demand driven approach is feasible and justifiable. However, with the fragmented farms and very huge number of actors due to the dwarf farms application of the demand driven approach becomes economically very costly. The only remedy of this situation is to adopt the group demand rather than the individual demand driven approach which needs different institutional and organizational setup of the actors.

Finally, it is important to point out that the main general learned lesson that is picked from regional extension systems is simply the shift of the public extension service to move from emphasize on the agricultural production themes into wider prospective to meet various needs of various rural categories through rural extension alongside with the adoption of pluralistic extension in which the roles of the actors are supported.

2.3 Financing agriculture extension activities

There are many mechanisms to finance agricultural extension activities that are implemented worldwide. Each country selects the mechanism that fits its context which is influenced by socio-economic factors and the prevailed ideology. Although there are some non-governmental entities that introduce extension activities in Egypt such as NGOs, input supply dealers, and consulting firms, there is no coordination between these entities and the public

extension service. In other words, Egypt does not really have a pluralism where there is nearly no partnership among extension providers. Theoretically, it might be a good idea to reach a financing mechanisms that fit all actors or extension providers which include various private sector entities. Practically, the focus should be on the creation of official and organized pluralism where partnership between the public extension and other actors is established. Upon the establishment of such system and relationships and improvement of the capacity especially for farmers' organizations/ NGOs, other actors will play extension roles that integrate with the public role. Then, mechanisms for financing private extension providers to enable them to introduce extension activities should be considered.

Thus, the focus of this part will be on proposing mechanisms for financing the public extension organization in order to introduce extension services that are delivered by public extension agents or the private sector entities through contracting agreements. What we have concluded is actually coping well with Several European countries, as well as Australia and New Zealand as they have largely privatized their public advisory systems.

In most cases, these newly constituted private extension organizations received public funding on a declining basis while they attempted to shift the cost of advisory services to commercial farmers. It is actually recommended for this type of partnership (contracting out) to take place in which NGOs and private sector will be enabled to carry out specific development projects or component of projects. This example has been introduced before in Egypt through rural development program that has been funded by EU and managed by the Union of Producers and Exporters of Horticultural Crops.

Although there are some international grants or loans that Egypt, either government or NGOs, receives, it is casual sources that cannot be relied on where it is fluctuating and influenced by political issues. Thus, we should consider a permanent source through self-reliance mechanisms.

As the rate of population increases higher than the rate of development growth in Egypt and as other sectors such as education and health receive higher portions of the governmental budget while governmental revenues witness slow and weak increase, public allocated fund that goes for agriculture and agricultural extension activities are dramatically decreasing.

Generally, taxes and fees represent the majority of sources that the public extension relies on in most countries in Europe which are mainly taxes on exports and taxes in various sectors.

There are other countries that adopt different mechanism such as France; Swanson presented the mechanism applied there by explaining that there are about 7,000 extension staff employed by and working under the direction of the chambers of agriculture in each province. Under this arrangement, each farmer pays a flat tax based on the number of hectares farmed, regardless of what crop, livestock or other agricultural products are produced. The chamber then allocates extension staff based on the predominant crop and livestock systems in each area of the province and throughout the country. This approach primarily serves the needs of smaller and medium-scale farmers, while large-scale, commercial farmers get more of their advisory services from private-sector input suppliers (Swanson, 2008).

As Egypt does not have Chambers of Agriculture that are managing most of the agricultural affairs, it is difficult to apply this mechanism in Egypt. In addition, taxes and fees that are collected by the ministry of agriculture or any other governmental authority do not go for financing public extension. Allocating such budget for extension will need to be approved by the parliament that is occupied due to examining legislations in different economic sectors. . Moreover, rural areas are lacking a lot of infrastructure services that residents might prefer to get them first.

The system applied by China might fit the Egyptian context where the Chinese government tested several different approaches to recove the cost of public extension services from farmers in terms of crop extension services, each county and township extension office established a Commercial Agricultural Store (input supply) adjacent to the Agro-Technical Extension Office where farmers could get one-on-one technical advice about the specific crop varieties and fertilizers, as well as technical recommendations, if they bought their inputs from this store. Under this model, most of the cost of extension services was recovered from the sale of production inputs, and the actual number of extension staff increased.

In the case of livestock, Chinese farmers were expected to pay for specific services (i.e. artificial insemination, vaccinations). The cost of extension services was largely covered through the sale of these services (Swanson, 2008). Although Swanson has pointed out that this model would not be possible in most countries where private-sector firms already supply inputs, this system can fit the local situation in Egypt but only in the areas that are surrounded by smallholders and medium farmers. This is mainly because there are many cases for private sector outlets that sell bad quality products and farmers will probably more likely to see an outlet that they can trust plus the difficulty of attracting commercial farmers / firms to deal with the public extension service.

It is suggested to test this system first in some extension centers, based on the results, policy makers will decide if such a mechanism will be widely used or not.

It is difficult for commercial firms that export to agree on financing the extension service as they do not nearly get any benefit from the public extension service. However, they will pay for training courses for their technical labor and also for extension visits that they ask for. If such visits worked out for them, they might agree to pay a yearly fee against all year round extension services.

On the contrary, small and medium farmers might accept the deduction of something like two Egyptian pounds for each ardeb (a sack that weights 50 kg) of wheat when they sell it to the government. The government supports them with a purchasing price that exceeds international prices and the farmers syndicate or union might agree on such a proposal. However, the voucher system that is applied in some Latin American countries does not really fit the Egyptian context as it will probably need adequate financial resources that government is currently lacking off.

It is also possible for the public extension service to gain considerable continuous amount of money through offering licenses or work permits for companies that sell input supplies as what has been shown earlier, and such payments should be on an annual basis.

Finally, it is needed to point out that collected money can be devoted for extension services that are delivered either by the public extension service or the private sector that includes private firms as well as farmers' organizations / NGOs. The delivery of extension services through transferred public fund is called (contracting out) and some people are calling for the empowerment of the private sector to introduce services.

Conclusion

Proposed mechanisms for financing agricultural extension activities that either run by the public extension organization or the non-public sector (including farmers associations / NGOs) through contracting out system can be summarized as follows:

- **Renting outlets and selling licenses for a big company that is specialized in selling poultry supplies and vet pharmacies for another big company that sell vet drugs and introduce artificial insemination services in the old lands.**
- **Opening and running outlets for selling farm input supply (only for plant production) adjacent to the public extension office on village level (agricultural cooperative for the village) and also inside the agricultural units on district level.**
- **Selling licenses and renting outlets that sell farm supply inputs inside agricultural malls that are located in new lands especially in areas surrounded by investors and commercial farmers. These private outlets should be adjacent to public services that are introduced against fees such as labs for soil & water analysis and clinics for diagnostic plant diseases.**
- **Offering training courses against fees for the technical labor that work for commercial farmers and firms.**
- **Offering training courses and certificates for agricultural advisors as well as input supply dealers.**
- **Set up a central system for the supervision of commercial farms and firms through outsourcing of high caliber technical experts. The system should offer two ways of collaboration; a fixed fee per visit plus transportation expenses and a supervision yearly system based on an annual subscription.**

CHAPTER 3

INSTITUTIONAL CONTEXT

3.1 Brief history of the institutional context

The need for technology transfer and related extension service emerged in the context of the social reform movement in Egypt that accompanied the gradual termination of the Second World War. That movement aimed to support the needy categories that had suffered from the direct and indirect impacts of that war. The first early beginning of emergence of agricultural extension services accompanied, indirectly, the issuance of the Rural Reform law No. 30 of 1944. This law aimed to establish Agricultural Groups (AG), one in each territory with an area of 15 thousand feddans (acres), to help the implementation of an agrarian reform policy. Each group has to elect a council which is known by the Agricultural Council (AC). These councils exist now at the district level and are in charge of disseminating technical information related to farming among farmers and to support local agricultural cooperatives (Ag Coop) in performing their roles in providing inputs to farmers and implementing the agricultural policies set in collaboration with the state agencies.

These ACs had their independent budget but some of them suffer lately from intervention of some formal financial auditing agencies regardless of the governing law. However, the formal emergence of an organization with a clear mandate in providing extension services has followed the revolutionary agrarian reform movement sparked in September 11, 1952, with the law 178 that initiated the process of agrarian reform in Egypt.

In parallel with the fragmentation process of lands distributed to the small and landless farmers the state was aware of the need to maintain the high productivity of large economic scale of big farms when allocating them to a huge number of small farmers with low technical skills and economic capacities. Hence, one of the measures to achieve this goal was to ensure providing those beneficiaries with relevant technical knowledge and skills to raise their productivity through a specialized organization. A special agricultural extension section affiliated to the Agrarian Culture Department was established by the Ministerial Decree No. 1190 on November, 1953. This initiative separated agricultural extension from the law enforcement task and helped providing the section with a number of staff qualified for this work after exposure to appropriate training. This situation continued until early 1958.

Within the context of adopting the Centrally Planned Economy under the socialist era, in the late fifties a new trend had emerged where the state inclined to increase its intervention in development. The ministerial decree No. 1440 of 1958 was taken to reorganize the structure of the Ministry of Agriculture and included the establishment of new units.

The agricultural extension section was split from the agrarian culture department and upgraded to a directorate affiliated to the General Administration of Regional Agricultural Services and headed by a General Director.

This organizational restructuring of the Ministry immediately was coupled with increased attention in agricultural extension services. The directorate had expanded its regulatory scope and services across the country.

It is worth mentioning that this central pattern of organization of agricultural extension was accompanied with the central agricultural policy that was based on the application of an obligatory system of both land consolidation system and crop rotations for each plot of cultivated land (Hood) at the village level monitored and controlled by the local agricultural cooperative. This was accompanied with obligatory marketing of the traditional crops; such as wheat and cotton through the agricultural cooperatives in favor of the state agencies; specially the Ministry of Supply.

The political diversion towards the open market economy started in 1974 with an adoption of so-called Open-door economic policy (Abdou, 2013). This was followed by the Structural Adjustment Program applied in the agricultural sector in the late eighties. Liberalization of the sector led to the abandonment of all obligatory policies such as land consolidation, crop rotation, and the obligatory marketing. The state withdrawal from involvement in the public services had expanded to the agricultural extension due to the fact that "with policy reform, farmers and producers are choosing what to grow, how to grow, and to whom to sell. Government research and extension services find it increasingly difficult to meet the needs of millions of decision makers" (Oteifa, B. et al, 1998).

3.1.1 Legislative Framework and Extension to small farmers

The agricultural law in old and new lands

The law 53 of 1966 is the main law governing all technical and organizational aspects related to the agricultural sector. It is called the unified law since it replaced more than 40 previous laws and decrees concerned with all aspects of the agricultural sector issued before. In this law the affairs related to the organization of the sector; such as those concerned with the farm holdings and land tenure, land consolidation and crop rotations, became subject to ministerial decrees and do not need to go to the parliament to issue new laws. Nevertheless, it does not include information on the organizing or activities of the agricultural extension which were left fully to ministerial decrees. This law is effective in all activities related to agriculture in the old lands up till now. Thereafter, another law number 143 of 1981 was issued to deal solely with the affairs related to the desert lands and its reclamation.

However, regardless of all drastic changes in the political regime and socio-economic policies both laws are still valid but have been subjected to changes and amendments proposed by the Ministry of Agriculture& Land Reclamation (MALR) in the subsequent Parliaments since the millennium.

Yet, within the framework of early implementation of the Structural Adjustment Program (SAP) and the restructuring of the ministry the ministerial decree 578 of 1979 added a new central administration for agricultural extension within 12 similar units of the ministry.

Agricultural Strategies and Extension

Agricultural extension was always one of the main issues considered in the subsequent strategies prepared and adopted for agricultural development. The most recent one about "Sustainable Agricultural Development Strategy towards 2030" (MALR, 2009) has given special attention to the extension issues. In the strategy review of the situation of the agriculture sector one of the areas that suffer from institutional weaknesses, among others, are those related the agricultural extension system (MALR, 2009). Therefore, under a special section about Agricultural extension system development policy the main justifications, objectives and elements and components were reviewed (MALR, 2009).

3.2. Institutional preconditions

Agriculture in Egypt is organized and governed institutionally by the law 53 of 1966 which was amended by the law 116 of 1983. Since then no drastic change took place in that law. Nevertheless, the organization of the Agricultural Extension System in Egypt has been founded on the base of ministerial decrees rather than on specific law. This situation has its own pros and cons. The organization process which is based on laws is for sure more stable and has a more powerful legal status that is mandatory for effective action. However, on the other side setting a law is a long process that needs to go through various steps that might be slowed down by any conflict of interest or ambiguity of the proposal or misunderstanding among the agencies need to contribute to this process until reaching the Parliament for legislation.

Therefore, any organizational or institutional reform needed where this is the situation will be more expensive and needs longer time and intensive efforts. From another perspective, the organization process which is based on lower level institutional arrangements such as the ministerial decrees or administrative regulations would become less powerful and stable but meanwhile more flexible and adaptive to the contextual changes. This last case which prevails in the Egyptian case should be fully capitalized in favor of better and functional reform of the Agricultural Extension system.

The agricultural sector has been the subject of several measures such as Farmer's Medical Insurance Law, the establishment of the Agricultural Solidarity Fund, the amendment of the Agricultural Cooperatives Act in addition to the price liberalization of fertilizers and cotton. In this regard, further attention should be directed towards additional sector-specific reform (Reform Bulletin 1, 2015).

Reform of agricultural extension in Egypt cannot correctly be achieved without taking into consideration the context favorable for such kind of reform. However, when we consider the context we might not be able to make significant changes in the macro-structural components such as the legislative framework or the organizational structure of specific setting.

Rather, we might be able to reorganize the components of the internal structure of that setting under the same context until we become able to make changes in the macro-structural components in the long term. So, for reform of the agricultural extension we have to carefully address the preconditions that we need to deal with at different levels; i.e. in the short, medium and long term. Hence, reform might be better seen as a process that goes through several subsequent related activities to be implemented across a specific timeframe.

In an analysis of the components of the internal structure of the setting that requires reform, conditions of both service provider and receiver of such service is to be considered. So, there is a need to look deeply at the conditions of the organization of agencies that provide the extension service itself as well as the farmers, especially small farmers, and rural people who should be targeted by that service.

3.3. The recent changes in the institutional context of Egypt agriculture

The agriculture sector in Egypt has been witnessing drastic institutional changes since the late eighties of the last century that affect its performance and functionality. These changes started with the liberalization process that came through under the implementation of the structural Adjustment Program (SAP). It has led to the dominance of the free market economy mechanisms that neither farmers nor the governmental agencies were ready to deal and adapt too at that time. However, this process was followed by the enactment of the Tenancy Law 96 of 1992 which changed drastically the tenancy relationships in agriculture that stagnated since the agrarian reform laws in the fifties and the early sixties. Nevertheless, these changes have been enriched with new laws that took place during the last three years and ratified by the Parliament in its first round. These institutional changes are still in progress where many of the new issued laws have not been fully activated and where a draft law of agriculture is still under preparation to replace the Agriculture Law No. 53 of 1966, due to the occurrence of huge local, regional and international changes since the date of its issuance. Yet, the apparent recent changes in the institutional context of agriculture could be summarized in the following:

1. Solidarity Policies in Agriculture

Agriculture, in general, is always vulnerable to many natural hazards, climatic, environmental and biological risks that are beyond the control of farmers. In the case of plant production there are the risks to be exposed to heat waves, fires, droughts, cold spells, floods and flash floods, and the spread of plant pests and diseases. For animals, as well, there are the risks of being exposed to the spread of animal diseases, such as foot and mouth and skin lumpy, mad cow disease and bird flu.

These natural hazards can be catastrophic according to the frequency and scope of its spread and strength. Naturally, the small farmers' ability to tolerate losses and damage caused by such risks are considered extremely limited.

This means that farmers need for a comprehensive insurance policy is very crucial especially if we know that the majority of farmers are small scale landholders. In Egypt, the only sector covered by insurance, since a while, is the cattle production although it is not that active.

Agriculture is also vulnerable, especially after globalization, to national and global economic fluctuations and price volatility that have been exacerbated by the ease of communication exchange and the international regulations such as the WTO.

On the other side, work in agriculture would lead to the exposure of producers to the risk of labor's hazards such as injuries when using and machinery, poisoning because of the use of agricultural chemicals and diseases due to the exposure to other natural hazards.

Accordingly, *the Presidential Decree 126 of 2014 on Agricultural Solidarity (Takaful) Fund* was issued and ratified by the Parliament in its first round. The Ministry of Agriculture and Land Reclamation (MALR) has established a fund that aims to cover the losses and damage caused by natural hazards and disasters faced by the agricultural crops and reduce their effects in order to achieve sustainable agricultural development and the preservation of agricultural income for the farmers and depleted resources in all areas. It consists of the fund's resources collected from contracts entered into the fund with the farmers' insurance premiums in addition to the amounts allocated by the state in the general budget. Such process needs a lot of awareness campaigns and capacity building at both individual and organizational levels.

2. Amendment of the Agricultural Cooperatives Law

The agriculture cooperative in rural areas is one of the basic and pillar institutions that contributes in sustainable agricultural and rural development. But since the late eighties, there are many changes that took place at the local, regional and international levels where the farmers and the other actors in the agricultural sector operate their activities. Since then they operate their businesses under the free market mechanism and independently from any direct governmental intervention. Nevertheless, the Agricultural Cooperation Law No. 122 of 1980 that governed operations of such organizations under the planned economy era had not been modified in order to cope with these changes. This created a situation where there is an organizational vacuum that caused negative impact on both farmers and the national economy as well.

That is why the Ministry of Agriculture and Land Reclamation in conjunction with the Central Agriculture Cooperative Union have prepared the initiative of a bill to amend some of the provisions of that law to enable agricultural cooperatives to play a greater role and be actively involved in sustainable agriculture and rural development. Accordingly, *the presidential decree No. 204 for the year 2014* was issued and ratified by the Parliament in its first round amending some provisions of the agricultural cooperative Law No. 122 of 1980.

Unlike the old law, the new law allows the physical as well as legal bodies to contribute to the investment projects established by the cooperative societies for the purpose of development of agricultural production but with no more than 25% of the capital of these projects for all partners and upon approval of the General Assembly. The General Assembly of the cooperative has to approve establishing joint-stock companies and/or commercial projects on profit basis for the purpose of development of the areas set forth in the law.

In line with the Constitution (Article 37), which states that the cooperative property is inviolable and the State sponsorship of cooperatives the new law guarantees protection and support of the cooperative and its management. It ensures their independence and that they may not be resolved and their boards of directors cannot resign without a court order. Thus, the new law stipulates that the cooperatives would not be under any case dissolve or for the board of directors to resolve without a court order.

Finally, the new law has brought new roles of the Central Agriculture Cooperative Union's most important agreement with the state through its organs concerned to provide agricultural plant and animal production facilities.

These fundamental changes in the law of agricultural cooperation would allow the agricultural cooperatives to operate independently and to play a bigger role in the local economies through an active participation with other private or public agricultural enterprises and agricultural research, extension, credit and marketing bodies in bringing about sustainable agriculture and rural development.

The new law also retained the right of small-scale farmers to be represented by not less than eighty per cent of the seats in the Board of Directors in their associations which is in line with the Constitution (Article 42). Nevertheless, this does not negate the urgent need to revisit the main agricultural cooperation law as a whole to insure coherence, balance and integrity among all items of the law specially these items related to the governance of the cooperative movement in general and the single cooperatives in specific.

Also, the new law left for the Cooperative Assembly its right to determine the value of its stock and the minimum share of its members in the capital. The old law stated that the value of the stock per one feddan held was one pound which led to the shortage of capital needed to develop the cooperative activities. Meanwhile, that value does not go in line with the current economic conditions and the current value of land assets.

Raising the awareness and building the capacities of the cooperatives and their members to get full benefits from these legislative reforms should be part of the agenda to be assigned to the AE agencies within the reform framework of the AE system.

3. Contract farming

The Presidential Decree No. 14 of 2015 on the establishment of contractual farming center that was issued and ratified by the Parliament in its first round was the outcome of several efforts at various levels to inject this mechanism in the agricultural policies to help to achieve the objectives of the 20/30 agricultural strategic plan. Contract farming is one of the important components of agricultural policies in many developed and developing countries that cover about 95% of the cultivation of vegetables in some countries. Before the issuance of this law In Egypt this practice was applied on a small scale, such as the case of contract farming between the sugar cane and sugar beet farmers and the Sugar processing companies in Upper Egypt and Dakahlia, Kafr-El-Sheikh, Fayoum and Nubaria in the Delta. Also, it was adopted in some experimental projects that aimed to connect small farmers with the market applied by some NGOs' projects financed by the USAID and EU.

Contract farming is an optional contract between farmers and/or agricultural associations on one hand, traders or processors and exporters on the other hand. The terms of contract to be agreed upon between the parties is on the cultivation of a particular area of a particular crop and supply certain amounts of it with specifications and certain quality and date (grade in Cotton, purity in Wheat, the percentage of moisture in Corn and display in Rice) in a certain place with prices moving up and down depending on the quality and specifications. The contracts include penalty clauses in breach of the terms of the contract on either party. Registered contracts by the contractual farming center are formally accepted by insurance companies and the Development and Agricultural Credit Bank or commercial banks for providing loans to the producers. This could be a good approach to enhance accessibility of small producers to credit financial system.

Contract farming has multiple benefits for both sides, farmers know in advance and before planting their crops and the quantities required in production so as to help them on the allocation and optimum use of agricultural economic resources. Secured prices would encourage farmers to invest in agriculture to follow good agricultural practices (GAP) which would include applying proper crop rotations and land consolidation to overcome the technical problem of dwarf and fragmented land holdings. The contracts protect farmers from the exploitation of middlemen and volatile prices. It assists them in transactions of post-harvest processes such as sorting and grading, packaging and transport. Since contracts include traders, manufacturers and exporters it help them to get what they need from agricultural crops in quantities, quality, specifications and timing set out in specific places and prices agreed among the parties.

The contract farming encourages expansion of exports and would help the expansion of food and agro-industries and the creation of productive jobs and generate income. Thus, it helps adding value and improving the quality, reducing the losses and stable provision of agricultural commodities that contribute to the stability of markets and prices.

The successful expansion of contract farming needs awareness campaign for the core parties such as the farmers, especially small farmers, traders, merchants and manufacturers, and exporters. AE agencies have a role to disseminate the benefits that contract farming would bring to each party in addition to the positive results for the national economy as a whole.

4. Egypt's membership of the UPOV

UPOV is the International Union for Protection of Plant Varieties based in Geneva, Switzerland. Egypt began its steps to join UPOV in 2009. This required amending the provisions of the fourth book (plant varieties) of the Egyptian law to protect intellectual property rights No. 82 of 2002 to comply with the charter of the International Union. A specialized committee comprising representatives of the ministries of agriculture, Justice and Foreign Affairs, Trade and Scientific Research, and representatives of the private sector, civil society amended necessary items of the Egyptian law No. 82 of 2002 while maintaining the rights of Egypt. Meanwhile, in consultations and deliberations with the International Union it prepared the required documents that confirm with the UPOV charter.

The Presidential decree No. 26 of 2015 **that was issued and ratified by the Parliament in its first round has approved the amended provisions of the fourth book (plant varieties) of Egyptian law to protect intellectual property rights. Thus, Egypt has become a member of the International Union for the Protection of Plant Varieties immediately after the deposit of this law by the International Federation in Geneva.**

It is worth mentioning that Egypt's accession to membership of the International Union for the Protection of Plant Varieties would ensure many advantages to Egyptian plant breeders on one hand and the farmers of Egypt and the Egyptian Agriculture on the other hand. It protects the species and genetic assets of Egyptian plant against theft and piracy. It also encourages foreign plant breeders to invest in Egypt and to provide a highly productive plant, quality and resistance to adverse conditions such as heat, drought and salinity, diseases and insects, since they will be protected subjects. Moreover, the accession of Egypt for membership of the International Union for the Protection of Plant Varieties meets some of the requirements of the Egyptian European partnership agreement, which Egypt has signed with the European Union and became effective since 2004.

This is an area of interest seldom dealt with in the agricultural extension while it needs to be on the agenda of any new agriculture extension (AE) agency in Egypt to contribute to the achievement of the 20/30 agricultural strategic plan.

5. Health insurance of farmers and agricultural laborers

From the 57% of population living in rural areas almost half of those people depend on agriculture as their primary source of income and livelihood. Yet, due to the nature of hard labor conditions in farming, the peasants are among the most vulnerable segments of the Egyptian society to the various health hazards and risks. On the other side, farmers also represent the most vulnerable category to poverty in the country as indicated in many literature (Kheir-El-Din and El-Laithy, 2008; CAPMAS, 2015). For all these reasons farmers' access to health service was very marginal.

The above situation has raised high demand for providing health services to all farmers in rural areas which was intensified after the uprisings of 2011 and 2013.

The Egyptian Constitution of 2014 was clear in its article (18) of the need to cover all Egyptians, including farmers, with comprehensive health care through the establishment of a health insurance system.

Accordingly ***the Presidential Decree 127 of 2014 of Farmers and Agricultural Laborers*** **was issued and ratified by the Parliament in its first round. The Prime Minister issued the executive bylaw for the Law on Health Insurance peasants in 2015.**

The Health Insurance System should be funded by the peasants and agricultural workers through annual subscriptions of the beneficiaries of this system which should not exceed 120 pounds per year.The public budget will contribute with two hundred pounds a year for each participant.

The regulation stipulates that the Ministry of Agriculture and Land Reclamation (MALR) and its affiliated associations should provide the General Authority for Health Insurance (GAHI) with all the farmers' related data required for the application of the law.

MALR is also committed to the collection of subscriptions for the beneficiaries and 2% of the value of the services provided by the ministry and the financial support provided by the agricultural cooperatives (1.5% of the surpluses of their profits). All these resources are to be transferred quarterly to GAHI in coordination with the Ministry of Finance.

This is a completely new area of activity that AE system never dealt with in the past but need to be fully considered in the agenda of any new AE system to be coherent with its functions in rural development.

6. Adjustment of the Fishing Law and Aquaculture and regulate fish farms

Fish is considered one of the important sources of animal protein for population in Egypt. From the other side some fish species are considered of moderate price and comparative advantage compared to other animal protein sources which is suitable for the provision of this kind of protein to the poor and necessary for their food security.

7. Emergence of the Farmers' Unions and Syndicates

Following the uprising of 2011 farmers established new organizations that called Farmers syndicates and unions to represent their interest and concerns. The process of establishment these organizations was undecided that led to the emergence of numerous organizations that reached more than 70 across the country in 2012 with no clear visions and missions to serve the real interests of farmers, specially the small holders. This situation has led to distortion of representation of the farmers, conflicts among these organizations concerning the legitimacy of farmers' representation and raising tension with the agricultural cooperative movement concerning the function of each type of organization.

8. Establishment of a Farmers' Pension System

The Egyptian Constitution of 2014 was clear in its article (17) of the need to provide small farmers, the agricultural workers, the fishermen and the casual laborers with suitable pensions. There are some efforts that have been already taken by MALR and concerned authorities to include this special farmers' pension system as a sub-system in the general system of pension and social insurance. Yet, the problem of funding that system is under negotiations among different parties that include MALR, the agricultural cooperative movement, the Ministry of Social Solidarity and the Ministry of Finance. This is to set the regulations of subscription of interested farmers in the system as well as providing additional resources to the budget needed to cover the costs of proposed system.

9. Transfer of the current financial apparatus of agricultural activities into a commercial structure

Upon the approval of the Parliament the Presidential Decree No. 84 of 2016 was issued to transfer the "Principal Bank for Development and Agricultural Credit" (PBDAC) to "The Egyptian Agricultural Bank". By this way the public sector Bank was converted totally into the form of a joint stock company with entirely state owned capital. It replaces PBDAC in all the rights and assumes its obligations.

The Agricultural Bank of Egypt aims to provide funding for the various types of agricultural and rural development activities, in accordance with the regulations in force in the framework of the general policy of the state. The bank also contributes to providing the necessary funding to production requirements, whether imported or domestic production, and to practice all types of commercial banking operations.

The law should support activating the empowerment role of the bank for agricultural development in Egypt, and at the same time continuing its support to farmers through mechanisms that are consistent with the culture of the customers and provide a range of programs and products that suit customers' needs, especially in the field of small projects the medium with the development of policies and procedures of the obvious (credit policies, risk management policy, investment policy, asset disposition policy, human resources, corporate governance and compliance, etc).

The new law requires drastic reforms of the organizational structure of the bank in order to ensure separation between the business activities sector and the support activities sector while at the same time improving its performance. This again needs an intensive capacity building program of the staff.

However, there are also several efforts running now to amend the desert law, the phyto-sanitary regulations, and finally the irrigation and drainage law to cope with the ongoing global national changes.

There is also the need to amend the desert law, the phyto- sanitary regulations, the irrigation and drainage law and finally, to reform the main apparatus of financing the agricultural activities (PBDAC) by transforming it into a commercial structure.

In conclusion, the context of the agricultural sector is changing steadily now which would drastically affect the functions, the mission, the structure and the organization of any new form of agricultural extension system in the medium and long term. These changes will extend to the quality of staff and the type of activities likely to be run by the reformed system. However, when we consider the context of today, which is in itself, changing we might find it so difficult to expect any significant changes in the short term in the macro-structural components such as the legislative framework or the organizational structure of specific setting. This does not mean stagnation but rather accumulating changes.

PART TWO

SCENARIOS OF IMPROVEMENT/ OR REFORM OF AGRICULTURE EXTENSION SYSTEM IN EGYPT

Introduction

This part of the study addresses the global overview and its relevance to the Egyptian context that paves the road to the 3 proposed scenarios concerned with improvement of the current agriculture extension system and the worldwide experiences in that regard. The 3 suggested scenarios include the following:

Scenario I: Improvement of the current public system

Scenario II: Privatization

Scenario II: Co-management partnership between public and non-public sectors

Before going in-depth to the scenarios, the study in the coming section provides an overview of agriculture extension worldwide to see relevance to the Egyptian context.

A Global Overview and its Relevance to the Egyptian Context

There is a worldwide emphasis on sustainable development, including rural improvement and agricultural advancement, as well as development such as globalization, market liberalization, decentralization, privatization and democratization, which is creating new learning requirements for both subsistence and commercial farmers in developing countries. These requirements, especially when seen within the context of the revolution in information technology, are challenging decades'-old mandates and operations within traditional extension systems.

The time is indeed ripe for policy-makers in developing countries to challenge and revisit the discipline of extension within a global context, so as to let the extension function be performed with excellence in line with the global challenges to their economies and especially to their agriculture sector. Cosmetic changes to the existing national extension systems will be of little benefit, as will be the repeated training of staff in stereotyped agricultural subjects. Just as well beat a dead horse (Qamar, 2005).

It has been noticed that many extension experts in Egypt are not in favor of using the term "Rural advisory Services "as they prefer to keep up with the term "agricultural extension" which they are used too. Thus, it is important to shed light on this point to avoid any future rejection for this term.

The agricultural extension organizations created in developing countries were entirely meant for receiving improved technologies from agricultural research institutes to deliver them to the farmers. The delivery methods included oral advice to individual farmers or to groups of farmers on their farms or at homes, supplemented by demonstrations of applying recommended technologies in farmers' fields and their good results.

The awareness and transfer of technology, and possible adoption by farmers was further facilitated by other communication channels such as printed material, radio and, later, television and video. There are many new global and national changes that make public extension facing serious challenges where traditional extension methods and contents do not really fit those changes.

These changes are holistic and deep which requires an overall institutional reform but traditional training for extension agents or cosmetic changes would not make a real difference even on short term basis. For decades, extension services were largely seen as public task funded by governments and donors. Public extension services have also been criticized for ineffectiveness and lack of sustainability.

The inability of governments to afford funding for public extension services has led in many developing countries to diverse reforms of the public sector funding and delivery system. The general trend is towards decentralization, privatization, demand orientation, and pluralistic service delivery and funding (Rivera, 2011).

There are not yet any satisfactory experiences or lessons regarding management arrangements for organizational partnerships, demand led models, and decentralized extension services. These issues are currently being explored in many countries (Hoffmann et al, 2009).Thus, it is recommended for policy makers in Egypt to select the extension model or combination of models that fits the unique characteristics of the agriculture sector in Egypt. The time is really ripe for such action in Egypt as many developing and developed countries all over the world are trying to modernize their extension systems, tools and even the vision to cope up with latest local and global developments. Working on modernizing extension system(s) can lead to better system(s) but keeping up with efforts on operational traditional delivery would not lead to any significant changes in extension systems or even extension services. Change in extension systems should take place over a gradual pace and period of time to avoid mistakes that other countries went through.

CHAPTER 4

SCENARIO I: IMPROVEMENT OF THE CURRENT PUBLIC SYSTEM

The sole adoption for the scenario of strengthening the current public extension system is what will be discussed in this part to see how much it is applicable and suitable for the context in Egypt. This scenario means that the public extension organization is the only actor that provides extension services. Thus, the study will shed light on some functions as well as some categories of clients to figure out if such scenario will fit them and the entire context or not.

Looking back at the time where the public extension services started in developing countries can enable us to understand the roots of the current public systems. As Hoffmann pointed out organizing agricultural extension work under the wings of the ministry of agriculture was fitting many African and Asian governments after reaching independence phase back by the mid of last century. All important aspects of small-holder agriculture, plant production, animal husbandry, home economics could be attended to, as the ministry established respective sections under its jurisdiction (Hoffmann et al, 2009). It was important for new national governments by that time to show people that they represent them all and will work hard especially for the benefits of poor categories. They also inspired people by emotional expressions for reducing poverty and improving economic and social status of their countries that severely suffered from occupation for long periods of time. Thus, it was the era of enabling the poor and ultra-poor to get rid off slavery and start decent life styles which came on the expense of private economic activities through what has been called nationalization.

The private sector existed strongly in Egypt before and by the revolution time in 1952; most of Non- Egyptians business owners left the country while rich Egyptians lost either the capacity or motivation or both to continue their economic activities. As a result, governmental entities were supposed to take over all aspects of economic activities which required complex administrative structures. The Egyptian Ministry of Agriculture and Land Reclamation (MALR) was among the main ministries that holds a large administration. Actually it is not only administrating, but at the same time executing additional functions, i.e. extension work.

Public service structure was inappropriate for delivering quality services and as time goes, it has been shown that governmental management is poor in nearly all governmental agencies which include MALR and the public extension organization. In fact, industrial countries have shown that governmental rural extension is possible and beneficial, if done the right way, but it seems that governments in developing countries, including Egypt, are unable to run quality extension services which require the adoption of an alternative management pattern and philosophy.

The previous mentioned challenges worsened the extension performance, thus improvement of this situation is a challenge especially with the current limited allocated budget. Though, cosmetic reforms would not be beneficial even on short term basis. Innovative thinking (out of the box) is absolutely needed to overcome such diversified serious challenges i.e. drastic decrease of budget, lack of human resources and limited facilities. This will require admitting the role of other non-governmental parties like input supply dealers and NGOs who are performing extension function.

In light of the previous review and based on results deducted from ENPARD organized workshop in Egypt, it is important to point out that this scenario means that the public extension organization is the only actor that provides extension services. Thus, objectives, functions, financial resources, advantages and challenges of each scenario will be pointed out and the proposed scenario can be visioned as follows:

This scenario deals with the notion that the public extension organization is the only actor that provides extension services.

Objectives of Agriculture Extension

- **Combat poverty in rural areas through increasing the income of rural families.**
- **Increase of agricultural production and improve its quality to have healthy food.**
- **Upgrade the relative advantages of areas and its products.**
- **Preservation of the environement.**

Functions of Agriculture Extension

- **Strength relationships between research and field applications.**
- **Develop technical capacities for farmers.**
- **Develop capacities of women and rural youth.**

In order to carry out such functions, specialized extension workers in production, marketing, irrigation and social aspects are needed.

Organizational Structure

This scenario suggests the reform of current extension administration body in which information dissemination depends on Ministry of Agriculture and Land Reclamation, particularly services related to agricultural researches presented in the Agricultural Research Center (ARC) as well as governorates services.

Though, it was suggested to establish the Supreme Agricultural Extension Council that includes representatives of research, university, finance, cooperatives, farmers, private Agro-food companies, input supply companies in order to reach full coordination among agricultural policies, research policies, and agricultural extension policies.

The aim is to integrate the Central Administration for Agriculture Extension (CAAE) that is responsible for the implementation of agricultural extension activities within the research sector. Thus, the new structure of CAAE will include the following general departments: extension programs, training, rural women and youth, marketing, environment, monitoring and evaluation (M&E). Additionally, a unit for information dissemination and communication will be established as follows:

- **In each research institute, this unit puts research findings in form of technical recommendations and work on disseminating them.**
- **On the level of GAAE, this unit suggests technical recommendations and work on applying them in collaboration with other related departments.**
- **On the level of each division, this unit monitors all problems that farmers are facing and transfers them to related research institute(s) (figure 4).**

In this scenario, the ministry of agriculture will be mainly responsible for issuing laws and legislations, monitor their application through an accurate M&E system and offer 50% of the budget projected for agriculture extension sector.

Financial Resources

This scenario maintains the public or government character, as it contributes with 50% of the budget allocated to agriculture extension and with gradual decrease of such governmental contribution to be replaced by special financial resources such as:

- **Percentage of the profits gained by agricultural cooperatives.**
- **Percentage of profits gained by banks and financial institutions.**
- **Percentage of taxes on agricultural lands.**
- **Fees and compensations paid by farmers in return of some agricultural services.**

Challenges and Problems

These challenges and problems can be divided into three categories as follows:

- **Institutional and legislative challenges: restructuring the organizational framework of MALR, the absence of institutional coordination between those at in decision making level and other relevant bodies (i.e. scientific research centers and those who apply research results) and the absence of a legislative frame for quality control standards related to agricultural input supply.**
- **Education and training challenges: education system at university level is not market-oriented, thus there is a need to determine specific employment criterion for extension workers/agents. Regarding training, it suffers from the dominance of traditional training techniques and lack of training tools and approaches.**

- **Policies challenges related to priorities of agricultural policies: poor task apportionment at the long run and possible rejection of some relevant actors to contribute in financing the agriculture extension.**

Advantages of this scenario is relying on an existing extension organization which enables the coverage and serving of various lands, reinforce the accumulation of experiences, ensure the process of follow-up, monitoring and evaluation of agricultural extension activities, and benefits from its integration within the organizational structure of the agricultural research center.

For an accurate analysis for the suitability of public extension, two dimensions should be considered as follows:

1- **Public issues versus individual issues**

2- **Small holders versus commercial farmers**

1- Public issues versus individual issues

There are some public topics or interests that need public extension to initiate and support such as conservations of natural resources, protecting genetic resources and reducing various types of pollution. It is not the interest of most private entities to pay attention to such topics as they are mainly considered as state interests. Even under privatized extension systems, public extension organization introduce fund for private entities to deliver these types of activities within public or state overall interest. Due to (Swanson), most natural resource management (NRM) issues, especially water, are considered to be "public goods"; therefore, the cost of providing extension services to all types of farmers, and enforcing necessary regulations, will need to be publicly financed (Swanson, 2008).

By the opposite, individual interests such as various activities related to the improvement of productivity and quality can by addressed either through public extension or private extension.

Both of them will require good management which is difficult to be obtained in the majority of developing countries but public extension is still doing a good job in few developed countries.

2- Small holders versus commercial farmers

Small holders have shown worldwide that they are unable to pay for the cost of the extension service. This is might explain why some developed countries such as Norway have adopted a mixed scenario where some extension activities are completely funded by the government, some are partially funded, and some do not receive any public fund at all. Actually, adoption of appropriate policies that can encourage smallholders to continue farming business and operations is required in Egypt as they represent the great majority of farmers. Furthermore, there are some other considerations that should be considered such as reducing poverty and food security. It is important also to illustrate the importance of group delivery approaches when addressing small holders through public extension as they increase outreach and impact.

Regarding commercial farmers and firms, the government extension services do not have the capacity to address the specialized needs of commercial farmers (Jordaan, et al, 2004).

Actually, commercial firms are using some technologies that exceed technologies that the public extension personnel or even researchers use. Those firms recruit high caliber national or international personnel and consultants and deal with large supermarket chains or export markets. It is obvious that public extension does not fit this category of producers.

The public sector agencies may still have a role in provision of information through mass media, provision of certain public goods (e.g. environmental protection, and ensuring that resource-poor farmers and neglected groups are included) and in quality control related to private service provision. Global experience has shown that appropriate roles for public sector agencies will differ from place to place. The 'either-or' discourse on public or private service provision is therefore becoming more nuanced.

This has led to a shift of focus from blanket statements about who should provide extension, to a search for better ways to guarantee that all service providers are genuinely accountable to the clients – male and female, poor and rich - that they serve. (Christoplos, 2010).

Conclusion

It is recommended to keep up public extension services in Egypt in order to address public interests as well as serving small holders. It is also recommended to strengthen the public extension organization to be able to address these functions on quality basis. However, there are some other functions that public extension organizations do not have the capacity to handle them, thus, pluralism is needed through the inclusive of other providers of extension services alongside with the public extension. Guidelines for strengthening public extension through pluralism policy will be shown in the third scenario (mixed scenario).

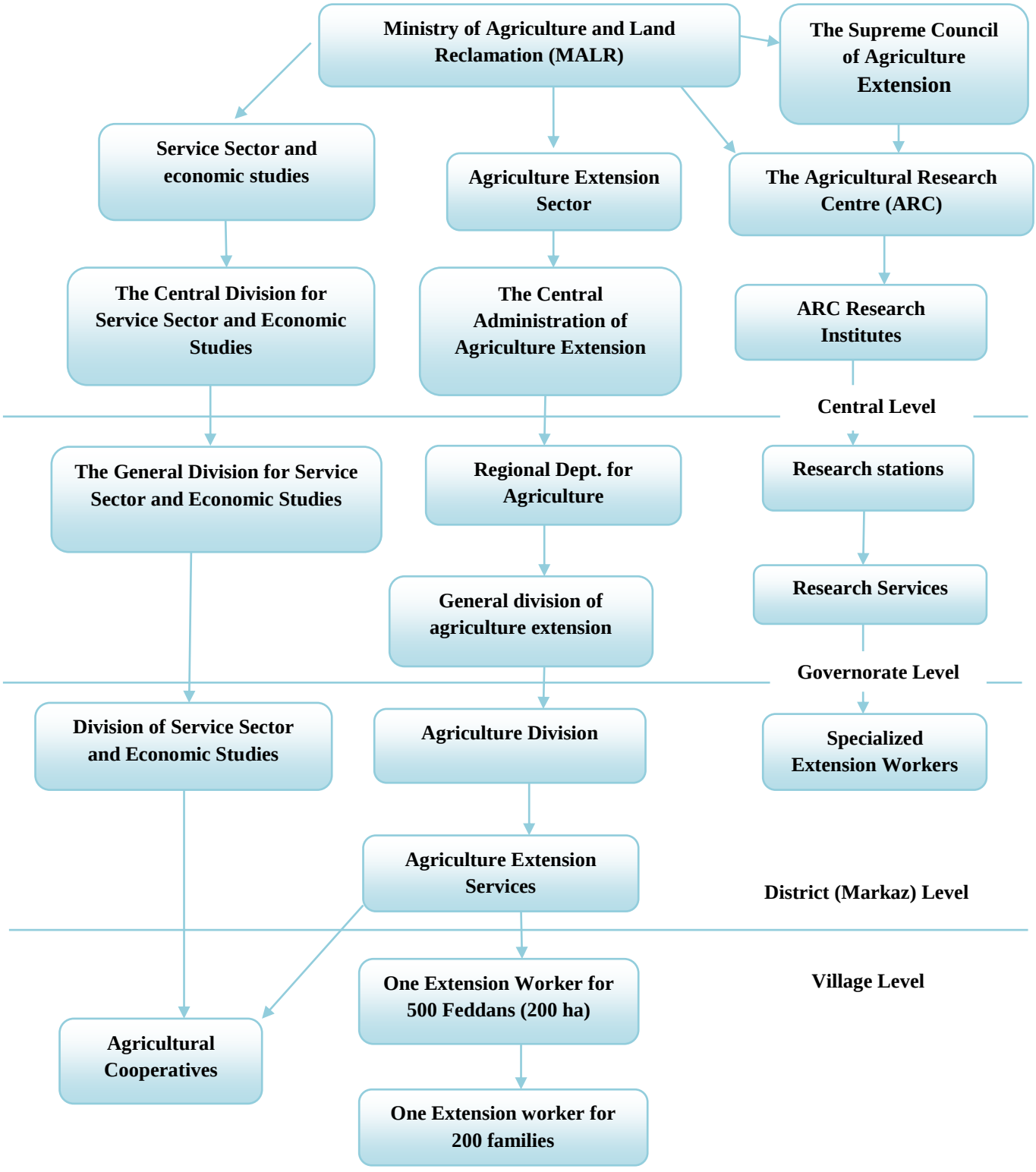

Figure 4: Organizational Structure of Scenario 1

CHAPTER 5

SCENARIO II: PRIVATIZATION

The sole adoption for the scenario of privatization is what will be discussed in this part to see how much it is applicable and suitable for the context in Egypt. This scenario means total or nearly total privatization system with the complete absence of public extension service.

To understand such radical scenario, we will go through some extension reforms that adopted total privatization in some other countries to see how it emerged and how they work. It is important to point out that providers of private extension services include farmers' organizations and NGOs in addition to private companies.

In the case of total privatization, both funding and delivery of extension services are shifted entirely, or largely, to the private sector, as in The Netherlands. The Netherlands decided to privatize its public extension agents, at first by transferring them with initial financial support to work with farmer associations, and more recently assigning responsibility for these services to a private company, DLV. Privatization relieves the government of a fiscal burden, often improving the delivery of services once the private sector has taken over the function, although this strategy may leave poor farmers and rural workers without any support. In the case of commercialization, authority is given to a government-commercialized public agency, as in New Zealand. New Zealand's Ministry of Agriculture and Fisheries was challenged to «go commercial» in 1986, and to operate under user-pay commercial criteria. This former public sector service now operates as a company, under the name 'Agriculture New Zealand'. A similar step was taken in England and Wales. The Agricultural Development Advisory Service (ADAS), formerly a Ministry of Agriculture, Fisheries and Food executive agency responsible for providing extension services, was privatized in 1997. This body, now known as ADAS Consulting Ltd, is one of many private agricultural consultancies that offer a range of advisory services to primary producers in agriculture and horticulture (OECD 1999 & Rivera, 2001).

When public extension started to decline, there was a hope that other private extension providers can make a good replacement and fill the gap that will emerge as a result of public extension withdrawal. The hope was built on the vacuum that will appear in service provision which will create a market that private service providers will recognize and that they would scale up their businesses to profit from these new clients. As making profits was the goal of private extension providers, they selected to exclusively provide services to a limited clientele, primarily related to high value products and relatively well-off producers but small holders were out of their attention or focus.

Some extension experts illustrated the emergence of an alternative paradigm to replace the public extension, and it was pointed out that during the 1990s, declining confidence in the effectiveness of public sector extension agencies led to the emergence of an alternative paradigm, where it was assumed that market-based solutions and privatization of extension provision could become an effective and sustainable base for pluralism.

Experiments were undertaken by many governments and aid agencies. At the same time, the decline of public extension agencies was leading to increases in private sector investments in extension services. Today, services for relatively well-off commercial farmers are increasingly dominated by private advisory services, but these investments are rarely serving the rural poor (Christoplos, 2010).

There is no doubt that the provision of sustainable high quality extension services for commercial producers is important and can enhance their capacity to meet the special needs of supermarket chains and international markets. Actually, exportation of fruits and vegetables in Egypt is mainly depending on commercial producers who get the technical advice from high national caliber personnel against fees. In some cases, the owners of commercial farms go for international educational trips to get latest technologies in their area of interest or they bring international consultants for short missions in Egypt. These efforts of well-off producers are beneficial for themselves, employees as well as the entire country where it bring hard currency that Egypt is lacking off especially through the decline if tourism income. On the other hand, the majority of farmers in Egypt are poor and they face difficulties to make their living within the era of liberalization and the withdrawal of subsidize policies.

Though, in light of the previous facts and factors, the current scenario – privatization- needed as well to be discussed and evaluated to see its appropriateness to the Egyptian context, besides it suggests gradual transition from public to private extension system, leading eventually to privatization with state or government supervision. The scenario can be sketched as follows, which again was concluded from the ENPARD workshop:

The agriculture extension objectives are: rural development, development of human capital and increase farmers' income to improve their livelihoods.

Functions of Agriculture extension

The agriculture extension should carry out the following functions:

- **Reinforce technical capacities and skills of farmers.**
- **Facilitate marketing and export process.**
- **Provide advice, guidance and information for environment preservation.**

At the beginning extension activities will be carried out using traditional methods and techniques, then gradually shift towards new communication techniques (i.e. internet, mobile phones, etc.) on the medium run especially when addressing young farmers.

Organizational Structure

In this scenario the delivery of agricultural extension activities will be under supervision of Agricultural Research Center (ARC) to be in close contact with agricultural research activities.

The extension structure consists of 4 regional departments to take the characteristics and needs of each region into consideration as follows: risk management (i.e. environmental changes), partnership with the private sector and NGOs, as for the other two departments which are follow-up, monitoring and evaluation, and quality standards are cross-cutting with all activities in the previous departments. This structure allows partnership with various bodies, institutions such as NGOs and private companies and other relevant institutions, and can be considered as a transitional phase that eventually leads to an independent extension system (figure 5).

Financial Resources

In the first phase, public finance is relatively important and gradually the finance system becomes independent. Resources for financial mobilization are as follows:

- **Percentage of the profits of agricultural input supply companies and veterinary companies.**
- **Percentage of the agricultural cooperatives profits.**
- **Contributions from NGOs, through deducting a specific percentage from the total sum allocated for the implemented projects.**
- **Farmers syndicates.**
- **Fees paid by farmers in return of some services.**

It is important to point out that contributions of some actors can be in form of in-kind contributions such as introducing training.

Challenges and Problems

- **Existence of effective mechanisms for mobilizing financial resources: these mechanisms require some legislative reforms in many disciplines.**
- **Absence of a legal and legislative framework to organize and coordinate partnership between public and private sectors.**
- **History of conflicts and absence of transparency make collaboration between public and private sector very complex process.**
- **Difficulties in convincing farmers to pay in return of some extension services as they used to receive such services for free, thus will not accept changes easily.**

The implementation of this scenario will be very complicated as it requires gradual accurate planning to ensure its success without any contradiction between public and the private sectors on the long run.

Advantages of this scenario

The previous challenges and problems do not underestimate the advantages of this scenario, as the suggested public structure is less complicated than the current one, besides it reduces duplication and improves the coordination process among the relevant actors. Finally, the proposed M&E system allows gradual and continuous improvement of the system.

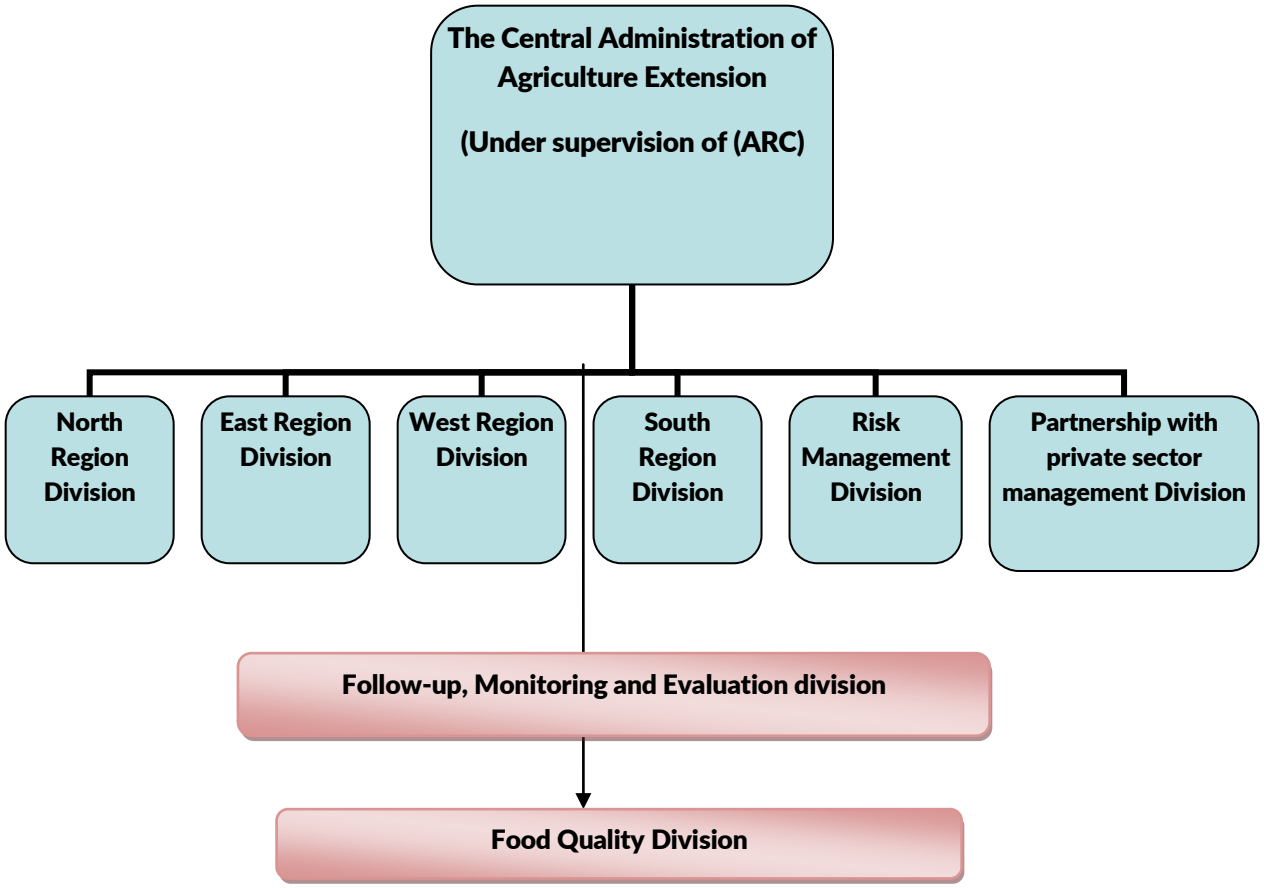

Figure 5: Framework of Organization Structure of Scenario 2

These outcomes related to the interim privatization scenario, does not really show a gradual transition towards privatization but the idea of establishing a new department for partnership with the private sector and farmers organization is a great idea.

It is important to point out that the privatization scenario in literature means total or nearly total privatization system with the complete absence of public extension service. To understand such radical scenario, will go through some extension reforms that adopted total privatization in some other countries to see how it emerged and how do they work. It is important to point out that providers of private extension services include farmer's organizations and NGOs in addition to private companies.

Actually, it has become a fashionable to talk about privatization of extension services in most countries throughout the world, but privatization only started in a state of rather high economic development in most places. In addition, helped to improve their living, keep up with the farming business, contribute to national food security and increase food production.

Thus, the government will not accept watching poor farmers unable to access extension services because they cannot afford their fees while rich farmers are capable to have such access as they have the money to pay off.

Some extension experts might refer to farmers' organizations according to the ideology prevailed in Egypt; it is the role of government to support these poor farmers as a better entity to replace the public extension as they represent farmers and it is assumed that they will be able to introduce better extension services for farmers. Actually, the decline of the public extension has been seen as an opportunity for farmers' organizations and NGOs to show effectiveness in offering extension services.

In many cases, they have shown the ability to innovate and provide greater flexibility in responding to the demands of poor farmers but their capacities to scale up these efforts have proven limited and the costs of their services are in many cases higher than the public agencies they were expected to replace.

The same has often happened in contracting out to private advisory firms. Contracting out with increased costs is only justified if the impacts of such services are also significantly greater. There is a need to learn from initial experience in contracting out to find new ways to create competitive markets for extension services and find new ways to combine contracting out with different forms of publicly funded contracts based on performance criteria (Christoplos, 2010).

These international learned lessons that are associated with the handling over the extension services to farmers' organizations generally reflect unsuitability for the context of Egypt. Regarding farmers organizations in Egypt, the great majority of farmers associations are registered under the law of agricultural cooperation which makes them semi-governmental entities. Although, there are some organizations that are registered under the umbrella of the ministry of social solidarity that serve farmers and they are really non- governmental organizations, they are very few and Egypt needs to do a lot to gather farmers into farmers' organization that are non-governmental entities that can represent farmers and introduce better services to them.

The dominance of private extension providers, mainly extension firms, for the delivery of extension services for well-off commercial farmers in some industrial countries, while small holders or poor farmers are nearly ignored, led to highlight the need for private extension providers to be a part of a wider reform process which promotes pluralism while recognizing the need for public financial support. He also added that this does not mean a return to the free public service approaches of the past where he pointed out that publicly funded, but privately provided, extension can be combined with measures to place resources at the disposal of poor farmers and their organizations (Christoplos, 2010).

Thus, total privatization that ignores small farmers, in principal, would not be accepted but pluralism that combines various actors should be considered for a better extension reform. There are many combinations that can result in a variety of models which will be explained in the following paragraph.

Current privatization models vary from a complete withdrawal of state interventions to a commercialization and cost-recovery approach. Table 6 exhibits the different degrees of interaction between the public and private sector and demonstrates wide range of possible models between the two extremes (Rivera, 2001).

Table 6: Kick-off or starting strategies for financing and extension provision

		Providing extension	
		Public provision	Private provision
Financing extension	Public finance	Free public extension service	Subsides to private extension, extension contracts, voucher schemes
	Private finance	Costs-recovery by government agents	Private enterprise

As it appears in the above table, financing extension services can be either public or private and in both types the delivery of extension can be public or private. However, the targeted public investments in extension will remain crucial, even when services are carried out by non-state providers. This trend will require learning from initial experience in contracting out to find new ways to create competitive markets for extension services and find new ways to combine contracting out with different forms of publicly funded contracts based on performance criteria (Christoplos, 2010).

There are actually a variety of extension models and application methods that are applied all over the world. Table 7 illustrates some of these models as it shows a variety of application methods which reflects the variation of extension models applied in these countries. The main lesson that can be picked from this table; there is no model that fits all contexts or all countries.

Table 7: Experiences with privatization and commercialization of extension services in some countries

Country	Model
China	Contracting of subject matter specialists by farmer's groups
Chile	Sub-contracting and voucher system
Costa Rica	Voucher system targeted at small-farmers to contract private Extension
Denmark	Extension services rendered by farmers' organizations, 90% cost recovery
Ecuador	Share-cropping between farmers and ext. staff for a profit
Ethiopia	Privatized service centers
Germany	Many models in different States: Completely privatized, semi-privatized, subsidized farmer's associations, voucher system
Ireland	Increasing cost recovery from users
Kenya	Extension associated with contract out-grower schemes
New Zealand	Complete commercialization of public extension
Netherlands	Increasing cost recovery from users
Turkey	Cost sharing of advisors
USA	Subsidized extension through higher education institutions

In general, there are some models that are more likely to be rejected in Egypt such as sharing cropping profits between extension staff and farmers which is applied in Ecuador or complete commercialization that is applied in New Zealand. However, these models will be reviewed and taken as an important source for the selection for a model that fits the Egyptian context.

Conclusion

Total privatization would not fit the Egyptian context; however, the current study recommends that private sector should participate as a provider of extension services within pluralism. Private sector should be kept and encouraged to meet the special needs of commercial farmers and gaps in disciplines that the public extension does not really cover for small holders. Combination proposals between public extension and private extension will be shown I the next part or the third (mixed) scenario.

CHAPTER 6

SCENARIO III: CO-MANAGEMENT PARTNERSHIP BETWEEN PUBLIC AND NON-PUBLIC SECTORS

Based on what have been shown earlier, it is recommended to adopt extension pluralism system through combination of public extension and private extension providers. Extension services should be addressed to all categories of farmers which include commercial farmers. This point of view is supported by some other extension experts who see that extension work should be divided in social welfare oriented work with poor people and subsistence farmers and in business oriented work with emerging and commercial farmers.

Actually, the adoption of mixed scenario is not a new idea as there are some developed and developing countries that adopt mixed systems the way that fit the nature of their agriculture sector, characteristics of clients and ideologies prevailed in these countries. Countries, such as Norway where the Agricultural Advisory Service (AAS) are divided into three categories, depending on the amount of governmental support. Some services are entirely financed by the government, some are partially financed by the government, and others receive no government funding at all. The term «extension pluralism» is used in countries such as Uganda and Mozambique to signify government-led development under which private extension-providers are either funded to provide extension field services or are incorporated in some way into the public sector extension system. In some countries, such as Vietnam and Zimbabwe, which also practice extension pluralism, NGOs and other non-public service-providers receive little government financing (Rivera, 2001).

It has been determined by ENPARD workshop that this scenario might be more convenient to the Egyptian context, as it combines both main sectors-public and private-in providing extension services, which will enable equal partnership within the state extension strategy. The following summarizes the contents and formation of the scenario.

This scenario is based on a principle that public (government) sector undertakes policy and strategy tasks, while the private sector, in its broader context is responsible of executive tasks.

Therefore, <u>Objectives of agriculture extension are:</u> qualifying farmers, provide technical guidance, and act as a mediator between farmers and other relevant actors in marketing.

Functions of Agriculture Extension

They are foreseen as general functions that are capable of covering many needs such as:

- Dissemination of knowledge and technology which is considered as the main function of the extension process.

- Contribution in entrepreneurship of the agricultural sector and developing along the entire value chains.

- Marketing and playing the mediator role between producers and other actors particularly those engaged in the market (processors, traders, exporters, etc.).

Organizational Structure

The organizational structure of this scenario is completely different than the previous ones, as it separates political functions and executive functions. Thus, political functions are undertaken by the public sector, e.g. MALR, whereas the executive functions are undertaken by the non-public sector. (Figure 6).

MOA tasks can be shown as follows:

- **To prepare specific strategies and plan for extension activities that copes with the priority of agricultural policies and its trends.**
- **Training extension workers/agents.**
- **Certify individuals involved in extension services.**

Those individuals certified by the Central Administration for Agricultural Extension will be working as extension workers/agents and will work with professional civil society organizations.

Financial Resources

In this scenario, the percentage of the public budget allocated for agricultural extension activities will be dedicated only to tasks related to MALR. The financial resources for carrying agricultural extension activities will be as follows:

- **Fees for agricultural extension services which will be determined according to the farmers' category and type of provided service.**
- **Percentage of taxes on agricultural lands.**
- **Percentage of profits gained by agricultural products export companies.**
- **Percentage of marketing contracts profits that are signed within the contract farming scheme.**

Challenges and Problems

As this scenario differs significantly from previous scenarios in terms of design, thus the main challenge is the acceptance of decision makers and agriculture extension personnel. Also a lack of compatibility between the legal legislative framework and reality represents a major obstacle to the application of this scenario especially radical change is needed regarding acts and laws to allow co-management between MALR and producers and organize relationships among them, besides determining the civil society laws. The last challenge is the capability of providing extension services all across the regions, as farmers' organizations and civil society organizations are insufficient to cover every area.

Advantages of this scenario

In spite of every challenges and problems above, this scenario have the following advantages:

- **Flexibility and simplicity of the extension structure design, especially the public component in it.**
- **Creating real partnership between public and private sectors.**
- **Supporting producers and civil society organizations.**

In conclusion, the three scenarios take into consideration the current and future decline in financial resources allocated for the agriculture extension system and therefore suggest diversification of the financial resources. The scenarios have common problems/challenges i.e. current legislations needs changes, mobilization of other and diversified financial resources and not to depend on the government budget.

In return these scenarios provide various options regarding to the institutional and administrative structure, as in first scenario the public sector still exists but is modified; in the second scenario, the structure tends to be more simplified and open to partnership with the private sector as a transitional stage that leads to total privatization. Whereas, in the third scenario, the system is even more simplified to allow co-management, as the public sector will be responsible for strategic and political tasks, while the private sector as well as civil society organizations and professional ones will be responsible for implementation.

Finally, these scenarios remain under discussion and review of top officials at the ministry level and partners in order to select a new convenient trend for agriculture extension in Egypt that copes with the current and future challenges.

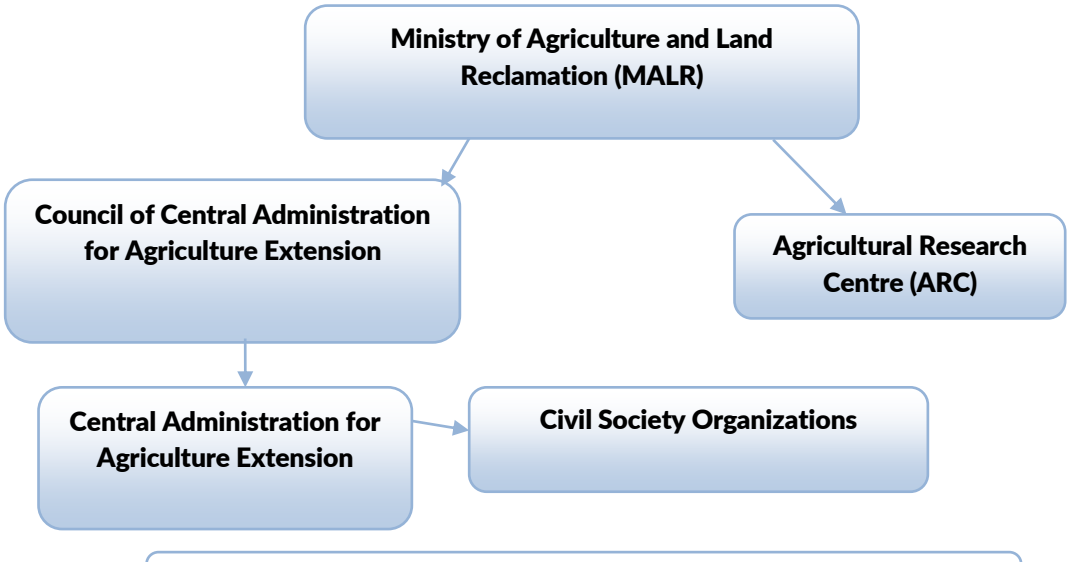

Figure 6: Framework of Organization Structure of Scenario 3

Adoption of the co-management scenario requires the acknowledgment, encouragement and support of pluralism or diversification of extension providers through the inclusive of private sector and NGOs alongside with the public extension. As it has been mentioned earlier, there are some other actors who perform extension function such as input supply dealers but there are no previous or current linkages between the public extension and any of those actors. Encouraging and supporting pluralism requires partnership. Thus, this part of co-management scenario will show pluralism and partnership which will be followed by an in-depth focus inside both of public extension and private extension to come out with suitable guidelines to ensure successful partnership and pluralism extension.

Pluralism and Partnership

It has been noted that pluralism is a trend that is widely spreading out as there is an increase and diversification of needs and wishes of the targeted audience. It is actually difficult for any sole provider of extension services to be able alone to meet such escalating wishes and needs. On the other hand, governments are moving, in general and for many reasons, to allow NGOs and private sector to be active partners in achieving development goals.

Writings on reforms that advance institutional pluralism show that they are being widely promoted, especially in the developing countries today. This strategy often involves contracting out the delivery of extension field services to non-governmental organizations, such as non-profit NGOs, or to for-profit companies including consultancy firms and farmers' cooperatives. Contracting-out is considered as an opportunity for public sector reform and private sector development in the developing countries, including the transition economies of Europe and Central Asia. There are varieties of experiences with privatization and the commercialization of agricultural extension delivery that involves public sector partnering with other entities, with farmers' associations in China contracting technical services from public officials, share-cropping for profit in Ecuador, voucher schemes in Costa Rica, sub-contracting and voucher schemes in Chile, privatized service centers in Ethiopia, contract farming in Kenya, and farmer service centers in Sri Lanka (Keefer, 1998 & Kidd et al, 2000).

Although most of, if not all, literature on pluralism shows partnership with the private sector and NGOs, we believe that there is also unexploited opportunity for future partnership with some other governmental entities. List of suggested of these entities and areas of collaboration is included in Annex1. In addition, it might be some other unexploited opportunities for collaboration inside or within the ministry of agriculture itself; actually, it is not the focus of this study to see those opportunities. However, we would like to give just one example which is collaboration with the Egyptian agricultural TV satellite channel as it can play an important role in enhancement of the extension function as it can reach each house or each family.

Partnership with non-governmental institutions

Non-governmental institutions include farmer's organizations / NGOs alongside with firms, individual advisors and input supply dealers. We will show, in the next part, forms of collaboration with each type of every other private extension provider. However, it is very important to illustrate that Swanson pointed out that one of the keys to transform a top-down extension system into one that is farmer-centered and demand-driven is to organize farmers into groups. Most of extension workers have been trained as crop or livestock specialists and have little or no training in the social sciences; therefore, most are not trained in how to organize farmers into producer groups or other types of farmer organizations. One option is to provide in-service training to the field-level extension staff about how to establish and then strengthen farmer organizations. Another approach, which is generally more efficient, is to contract with a local NGO to organize specific groups of farmers, including farm women, into different groups, based on specific commodity or product interests, socio-economic factors and/or gender (Swanson, 2008).We have transferred what Swanson has pointed out before covering each actor separately to remind policy makers of the role of farmers association in converting extension activities to follow demand – driven approach which cannot be obtained without the involvement of farmers organizations. In addition, there is a great opportunity for partnership with local NGOs to organize farmers and women into groups.

It is well known that private extension providers differ from country to country due to the agricultural context. Main providers that are more likely to function in Egypt are the following:

1. **Input supply dealers**
2. **Individual private advisors**
3. **Consulting firms**
4. **NGOs and farmers organizations**
5. **Exporters / Export companies**
6. **Commercial nurseries**

1. Input supply dealers

Input supply dealers play an important role in advising farmers on variety of technical topics especially plant protection management and growing practices. As they play an extension role, it is recommended to upgrade their extension capacity through training and certification to enable them to disseminate latest recommendations and technologies.

Due to the importance of input supply dealers as a primary source of technical information for many farmers, most public extension workers view them as unskilled competitors who "just want to sell more product" to farmers. While the sales motivation may be true, for input supply dealers to remain competitive in supplying products to farmers, they must improve their technical and management skills, so they can pass along reliable information to their farmer clients. Therefore, public extension, private input supply dealers and farmer cooperatives must work together to ensure that farmers receive consistent, up-to-date and accurate technical information (Swanson, 2008).

As the majority of experts were convinced of the importance of input supply dealers, Swanson suggested that extension personnel, researchers and private-sector dealers to have regular coordination meetings at the district level to discuss production problems, research findings and recommended practices for the coming growing season. Also, subject-matter specialists (SMS) and researchers should work together to organize and conduct training programs for salespeople from retail outlets to ensure that these merchants are properly trained on the production practices recommended for each crop or product. He also added that such a partnership will substantially increase the efficiency of the technology transfer process, as well as increase the overall impact of the research and extension systems on agricultural productivity and farm income (Swanson, 2008).

Thus, it is recommended for the public extension service to train input supply dealers as they already answer farmers' questions and inquiries, so, it is better to raise their capacity in performing such function. This idea has been applied in India where the National Institute of Agricultural Extension Management (MANAGE) began a new training program for input supply dealers in 2003 and has already trained over 1,500 dealers.

The goal is to build strong public–private partnerships in India, so that farmers receive accurate and up-to-date technical advisory services from input supply dealers. Dealers receive training on current recommendations for the specific crops grown in their respective districts and they develop a working relationship with subject matter specialists and researchers that serve their district. In short, when these input supply dealers are asked about a new problem being faced by farmers, they will know who to call in extension, the state agricultural university or a nearby research center. In addition to learning about relevant technical skills, they also learn how to communicate more effectively with farmers, so they can provide up-to-date information to their clients. Finally, they learn about ethical issues and other concerns needed to run an effective business and to build a long-term 'win-win.' relationship with their farmer clients (Swanson, 2009).

It is important to point out that supporting such a role should coincide with the organization of such profession « input supply dealers" where it should be exclusively allowed for the graduates of faculty of agriculture or agricultural secondary schools with specific period of expertise.

These dealers can also be used to disseminate agricultural pamphlets and link farmers with various activities and services that are offered by the Agricultural Research Center (ARC). In addition, it is also recommended for the government to promote for a new series for these shops in new areas especially the "New Egyptian Countryside" as an income generating projects for rural youth who graduated from agricultural universities. This initiative should be carried in collaboration with the Social Fund for Development (SFD) for the establishment and running of pesticides shops, irrigation equipment shops, vet supply shops that sell trusted baby chickens and vet supply for large animals and poultry and might be able to offer artificial insemination services as well. Selected applicants should receive training on technical, extension, and management topics and they also should be linked to trusted resources for various farm supplies centers and receive credit through loans or specific tailored financial support.

There are many other international forms or examples of partnership with the input supply dealers and other private sector companies or dealers that have taken place in developing countries where we can learn from. Within such context, we would like to point out that cash crops like roses, date and pomegranate are examples of crops that need to be studied for the possibility of future potential partnership agreements with exporters or processors in Egypt. Producers of these crops might need such partnership to be able to receive higher prices for their production. Two additional examples of international partnership between the public extension service and private sector are shown below (boxes 4 & 5).

Box 4

Example (1): Public-private partnerships in Uganda

Public-private partnerships (PPPs) are starting to be recognized as a way to improve agricultural extension together with other rural services. PPPs can bring the efficiency of business to public service delivery, with the government playing an enabling role. Under the oil palm component of the Vegetable Oil Development Project in Uganda, the Government has put in place a unique PPPs by promoting direct investment to introduce oil palm cultivation by a large scale private operator (Oil Palm of Uganda Limited- OPUL), while IFAD has providing funding to Government to establish the Kalangala Oil Palm Growers Trust (KOPGT) which provides funding to smallholders to develop their oil palm gardens. OPUL provides the know-how and inputs so that smallholders are using the same technology on their plots as on the large nucleus estate, while KOPGT is the 'go between' for farmers. While IFAD is financing the start-up costs and extension during an initial period, provision has been made for KOPGT to become a self-sustaining organization, financed by a margin of their crop earnings.

2. Individual private advisors

They are not so many in Egypt and their services are mainly devoted for rich farmers who pay them against their consultancy services. There are some international practices related to collaboration with this type of private sector entities, among these practices what Riaz et al have shown that the government in Turkey organizes or financially supports training of agricultural specialists as advisors, provides subsidies to farmers for using the services of private advisors, and has established an official certification and monitoring system for private advisors (Riaz et al, 2014).

This is a good example of collaboration with advisors that shows how the government is working on building the capacity of advisors and also issuing certificates that reflects or express their professional status. We would like also to suggest a potential role in creating or supporting mid-level professionals to be future certified advisors through paid training courses. Actually, successful individuals might be able to establish their own consulting firms based on recognition that might gain as they truly meet farmers' expectations.

Box 5

Example (2) Public funding for a private extension system for the hillside farmers of Honduras

The Hillside Farmers Fund (FPPL) is a publicly funded, private delivery extension system that works with small farmers in hillside agriculture. FPPL is under the responsibility of the Honduran Ministry of Agriculture and started as a pilot project in 1999. The implementation of FPPL is outsourced in two ways. The Tropical Agriculture Research and Higher Education Centre (CATIE), based in Costa Rica and with a sub-office in Honduras, has been contracted for administering the project. CATIE then contracts out the implementation of extension services to local private companies, which hire their own agricultural technicians to work directly with farmers. CATIE's professional team promotes the programme, evaluates project proposals developed jointly by private companies and community groups, monitors and evaluates the implementation of projects in the field, supervises contractual aspects and supervises results. During the first two years, the fund contracted 25 private companies to implement 89 projects, reaching some 15 500 families. Projects are limited to eight villages of approximately 20 families each. There are two technicians for each project; each technician works with four villages, or 80 families (visiting a village at least one day a week). The private company is paid approximately USD 27 per family to write a proposal and, if the proposal is accepted, USD 216 per family to implement the proposal for one year. Results of the FPPL pilot during the first two years were very positive.

3. Consulting firms

This category of pure consulting firms that just offer extension services is very limited in Egypt; however, there are many firms that are offering consulting services alongside with sales services for various farm supply products. Moreover, there are few consulting firms in Egypt that are specialized generally in development and they carry out short development projects that include extension activities. When pluralism is applied, it is suggested to collaborate with these firms as needed where they have high caliber of technical experts.

4. NGOs / Farmer organizations

Partnership with farmers organizations is applied in many countries especially the ones that are specialized in producing and marketing specific commodities or crops. Moreover, extension activities are run by farmers' organizations in some other countries too.

There are many experts who have shown the important role of farmers organization in improving rural livelihood; and how it is now widely accepted that to improve rural livelihoods, achieve food security at the household level and transform rural communities in the development process, it is essential to organize farmers, farm women and rural young people into different groups of farmer-based organizations (FBOs). For these FBOs to be successful, the members of these groups will need to learn new leadership, organization and financial management skills.

In particular, smalland medium scale farmers will need to be organized into producer groups that develop linkages with input suppliers and markets so they can reduce transportation costs for inputs and products and improve their competitive position in the marketplace by achieving economies of scale and reducing transaction costs in producing and marketing their products (Abaru, 2006).

As there are many roles that farmers' organizations can play in agricultural and rural development, it is important to go through their major types that public extension and/or NGOs should work to create in poor rural communities to accelerate the development process as follows:

- **Commodity-specific producer organizations that will need both technical and marketing skills to produce and market different high-value crops or products, including building reliable value-chain linkages to available markets.**

- **Socio-economic and gender-based farm organizations, such as self-help groups (SHGs) for rural women that will generally evolve into different types of commodity organizations or other types of FBOs for crops or products that rural woman generally produce. In addition to training members in needed technical and marketing skills, these women-based organizations (WBOs) can also be an effective mechanism for disseminating information about concerns such as nutrition, health, hygiene, and family planning.**

- **Watershed or irrigation management organizations that will plan and then implement sustainable water-use management practices**.

- **Farmer cooperatives have already been established in many countries, especially for input supply but, unless these institutions are farmer controlled, they are generally ineffective. Some farmer-controlled cooperatives do function effectively, but they primarily serve the needs of the commercial farm sector and do little or nothing for the rural poor. Therefore, many producer groups that begin by focusing on high-value crops will eventually take on many of the functions of input supply and/or marketing cooperatives**.

- **Rural youth organizations have been established in a few countries. These groups are very useful over the long term in building effective producer and other farmer organizations, as well as in introducing new production technologies and marketing systems for high-value commodities or products. Resource constraints, however, have precluded most developing nations from including rural youth organizations in their extension portfolio. Given the importance of social capital in the rural development process, though, this activity should be reconsidered (Swanson, 2008).**

Although Swanson was presenting an international overall view on farmer based organizations, most of what he came out with are coping with the situation in Egypt. In other words, Agricultural cooperatives in Egypt should be burly non-governmental and there is a need of establishment of rural youth organizations as well as self-help groups (SHGs) for women. In addition, he has pointed out those technical and marketing skills for commodity-specific producer organizations to produce and market different high-value crops or products, including building reliable value-chain linkages to available markets. Moreover, SHGs for rural women that will generally evolve into different types of commodity organizations or other types of FBOs for crops or products they generally produce. Finally, Egypt already established many Water Users Associations but they are facing many constraints as they are not supported with legislative frame.

It is worth noting that NGOs that are affiliated to the Ministry of Social Solidarity (MSS) and introduce services to farmers are purely non-governmental organizations. Few of these organizations are implementing development projects including agricultural development and agricultural extension activities. There are actually some few successful non-governmental organizations that can play an important role in providing farmers with extension services. Those organizations gained very distinguished expertise through interaction with international agencies. It is advised that these NGOs should receive capacity building support which might include providing them with governmental employees that are paid by the government and invite their members or staff to join capacity building training courses that are offered to the staff of the ministry of agriculture.

Examples of these non-governmental agricultural organizations include Horticultural Export Improvement Association (HEIA) on the level of the entire country, Fayoum Agro Organic Development Association (FAODA) on the level of governorates and Allam's Sons (in Sohag) on the level of villages.

In addition, there are some other NGOs that are not specialized in agriculture but started to have agricultural activities for farmers such as Alexandria Business Association or NGOs that are offering services on added value activities for women such as Minya Businesswomen Association and Assuit Businesswomen Association.

The public extension service should collaborate with NGOs through the provision of technical and marketing training as well as capacity development topics such as management, team building and proposal writing. They should be empowered through training and linkages with markets to carry out specific extension activities or specific components of agricultural development projects. They can also play a vital role on women in development activities as the public extension service lacks the existence of female extension agents on village level. In addition, there are some special commodities such as medicinal plants that represent a good potential example for collaboration with NGOs.

It is important to remind policy makers that empowerment or collaboration or partnership with farmers' organization is not something that will lead to success within all contexts or by applying various implementation procedures or methodologies. In other words, results of such partnership can be a success or a failure depending on many factors. The importance of such trend is not an issue to debate but there are successful cases and there are failure cases.

Purpose of sharing learned lessons of failure cases of partnership with NGOs / Farmers organizations is to show that there is no single magic form that can be considered the best form of partnership. Partnership forms should be selected in synergism with the surrounding context in each country. Cited reforms are not static but are themselves in a state of flux. Several countries, such as Chile, have revisited their extension system arrangements on several occasions and have modified them each time. Chile has moved away from a voucher system to direct subsidization under contracts with farmers to hire private extension service providers. In most cases, extension reform would best be described as «work in progress» (Berdegue et al, 2001).

Finally, it is worth noting that Egypt has witnessed few cases in the last years where farmer organizations have taken the complete responsibility to carry small agricultural development and agricultural extension projects through international grants.

5. Exporters / Export companies

Egypt is adopting a policy that supports exportation and the latest yearly exports of fresh fruits and vegetable reached 3 million ton. All exported horticultural crops should cope with standards of imported companies. As exporters are keen to follow international trade standards, they ask farmers to follow specific cultural practices and sometimes prepare their crops in specific specifications needed for the exportation process. To ensure that farmers follow these recommendations they play extension role. It might be a good idea for the extension service to link exporters with farmers or farmers groups and show exportation requests where farmers can interact with the provision of requested crops, varieties, specifications and quantities. Extension service might also introduce training on various standards and specifications for exporting agricultural commodities.

6. Commercial nurseries

The majority of seedlings are produced through private sector nurseries. These nurseries play an extension role where they educate farmers how to plant and take care of seedlings especially at the early stage of growing. It might be a good idea for the public extension service to establish links with private nurseries to ensure that farmers receive updated sound recommendations. In addition, such a link will open the door for the dissemination for new varieties that extension promotes. Nurseries establishment and management can be one of the training programs that the public extension can offer for rural youth and interested farmers as one of the income generating activities.

CHAPTER 7

STRATEGIC DIRECTIONS FOR THE ENHANCEMENT OF PUBLIC EXTENSION SERVICE

Although the topic of partnership has been covered in details to ensure successful application for extension pluralism, it is important to introduce strategic directions to enhance the performance of the public extension service in implementing successful pluralism policy.

There is no doubt that generic directions such as the adoption of decentralization, participatory extension, gender-sensitive and inexpensive extension methodologies, demand driven approach, market-oriented approach, empowerment of farmers and farmers' organizations and reform extension education in colleges are very important directions to upgrade the performance of any extension system all over the word. However, the team of this study agreed to minimize presented directions to obtain the highest level of attention and implementation probabilities as proposing all of them at once may not be a practical approach.

Main strategic directions to enhance public extension service in Egypt to manage successful pluralism policy can be shown as follows:

A) Broaden the mandate of agriculture extension service to function as rural extension organization.

B) Maximize utilization of ICT to disseminate knowledge and information.

C) Strength linkages between extension and research.

D) Create and build the capacity of farmers associations and establish partnership agreements with them.

E) Modify internal structure the Central Administrative for Agricultural Extension.

To ensure clear understanding and better application for the above directions, the following clarification is presented:

A) Broaden the mandate of agriculture extension service to function as rural extension organization

Moving to wider extension prospective requires changing the shift from technology transfer model to human resources model. Swanson pointed out that as governments shift from national food security as the primary national goal to one of improving rural livelihoods and working to achieve household food security among the rural poor, then the focus of public extension systems must be broadened to pursue a more diversified farming strategy that includes new high-value crop and livestock enterprises.

In doing so, the extension approach being used must shift from technology transfer to human resource development or educational programs that will enable an increasing number of farmers and farm women to begin organizing into groups (i.e. building social capital) and successfully producing and marketing these different high-value products (Swanson, 2008).

Actually, there are some traditional technical activities that are not really covered by the public extension in Egypt such as livestock (dairy and beef operations), poultry production for small holders and commercial farms, bee keeping and fruit production. When extension service goes for a wider prospective, additional topics or technical areas should be added to extension mandate. These topics include added value activities, income generating activities (such as sericulture or mushroom), market-oriented activities, environmental oriented activities, food safety activities. These activities will also broaden extension clients, in other words, the list of clients will include all actors over the entire value chain which includes processors, traders, input suppliers and exporters.

Thus, extension roles will diversify and exceed traditional technical roles that extension personnel get used to carry out. Overall list of skills and knowledge that most farmers, farm women and rural young people will need to improve rural livelihoods is shown in Annex2.

Actually, the contribution of women in agricultural development is very distinguished and they should receive more focus than what they are currently receiving. This is led by Swanson to point out that farm women are generally involved in labor-intensive activities associated with horticultural crops, as well as working with some livestock enterprises, such as backyard poultry flocks or feeding and milking cows. In many cases, these are the high-value crop or livestock enterprises that hold the most promise for increasing farm household incomes.

However, because women have been largely ignored by extension in the past, due to the focus on national food security, there is much that extension can do in the future to train farm women on how to expand these production systems, improve product quality and begin supplying markets in nearby towns or cities. While many rural women in developing countries lack basic education, they have considerable learning potential and can be easily trained on how to improve or carry out specific production practices and post-harvest handling techniques. In addition, once women farmers are organized into producer groups, it doesn't take long for one or more entrepreneurial members to emerge and take the lead in securing micro-financing for the group and/or in negotiating market contracts for their products (Swanson, 2008).

In short, the shift into rural prospective means the strategic shift of extension services to address public interest issues in rural areas. Such trend will lead to more and more development activities especially with rural women where there is unlimited potential for working with women groups. Egyptian women have shown great enthusiasm with the majority of development projects that have been carried in rural areas.

Finally, prospective of extension should include creating and working with existed farmers associations and rural youth especially in the area of building entrepreneurship skills and income generating activities.

B) Maximize utilization of ICT to disseminate knowledge and information

ICT tools such as computers, internet and mobile phones have tremendous potential to facilitate information transfer to farming community. Utilization of information communication technology (ICT) in agriculture is escalating in many countries all over the world.

There are many initiatives of using ICT to facilitate connection with farmers that have taken place in many developing countries. Mobiles applications are widely used in India through partnership between private sector and public sector such as Ministry of Agriculture, research institutions, universities, Meteorological department etc.

In Egypt, it has been noticed lately that there is a great interest in using mobile phones to transfer specific information and knowledge to farmers. Few international commercial firms that have branches in Egypt are using this device to reach clients. In addition, there is also an example for one of the farmer organizations in Fayoum that just finished the implementation of a small and short project that rely on such technology to reach targeted farmers.

There is actually a potential for more applications that can be created and utilized to meet some specific educational or extension needs for various types of producers. Marketing information and weather forecasting news and recommendations are among the main topics that fit utilization of mobile in agricultural extension activities. Although, public extension applied such idea before, it is recommended to establish linkages with other entities to reach better results like the successful model in India.

Spread out of knowledge and information through internet is widely used in USA and Canada. Utilization of web platforms for outreach activities can also be applied in Egypt.

The word "platform "has been selected to refer to any entity that is mainly using the web as a main channel for communication with the targeted groups. Egypt went through successful application of web based services such as "VERCON "and already has many "expert systems "that should be widely utilized.

There is no division or department that is responsible for what can be called "e- extension) either inside the public extension organization or the entire Ministry of Agriculture. It is recommended to support all previous and current efforts that work on such area as it really fits well educated clients as well as educated sons of small holders. Establishment of (E-Extension) division or department is also recommended.

Although the level of literacy is moderate in most of rural areas in Egypt; new generations are more educated in all areas. The role of educated personnel either from new generations or old opinion leaders should be strengthened through the diffusion of knowledge and agricultural recommendations on the internet. The latest statistics have shown that the total number of individuals who use internet in Egypt reached 50 million which reflect a considerable percent of users in rural areas. Making extension information available through electronic extension should not come on the expense of interpersonal communication methods with individual and groups. This trend has been mainly suggested to diversify information resources to meet diversified needs and characteristics of audience or targeted groups.

Mobile phones and web platforms or internet are just " tools " while knowledge management for the contents that these ICTs tools will carry is an important topic that needs to be addressed in professional manner and smart practices. Annex (3) presents the topic of knowledge management in details.

C) Strengthen linkages between extension and research

There is a need in Egypt to strengthen linkages between extension and research sectors. There are some relations between these two sectors but they are not systematic relations. Thus, enhancement of the bottom-top approach system of communication by strengthening linkages among researchers, extension agents and farmers is absolutely needed.

There are many mechanisms for establishment and management of successful linkages all over the world but they all work under different contexts. Thus, the study team was keen to come out with applied recommendations that fit both sectors. However, the following part introduces suggested actions to be considered apart of the entire process for the improvement of the agriculture extension service in Egypt.

Recommendations for strengthening linkages between extension and research can be summarized as follows:

- **Establish two main liaison offices for research – extension collaboration in both of the research and extension organizations. These two offices should be located in the HQ of Agricultural Research Center and the Ministry of Agriculture in Cairo. On governorate level, representatives of these two offices should be located on each governorate agricultural department (*modiryia*) and one of the research stations in each governorate.**
- **Devote a percent of research activities for farm applied research trials. Research trials should be selected to meet specific needs that are raised by farmers and extension agents. Field days for these trials should be organized and announced on harvesting days where leaders of farmers come to see and discuss results. It might be a good idea to establish adaptive research unit in regional research stations where researchers work with subject-matter specialists to develop technology packages through a national program.**
- **Extension agents on village level should be linked with the nearest research station and provincial extension offices should receive research results on frequent basis like once or twice a year**.
- **Meetings between researchers and subject-matter specialists should be held twice a year on each governorate to exchange information on new results of research and results of application on the fields and various needs of farmers**.
- **Establish a website for the research sector to disseminate results of applied research and on-farm and demonstration trials. This website should allow access for feedback and interaction with extension personnel and farmers.**

In order to maximize outcomes and impact resulted from farm trial research; some recommendations were selected as follows:

- **Introduction of new improved varieties.**

- **Screening and evaluation of suitable varieties in different ecological regions.**
- **Multisite demonstration trials.**
- **Production of awareness material for training purposes.**
- **Train of trainers to extension staff (Atumuriravi, 2015).**

Finally, it is recommended that improvement and systemization of linkages between research and extension organization should be managed step by step in a gradual plan.

D) Create and build the capacity of farmers associations and establish partnership agreements with them

In spite of covering the issue of farmers' organizations / NGOs under the partnership with the private sector, it was important to put this trend as the development of the social capital. It is a crucial trend for strengthening agricultural extension as well as the entire agricultural development process. However, we will just through the lights in this part on a partnership case between the government and the private sector as it might be unknown for some people or it may not be possible to occur in Egypt due to the opinion of some other people.

As it is well known, governmental authorities receives funds either as grants or loans from international sources to carry out agricultural development projects. Although those projects are carried out by the governmental authorities, there is a case that we are familiar with where the projet was implemented by other parties. To be specific, that is the case of the Rural Development Program under the Union of Producers and Exporters of Horticultural Crops (UPEHC) who received a fund from EU. The donor asked the host to select some farmers' organizations and private sector firms to carry out small two-year agricultural development projects. These projects have been implemented completely by the private sector and by the end of 2015.

E) Modify internal structure of the Central Administrative for Agricultural Extension

There are many changes that occur in the agriculture sector in local level and international level. In addition, there are many changes that occur in the surrounding environment and polices in local level as well as international level. All these changes are affecting the agriculture sector in Egypt and create new needs to be met. Thus, public extension will need to meet those needs, in other words, new roles or activities are needed which may not be managed in an efficient style through the existing structure of the agricultural extension organization. In other words, the existing structure needs to be modified to enable extension administrations and departments to function in a better way that copes with various local and international surrounding changes.

Main recommendations for modifying the structure of the agricultural extension organization can be summarized as follows:

A. It is suggested to create public administration for extension in new lands to cope with the potential prospective of Egyptian plan for land reclamation.

B. As per the current organizational structure that we have received for the Central Administration for Agricultural Extension, it has been noticed that there are 18 administrations under it. There are some other administrations that need to be added which seems to be difficult as the existed ones are so many. Thus, we suggest combining or merging some of the existed administrations that have relatively similar functions into one administration as follows:

First proposed merging

- **Technical preparation and aids.**
- **Extension publications.**
- **Mass media.**

These three administrations might be combined under one administration.

Second proposed merging

- **Agricultural councils.**
- **Agricultural units.**

These two administrations might be combined under one administration.

New suggested administrations are the following:

- **Electronic extension.**
- **Environmental extension.**
- **Value added and income generating activities.**

C. It has been noticed that activities of the rural development administration are entirely and exclusively for women.

As it is well known the prospective of the term "Rural development" is much wider than what it is functioned or should be functioned as per the activities of this administrative, so it is suggested to replace the name into " Women development activities ".

Activities that go under this administration should include:

- **Rural women organizations.**
- **Nutrition and food safety.**
- **Home Poultry production.**
- **Value added and income generating activities.**
- **Handicraft activities.**

D. Marketing extension administration should be a big administration that introduces a variety of activities which are more than what is currently performed. There is a current

escalating attention towards markets which led Swanson to point out that there is growing recognition that markets, not technology, have become the primary driver for agricultural development in many countries (Swanson, 2008). It is important to enhance the performance of this administration to enable Egypt to cope with current local and international changes and challenges. To be more specific, this administration should be in charge of two important functions; farmers' organizations and supporting the export of agricultural products.

Actually, these two main functions can be carried out through two administrations but we are in favor of making suggestions as simple as possible. We are also not in favor of introducing sub-administrations under this important unit, however, a detailed list of activities are included in Annex (4).

D. Private extension for small holders and commercial farmers / firms

The introduction of pluralism and partnership has shown a variety of forms for collaboration between the public extension and all other private extension providers, in other words, extension from the provider side.

It is essential to look at extension or rural advisory services from the receiver side or clients. In addition, showing extension from the side of providers does not show exact extension services or disciplines that fit commercial farmers as well as small holders in a separate way.

Privatization is a word that carries a bad reputation in Egypt where poor people (the majority of the society) have seen the assets of the society have been sold under corruption business deals over the Mubarak regime. In other words, this word brings bad memories of deprivation of poor people from their share in public properties for the benefit of rich corrupted government employees and businessmen. Thus, any trials for privatization should be studied well and introduced in a complete transparent style that shows its benefit for the entire society.

There are successful examples that are emerging about how private-sector firms and farmer-based organizations are establishing their own extension services for very high-value products, especially for export. Because these commodity-based extension activities are critical to the economic success of the private-sector companies, then such efforts will progressively grow with the market.

Although, Horticultural Export Improvement Association (HEIA) is a famous successful example of a farmers' organization that gathers commercial farmers and firms, Egypt is still in need to look at these international examples and try to transfer successful ones in a way that fits its entire context.

As the two categories of small holders and commercial farmers are very different, private extension service should address each category separately based on an appropriate philosophy that fits characteristics of the target group. Thus, the following part will shed the light on private extension services for each category separately.

First: Small holders

Points of views on privatized extension for small holders should be introduced in precaution styles. This is mainly due to the nature of privatization that mainly fits capable personnel (commercial farmers) who can afford it and the hardship of farming business on small holders. This hardship led many developed countries to subsidize farmers to keep them on this business that does not attract new generations who mostly prefer moving to the city. Hoffman et al were among extension experts who pointed out that privatized extension has been shown as more effective among larger scale commercial farmers and for high value cash crops. They also added that one should keep in mind that a large number of farmers can find themselves unable to afford extension advice that they would otherwise found useful if governments allow privatization of extension services to continue uncontrolled (Hoffman, 1997). So, if privatized extension services are selected for small holders, they should be affordable and under the control of governmental authorities to ensure the protection and suitability for this category.

As per the ideology prevailed in Egypt, serving and supporting poor farmers to make their living is considered the responsibility of the government. In spite of the difficulty of introducing the idea of "privatization" in principle for small holders, it is really worthy to examine the introduction of some privatized extension services and see how it will be received. It is important to clarify that the word "some "might refer either to activities or geographical areas or both.

As those "some" privatized extension services should be selected very carefully and introduced gradually, it is advised for policy makers to start with activities where extension services are nearly not available. Those activities are completely away from traditional farming of strategic crops for food security, field crops, and horticultural crops. Examples of those activities include home poultry production, beef fattening, and aromatic plants.

It is known that some extension personnel will claim that the public extension organization is already offering extension services on these activities, but the reality on the ground does not really support such claims where it is occasionally or each once in a while when the extension organization announces the implementation of an extension activity a training course in one of those disciplines. This means a steady continuous extension service that is available for farmers or women or rural people when needed.

Rural women receive extension services on home poultry production through private sector dealers who sell baby chickens that come from resources that are not trusted. There are no female village extension agents and the technical expertise of male extension agents, if they are existed or available, is mainly on field crops and vegetables. Rural women do not find a trusted source where they can get good baby chickens and are in need for technical advice on vaccination and nutrition practices.

Extension services on raising home poultry can be introduced to small holders through private sector as these services are not available through the public extension service. Although it will not be accepted from any farmer, male or female, to pay fees for any advice, fees will be paid but in indirect way where private sector companies or dealers will add the fees for extension services to the value of products that farmers purchase.

Thus, we suggest announcing tenders for the private sector companies who should pay fees for the government against offering them the permit to sell various types of supplies (baby chickens, vaccines, feeders, drinking units etc.) under supervision of the official authorities.

This proposed system can play an important role in the provision of good products and extension services especially with good selection process for these companies and putting them under good supervision system. In addition, create competitions among these companies might also be a good idea for the benefit of clients. Offering permits for two companies to work in the same area is one of the ideas for creating competitions. Successful private companies that are working within competition environment hire sales persons with strong technical background in order to answer various questions of clients to be able to introduce good extension services which increase the sales of their products. This idea can encourage the private sector to prepare and open outlet to sell various input supplies including vet supplies on village level, build the capacity of youth who will be hired and increase home poultry productivity which ultimately improve life styles of rural people. If there are some difficulties for going through such proposal, we suggest starting with outlets inside extension centers where administrative procedures will be a little bit easier.

Same idea can be applied with some modifications for beef and dairy producers where private companies can open a vet pharmacy on village level that cell vet drugs and introduce artificial insemination services under a complete supervision from the government.

This idea can also be tested on limited number of areas where livestock is a main activity. Again, it can also be tested first inside extension centers where there are 220 extension centers scattered in many governorates.

Finally, the idea of private extension can also work for the producers of aromatic plants where companies that will be offered permit or license to introduce extension services will have the right to build distillation units which might offer a good environment for contract farming schemes for the farmers. Again, farmers would not pay for extension advice as it will be deducted from the purchasing value of harvested aromatic plants.

It might be some other examples that were not mentioned such as bee keeping that has never been an activity where farmers can get advice from the public extension service. Actually, owners of apiaries who are in need for extension services or individuals who want to establish an apiary without previous experience make partnership deals with private bee keeping specialists who pay frequent visits to run operations against sharing of production profits by the end of each season.

However, it is not recommended to examine private extension services in many disciplines or activities where it is a transition phase that needs to be managed carefully with limited number of activities and in limited geographical areas within standardized system that increase probability of success and future dissemination.

Second: Commercial farmers / firms

They reflect the modern aspect of the agriculture sector in Egypt. They recruit labor, use modern equipment, follow advanced farming operations and produce high quality products that go for big local supermarket chains that sell for the elite. Moreover, some of them export for international markets especially gulf area and Europe against hard currency that Egypt lacking off especially during the decline of international tourism.

The technology applied in commercial farms make them not really in need for advisory services offered by the public extension service. This situation is not unique to the agriculture sector in Egypt. Commercial farmers in South Africa need more sophisticated technology and information than what is currently supplied by public services and they will therefore seek their information elsewhere, even if they have to pay for it (Jordaan, 2004). Thus, offering extension services for this category against fees is totally accepted, in principle, where they have business mentality and do not really look for public subsidies. They actually hire consultants and pay them especially for horticultural crops, commercial dairy and poultry herds.

The extension organization needs to form a network of subject matter specialists or technical experts who have long practical expertise on the ground.

Systems for offering paid services should be designed and announced which might include fixed fees per each visit or total fixed fees per season or year where farmer receives regular visits that vary due to the nature of activity. Poultry operations, for example, need more frequent visits that might be weekly while fruit crops might need monthly visits. Fees will also be influenced by the number of technical experts where advisory services that are introduced by two experts should cost farmers more than the one that are introduced by one expert.

It is also important to point out that offering paid training courses for the workers of commercial farms is very important where capacity building interventions are needed for unskilled labor, drivers of tractors and machines operators and other labor that is in charge of spraying against pets or pick fruits or prune fruit trees etc.

It is also important to offer some other paid services alongside advisory services such as soil analysis, water analysis, clinics for accurate identifying of plant diseases.

These services are very important especially at the beginning of offering paid services for commercial farmers; they will simply attract them to use such services which will enhance the demand on advisory services as well.

This idea requires putting all services, including advisory services, in one place or center which can be applied in new lands where the commercial farms and firms are existed.

Actually, having all of this under one roof and in a rural setting can greatly accelerate adoption of innovations and increase benefits for farmers. This idea is applied in China but with free of charge extension services that are funded by the profits gained from the sales of other services.

As these services proposed for commercial farmers and through centers that are placed in their areas, we recommend to make all services are paid but it might be a good idea to make extension services partially subsidized from profits that are gained from other services.

However, the model applied in China is completely introduced as follows:

Box 6

Payments for services in China

The Chinese government has tested several different approaches to recover the cost of public extension services from farmers. In terms of crop extension services, under the Agricultural Support Services Project, each county and township extension office established a commercial agricultural service center (CASC), essentially an input supply store, adjacent to the agro-technical extension office. At the CASC, farmers get one-on-one technical advisory services about issues such as which crop varieties are most suitable for local growing conditions, as well as fertilizer, pest management, and other technical recommendations. It is not mandatory that farmers purchase their inputs from this CASC, but nearly everyone does, since the quality of these inputs is guaranteed. In the past, many small-scale retail stores sold diluted or defective inputs, which encouraged many farmers to purchase their inputs at these CASCs. Most of these advisory service costs are recovered through the sale of the production inputs, and the number of local crop advisers actually increased to about 370 000 nationwide, after this new funding arrangement was initiated during the 1990s.

In the case of livestock, Chinese farmers are also expected to pay for specific services (i.e. artificial insemination and vaccinations). Again, the cost of extension services is largely recovered through the sale of these services. It should be noted that this public–private extension arrangement would not be acceptable in most countries where private-sector firms are already supplying inputs. Nevertheless, it does confirm that the cost of providing one-on-one advisory services to farmers can be successfully recovered from the sale of production inputs, as demonstrated by private-sector firms worldwide. However, the cost of other extension activities that deal with other information and educational services (e.g. sustainable natural resource management practices taught through FFS or demonstrating how different types of farm households can intensify and/or diversify their farming systems) are more difficult to recover from small-scale men and women farmers (Swanson et al, 2009).

It is strongly recommended to keep extension personnel who run extension services for commercial farmers away from small holders as these two categories are completely different and to avoid any bias that might arise for the benefit of commercial farmers on the expense of small holders.

Actually it is much better to make advisory services centers in new lands a place or center for all agricultural development services for commercial farming. It is good for this category of farmers to find all services in one place which will also facilitate the functioning process of advisory services.

If the Egyptian government does not see that such idea can be established and run by the public extension service or governmental agencies, the idea is still valid for the private sector to carry it over. In this case, the government should offer some of the buildings or facilities that are not in use or build new centers and announce tenders to rent and run services where the private sector companies compete to win and pay fees for the government to get work permit or license.

Conclusion

For small holders:

The study recommends testing the idea of private extension services first in limited disciplines and/or specific geographical areas where public extension service is nearly not existed. Proposed disciplines are rearing home poultry, livestock production, and production of aromatic plants. For poultry and Livestock operations, private companies will sell various input supplies, drugs and vaccines with prices that are inclusive of extension services, in other words, farmers and rural women would not pay against receiving extension services in a direct way. Extension centers are proposed for the application of this idea.

For aromatic plants, private companies will be allowed to build distillation units and asked to offer scheme for contract farming where they purchase the production for a value where the fees of extension services are deducted from. Based on results, there are some other disciplines that can be a subject for testing such as bee keeping and organic farming.

For commercial farmers:

We propose the introduction of paid services through integrated agricultural development centers that includes some other services such as soil analysis, water analysis and clinics for plant diseases alongside with paid extension services. Outsourcing is totally recommended to offer high caliber technical experts and consultants.

It is important to point out that paid technical courses for technical labors who work for commercial farmers and firms are welcomed. Categories of labor that need such courses include, but not limited to, the personnel in charge of machinery operations, parlors, pruning and packaging.

GENERAL CONCLUSION AND RECOMMENDATIONS

After presenting the three scenarios discussed by the participants in the workshop, which witnessed a wide participation of two groups of stakeholders' i.e. small farmers, rural women, researchers, farmers' organizations, NGOs, commercial farms, private sector, governmental officials, and representatives of extension service at governance level. The following comments and feedback can be concluded:

First scenario: Improvement of the current public system

It is well known that there are many changes that are taking place on the local level as well as the international level; these changes are creating new diversified needs for the targeted groups and broaden the mandate of the public extension. As the public extension service is lacking of financial resources, human resources (extension agents) and facilities, it is clear that it does not have the capacity to meet those needs and challenges which require the inclusion of other non-governmental actors through extension pluralism.

Participants came out with the idea of establishing the Supreme Council for Agricultural Extension which is actually existed but it is not activated, so, reactivation of such council can contribute to various efforts to strengthen agriculture extension in Egypt. Regarding financing agricultural extension activities, participants came out with many ideas; among them some good ideas such as devoting a percentage of cooperative profits which needs supportive laws and stamps issuance to financing extension activities. There are also some ideas that are difficult to be carried out such as the deduction of a percentage for the profits of the Principal Bank for Development and Agricultural Credit (PBDAC).

Initial feedback of participants shows that there is a need for the existence of the public extension service to address the needs of smallholders as well as state issues such as preservation of natural resources (land and water) and strategic objectives such as food security and self-sufficiency of strategic crops especially wheat.

There are pros and cons for this scenario, in addition to the ones that participants came out with, additional pros and cons can be shown as follows:

Pros: Deep and longtime relationship with opinion leaders and key personnel in rural areas.

Cons: Participation of farmers in the decision making process on agricultural extension plans and activities is weak; the creation and building efforts as well as the capacity of groups and organizations for farmers, rural women and rural youth are absent; It is difficult to take a percentage of profits for the Principal Bank for Development and Agricultural Credit; the private extension providers are absent.

In order to improve the performance of the extension service through extension pluralism, some changes should take place in terms of function and structure; these changes will be introduced through the introduction of the third (co-management) scenario.

Second Scenario: Privatization

As privatization means the complete absence of public extension and as participants were in favor of keeping the public extension, and came out with an initial public – private partnership towards privatization. They actually were interested to learn from the experiences of other countries that apply privatized extension and pick up ideas that fit the Egyptian context. However, they have emphasized that those ideas can only be applied through the adoption of extension pluralism where extension services will be provided by the public extension alongside with private extension providers.

Showing that private sector includes farmers' organizations and NGOs was among the main presented items that participants were interested in. In addition, it was also interesting for them to hear about "contracting out "farmers' organizations to carry out extension activities in some other countries where the government provide the fund or part of it.

Participants have initially liked the idea of having private extension providers; farmers' organizations and private firms, but as a part of a wider reform process which promotes pluralism while recognizing the need for public financial support.

The scenario of privatization that participants came out with did not include a mechanism for the transfer into privatization as per the title of the scenario. However, they put some cons to face the adoption of this scenario from their point of view; main other cons can be shown as follows:

- **Loosing accumulative experiences of the public extension personnel.**
- **The difficulty of assigning the task of implementing extension programs for farmers organizations as they do not cover the entire country and as a lot of them need to receive capacity building activities.**
- **Private firms emphasize on commercial farmers and neglect or ignore small holders.**

As the initial feedback was in favor of the co-management scenario that applies extension pluralism, forms of partnership with private extension providers will be shown in the next scenario.

Third scenario: Co-management partnership between public and non-public sectors

The participants were against the total absence of the public extension, the dialogue and discussions through the last workshop were moving toward the third (co-management) scenario in which extension pluralism is adopted through partnership between the public extension and private (non-governmental) extension providers.

As indicated in table 8, the three scenarios take into consideration the current and future decline in financial issues and that is why financial resources should be diversified. The scenarios have common problems/challenges i.e. current legislations, yet it provides various options regarding the institutional and administrative structure, as in first scenario the public sector still exists but totally modified, second scenario the structure tends to be more simplified and open to partnership with the private sector as a transitional stage that leads to total privatization. Whereas in the third scenario, the system is even more simplified and adopts a joint partnership, as the public sector will be responsible of strategic and political tasks, while the civil society organizations and professional ones are responsible for implementation.

In conclusion, the current study recommends to change some legislation that might hinder the implementation of any of these scenarios, and to seek top level officials and partners' opinions and feedback on such scenarios to set the mechanisms and form an action plan. Additionally, the selected scenario should be submitted / or proposed to funding agencies, as this will lift the financial burden off the ministry of agriculture and land reclamation because the implementation of any of these scenarios requires fund. This will also assure that these scenarios will be implemented on stages with guarantees of a solid base and its sustainability.

Table 8-a: Comparison between the three proposed Scenarios for improvement of the agriculture extension system in Egypt

Comparison Item	Improvement of the current public System	Privatization	Co-management partnership
Objectives	- Combat poverty in rural areas through increasing the income of rural families. - Increase of agricultural production and improve its quality to get healthy food. - Upgrade the relative advantages of areas and its products. - Environment preservation.	- Rural development - Development of human capital - Increase farmers' income to improve their living standards.	- Qualifying farmers - Provide technical and extension advisory services - Act as mediator between farmers and other relevant stakeholders in marketing
Functions	- Strength relationships between research and field applications. - Develop technical capacities for farmers. - Develop capacities of women and rural youth.	- Reinforce technical capacities for farmers. - Facilitate processes of marketing and exportation. - Provide advice and information for environment preservation.	- Dissemination of knowledge and technology which is considered the main function for the extension process. - Support facilitation of workflow for the agricultural sector and develop the sector over the entire value chains. - Marketing and playing the role of the mediator between producers and other actors i.e. processors, traders, exporters.

Source: ENPARD –EGY workshop participants, 2016

Table 8-b: Comparison between the three proposed Scenarios for improvement of the agriculture extension system in Egypt

Comparison Item	Improvement of the current public System	Privatization	Co-management partnership
Organizational structure	The establishment of the Supreme Agricultural Extension Council that includes representatives of research, university, finance, cooperatives, farmers, private agricultural and food companies, input supply companies. This council will integrate the Central Administration for Agriculture Extension (CAAE) that is responsible for the implementation of agricultural extension activities with the research sector. Thus, the new structure of CAAE will include: - Extension programs division. - Training Division. - Rural women and youth. - Marketing Division. - Environment Division. - M&E - Information dissemination unit and communication In this scenario, the ministry of agriculture will be mainly responsible for issuing laws and legislations, monitor their application through an accurate M&E system	Delivery of agricultural extension activities are under research sector (ARC) to be linked with research activities and research findings. CAAE consists of 4 regional departments which allow taking characteristics of each region into consideration. A department for risk management and a department for partnership with the private sector and farmers organizations / NGOs. Departments of M&E and Food safety, are cross cutting with all other departments. This structure allows partnership with private companies and farmers organizations / NGOs it can be considered as a transition phase that ultimately leads to an extension system that is totally independent or non-governmental.	Separates political functions from executive functions The political functions are handled by the public sector (MALR) and executive functions are handled by the private sector particularly NGOs and professional organizations. *The tasks of MALR:* - Prepare specific strategies and plan for extension activities that a fit priority of agricultural policies and its trends. - Training extension agents. - Certify individuals who will perform extension functions. - Individuals who will be certified by the General Administration for Agricultural Extension will be working as extension agents and will work with NGOs.

Source: ENPARD –EGY workshop participants, 2016

Table 8-c: Comparison between the three proposed Scenarios for improvement of the agriculture extension system in Egypt

Comparison Item	Improvement of the current public System	Privatization	Co-management partnership
Financial resources	The government offers %50 of the budget with gradual decrease until replaced by other financial resources such as: - Percent of the profits for the agricultural cooperatives. - Percent of profits for the Agricultural Development and Credit Bank. - Percent of taxes on agricultural lands. - Fees that farmers pay for some agricultural services.	In this inception phase, public financing is relatively important and gradually financing system will convert into independent system. Resources for financial mobilization are the following: - Percent of the profits of agricultural input supply companies and vet companies. - Percent of the profits for agricultural cooperatives. - Contributions of NGOs through deduction of specific percent of the projects that they carry out. - Farmers syndicates. - Fees that farmers pay against some services.	- The allocated public budget for agricultural extension activities will be squeezed as it will be devoted only for tasks that are related to MALR itself. Financial resources for carrying agricultural extension activities are the following: - Fees for agricultural extension activities which will be determined based on the category of farmers and the type of the service. - Percent of taxes on agricultural lands. - Percent of profits that agricultural exportation firms gain. - Percent of marketing contracts that are signed within the contract farming scheme.

Source: ENPARD –EGY workshop participants, 2016

Table 8-d: Comparison between the three proposed Scenarios for improvement of the agriculture extension system in Egypt

Comparison Item	Improvement of the current public System	Privatization	Co-management partnership
Challenges	- Institutional and legislative challenges, i.e. modification of the organizational structure for MALR, absence of a legislative frame for the quality control - Education and training challenges, education system on college level is not market-oriented, - Job description for extension agents is needed. - Training, depends on traditional techniques. - Policies challenges, the rejection of some involved actors to participate in the process of financing agriculture extension.	- Mobilizing of financial resources, require some legislative reforms in many disciplines. - Absence of a legal and legislative frame for organizing partnership between the public sector and the private sector. - History of conflicts and absence of transparency make collaboration between public and private sector a complex process. - Difficulties of convincing farmers to pay for some extension services - The implementation process requires gradual accurate planning.	- The acceptance of current decision makers and extension personnel in extension service. - Lack of compatibility between the legislative and legal frame - The ability of farmers organizations and NGOs to introduce extension services all over Egypt as they are not adequately existed in all areas and villages.
Advantages	- Relying on an existing extension organization. - Reinforce the accumulation of experiences. - Ensure the process of monitoring and evaluation agricultural extension activities. - Relatively keeps being close to the organization structure of the research sector.	- Reaching a less complicated organizational structure for the public extension organization. - Reducing the incidents of duplication among implementing agencies and improve coordination among all actors. - The Proposed M&E system allow continuous improvement for agriculture extension.	- Flexibility and simplicity for the design of the extension body especially the public part of it. - Creating real partnership between the public sector and the private sector. - Supporting producers organizations and NGOs.

Source: ENPARD –EGY workshop participants, 2016

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ANNEXES

ANNEX 1

PARTNERSHIP WITH PUBLIC INSTITUTIONS

1-Ministry of Health (MOH): It as a huge female staff (Raidatreefyat/ female village health workers) who cover all villages in all governorates with the exception of new lands. As women extension is important and as the public extension service does not have female extension agents on village level, collaboration between the public extension service and these Raaidat – through MOH - should take place. They can carry all messages related to human nutrition and food safety on home level. There are some few successful efforts through international agencies for using them to combat bird flu (H1N5) which need to be enhanced and supported.

It is understood that it is difficult for the extension service to pay these Raidat to transfer such messages or even to follow up their work performance, However, providing them with training on these topics is adequate under the current circumstances where dissemination of knowledge will take place but with a slower rate among rural women.

2- Social Fund for Development (SFD): It plays an important role in financing small and medium rural projects that part of them are agricultural projects. There are plenty of options for collaboration with SFD where the public extension service might be able to promote for SMEs among rural youth and prepare initial applications, follow up lenders, provide technical assistance and training.

3- Ministry of social solidarity: Three are some collaboration opportunities between the public extension service and the project of "Productive Families". Public extension can promote for their activities among poor women, and can also help to conduct fairs that show and sell women products plus the provision of training on handcraft activities.

4-Ministry of environmental affairs: Improvement of the environment in rural areas is a real challenge. There are a lot of areas for potential collaboration on many areas such as biogas, agricultural waste treatment especially rice straw and making compost. (Previous collaboration has taken place in the area of the collection and pressing rice straw).

5-Ministry of industry, foreign trade and SMEs: Projects of dairy processing and food processing are clear examples for potential collaboration. These projects are value added projects that the ministry of agriculture is not involved in. Public extension can provide technical training, promote for such activities and link rural people with this ministry.

6-Ministry of supply and local trade: establishment of horticultural collection centers is among potential ideas that can improve marketability for rural products. The establishment for such centers will create a need for an educational role for the extension service to guide producers on various product standards and quality concerns.

ANNEX 2

LIST OF SKILLS AND KNOWLEDGE

List of skills and knowledge that most farmers, farm women and rural young people will need to improve rural livelihoods

Production and Post-Harvest Handling of High-Value Crop, Livestock Fishery and Other Products (especially the technical and management skills and knowledge that farmers and/or farm women will need to diversify from primarily producing food staple crops to beginning to produce high-value crop, livestock and fishery products):

- **Diversification into selected higher-value crop, livestock and fisheries production systems;**
- **Post-harvest handling, including grading, packaging, value-added processing, storage and transportation systems for these higher-value products;**
- **Meeting product quality and traceability standards for high-value food products, especially for export;**
- **Agricultural mechanization, water management and protective cover systems**
- **Gaining access to and learning how to use market information;**
- **Information technology skills and knowledge, such as precision farming and traceability.**

Natural Resource Management Skills and Knowledge

- **Sustainable land management and conservation practices;**
- **Sustainable water management and conservation practices:**
- **Use of different water-efficient technologies, such as drip irrigation, water efficient crops, deficit irrigation and water harvesting techniques;**
- **River and watershed management practices;**
- **Maintaining the sustainability of underground aquifers;**
- **Biological management and biodiversity conservation practices;**
- **Climate change and its implications for agricultural production systems**

Family Nutrition, Health and Hygiene

- **Food processing and preservation;**
- **Family nutrition, especially for infants and young children;**
- **Family hygiene, including safe water handling and waste management;**
- **Family household management.**
- **Leadership and Organizational Skills (Swanson, 2008).**

ANNEX 3

KNOWLEDGE MANAGEMENT

Knowledge is a broad and abstract notion which in the last few years witnessed a growing interest in treating it as significant organizational resource. Consistent with the interest in organizational knowledge and knowledge management (KM), researchers begun promoting a class of information systems, referred to as knowledge management system (KMS). The objective of KMS is to support creation, transfer application of knowledge in organizations. Though it is essential to review the flow of the information and knowledge system within extension, potentials and means of improvement.

Agricultural Extension and Advisory Services (AEAS)

Agricultural Extension and Advisory Services (AEAS) is one of the tools through which agricultural production and productivity could be promoted. Since improving AEAS, in Egypt, is essential and urgent, any strategy or policy for enhancing its roles in the promotion of agriculture should be based on achieving the following four main objectives or functions:

1) Achieving food security through technology transfer, to produce more food for satisfying the mounting demands of the ever-increasing population,

2) Human Capital / Resources Development, through improving the behavior (the Knowledge, Attitudes, Aspirations and Practices / Skills - KAAP / KAAS), of each individual producer,

3) Social Capital Development, by getting farmers better organized through two different mechanisms: a) Networking: through establishing collaborative relationships in production and marketing, among farmers, and, b) Encouraging producers to form or establish farmers organizations as Civil Society Organizations / NGOs or Community Based Organizations for production and / or marketing of specific commodities or crops.

4) Sustainable Management of the Natural Resource Base, through conserving and sustaining the available natural resources (especially water and land), and avoiding their depletion, pollution or deterioration.

AEAS is one important sub-system of the Agricultural Knowledge and Information / Innovation System (AKIS). AKIS could be thought of as a triangle including three major dimensions, namely: Research, Agricultural Extension and Agricultural Education. Farmers, rural families and rural communities are believed to be our target sub-system at the heart of that triangle. Since this target sub-system is the end user and beneficiaries of the new technologies generated by research and educational sub-systems, and transferred by extension system, all the institutional arrangements for improving, activating and enhancing the mutual cooperation and collective work of the AKIS sub-systems must focus and over emphasize on the characteristics, problems and needs of this sub-system.

Improvement of AEAS

Improving AEAS of Egypt should be based on the following important considerations:

- **Political awareness and political will, all over the different levels of the hierarchy of the Ministry of Agriculture, from the Minister to the Village Extension Workers (VEWs) at the grass roots levels, are two key determinant factors of success for improving the Agricultural Extension and Advisory Service (AEAS) in any country. These two factors need strong advocacy and lobbying by representatives from all categories of stakeholders involved in providing AEAS.**
- **Agricultural Educational Institutions need to pay more attention to preparing their graduates to cope with a highly competitive labor market demands, based on the new challenges and ever-changing driving forces for Sustainable Agricultural and Rural Development (SARD). These forces include the needs for achieving food security through producing more safe food, changes in consumer preferences and demands, climate change challenges, globalization, securing sustainable management of the natural resource base, ...etc.**
- **Agricultural Research Institutions need to shift their agendas and mandates to a more demand-driven applied research which emphasizes on reaching to more appropriate and applicable solutions, innovations and practices for satisfying producers' needs and resolving their technical production and marketing problems.**
- **Lack of strong and effective linkages among the four components of AKIS represent serious constraints to SARD. In some cases, these constraints are articulated by the lack of communication and coordination among the different agencies of the same subsystem (e.g. the lack of multi-disciplinary research teams, studies and projects among different branches of the same agricultural research center or different departments of the same faculty of agriculture).**
- **Agricultural educational institutions, in Egypt and worldwide, have three main functions, namely: a) The academic function through which graduates are well prepared to work as agricultural researchers, technicians and extension workers, b) The research function to generate new scientific knowledge, technologies and practices, and c) The out-reach or extension education function through which the new scientific knowledge, technologies and practices are made available to their end users and beneficiaries (farmers, rural families and communities). This out-reach function needs to be activated, in coordination and collaboration with the Ministry of Agriculture. In Egypt, there are agricultural educational institutions (Faculties, Institutes and High Schools) distributed all over the different Agro-Ecological Zones of the country. Their out-reach (extension education) function must be activated to help farmers of these zones in modernizing their agricultural production and marketing practices and technologies toward a more SARD.**
- **The AKIS assumes its functions and achieves its objectives within a larger triangle representing the three main providers of AEAS, namely: the Government or the Public Sector, the Private Sector and the Civil Society Organizations or NGOs. By the retreating of the Government from providing several AEAS, due, among other reasons, to the ever-decreasing governmental budgets, the private sector and NGOs are playing more active roles in providing AEAS.**

This necessitates critical discussions and review of several important questions related to the different aspects of AEAS (e.g.Who? should provide What? to Whom? When? Where? for How much costs?, …etc).

- **Yet, the free Governmental public AEAS must be provided for the small land holders, who represent the majority (80% or more) of basic food crops' and commodities' producers.**
- **Improving AEAS in Egypt must be based on a strategy with clear vision and mission, and objectives that are discussed and agreed upon by representatives from all the stakeholders within AKIS and relevant to the provision of AEAS. Any improvement must consider that the AEAS of Egypt should be:**

  a) Pro-poor farmers and small land holders,

  b) Participatory, through involving technology end users in all the life-cycle of extension programs (base-line and needs assessment studies, planing, implementation, monitoring and evaluation),

  c) Gender Sensitive, through considering the needs, problems and challenges facing rural women farmers and female-headed families,

  d) Demand-driven, through a rather bottom-up programs that are highly considering and focusing on the end users and beneficiaries needs and problems.

- **The application of the Economic Reform and Structural Adjustment Programs (ERSAPs) in Egypt, in the Mid-Eighties of the past century, associated with no compensation or replacement of the retired VEWs has led to regular and sharp decreases in their numbers from more than 25000 in 1985 to less than 800 in 2014. This situation is aggravated each day by the retirement of the relatively old age VEWs (55 years old and above). This critical situation needs to be seriously handled through recruitment of new VEWs from the graduates of Faculties of Agriculture distributed all over the different Regions of the country.**
- **Different mechanisms could be used for recruiting new VEWs, including:**

  a) To expand the years of service, of the currently working VEWs, to be extended for additional 3-5 years after the age of retirement (60 years old). This mechanism should be applied only with VEWs who are healthy enough to work and who demonstrates remarkable success in serving farmers and rural communities.

  b) Employing the distinguished graduates of faculties of agriculture, to work as Governmental VEWs, on an annual contract base, after sufficient training and licensing,

  c) Encouraging groups of producers of cash and high-value crops and commodities to establish an autonomous democratically managed NGO, cooperative or association that can employ / hire, on a contractual basis, the required team of VEWs who can effectively provide all the members with their AEAS needs. Members of this NGO should collectively discuss, agree upon and decide about the amount of fees per each productive unit (Feddan, Head of Cattle,..etc) that could be sufficient to pay the salaries and incentives of the hired extension team. The role of the Government will be restricted to quality control of the provided service and judgments in case of disputes or disagreements between the different parties of the contracts.

- **The functions of the VEWs should shift from working as technology transfer experts or advisors to work as facilitators who help farmers and producers' groups to actively participate in learning situations and opportunities in order to enhance their self-development and self-capacity building.**
- **The VEWs of Egypt are over-loaded with several non-educational activities and assignments especially land protection and enforcement of laws and regulations, this leads to lack of farmers' trust in the AEAS and VEWs. Therefore any improvement of AEAS in Egypt must be based on keeping VEWs away from non-educational responsibilities and focusing their activities, efforts and programs on farmers' educational tasks and assignments.**
- **Based on the principal that AEAS must be local or regional situation specific, therefore improving AEAS in Egypt will need to be based on the shared characteristics, needs and problems of different categories and groups of producers of each Regional or Agro-Ecological Zone.**
- **Improving AEAS of Egypt must get the maximum advantages of lessons and experiences of success in Arab countries (e.g. the successful experience of Lebanon). These successful experiences must be documented and made available to all administrative levels of AEAS in Egypt.**
- **Privatization, in Egypt, has become a concept of bad reputation (due to some events of corruption, during the application of the Economic Reform and Structural Adjustment Programs (ERSAPs), associated with selling (privatizing) some public companies to the private sector. Yet, in AEAS, privatization represents a social reality since the private sector institutions and companies in Egypt provide important AEAS (e.g. the case of input suppliers providing the Know-how information and knowledge associated with selling and post-selling of input requirements, and the case of hiring -for fees- highly skilled agricultural technicians to help rich farmers, cultivating exporting crops, to resolve technical production problems)**
- **The Agricultural Knowledge and Information / Innovation System (AKIS) assumes its functions and achieves its objectives within a larger triangle representing the three main providers of AEAS, namely: the Government or the Public Sector, the Private Sector and the Civil Society Organizations or NGOs. By the retreating of the Government from providing several AEAS, due, among other reasons, to the ever-decreasing governmental budgets, the private sector and NGOs started to play more active roles in providing AEAS. This necessitates critical discussions and review of several important questions related to the different aspects of AEAS (e.g. Who? should provide What? to Whom? with How much costs? etc).**

  Yet, the free Governmental public AEAS must be provided for the small land holders, who represent the majority (80% or more) of basic food crops' producers.
- **Paying the costs of accessing and acquiring knowledge, or buying knowledge (as if it is a market commodity), within AAS, seems against the basic principal of the "Right of Access" or "Access for All", which means that every and all producers have the right to acquire the knowledge they need for more effective production and marketing of their crops. Yet, the Intellectual Property Rights "IPRs" could be argued here justified by the fact that some knowledge, especially the highly sophisticated technical knowledge, is not a public free commodity / good that deserves paying for its access.**

This debate needs collective discussions to identify and agree upon the types of knowledge and technical services that have to be provided for fees and who will pay these fees? and how much could be the reasonable fees? and how these fees could be afforded?

- **Governmental (Public) AEAS, in Egypt and many other countries, is criticized for being not effective and irrelevant, mainly due to lack of effective coverage of the targeted areas and groups, in addition to ever- shrinking resources and budgets. Consequently, more innovative sources and mechanisms for funding AEAS need to be suggested, experimented and verified for application. These mechanisms could be developed within a collective context through which producers could collectively think, decide and act to secure the provision of the needed AEAS for symbolic or low fees. This collective approach could be effectively applied through encouraging producers to establish their own democratic association or cooperative.**
- **Public Private Partnerships (PPPs) are needed to be established for providing the needed AAS to specific categories of producers. These PPPs could secure the required communication and educational interventions essential for effective AEAS. The private sector could be committed for presenting technical low-price services to producers within a Civil Society Organization, NGO or a cooperative. Fees of the AEAS could be paid from membership fees. The Public sector (the Government) is the overall organizer and the whole process must be designed and implemented according to a contract that secures and protects the interests of all partners on a win-win strategy or scenario.**

  These PPPs involve different combinations of AAS providers that could be initiated and experimented to verify their viability for facilitating the production and marketing of different crops in various Agro-Ecological Zones of Egypt.
- **Considering the need for privatizing some types of AEAS, the role of farmers' syndicates and unions is very important to advocate and lobby for farmers' interests and to avoid the monopoly of any partner (especially the private sector companies, agencies and services providers).**
- **Decentralizing some AEAS responsibilities could be a good option to decrease the central Government burden, on one hand, and to delegate some of the responsibilities and authorities to lower administrative levels of the Government. Before decentralizing, the capacity of local authorities to fulfill the new responsibilities should be developed and maintained in order to avoid any power abuse.**
- **Outsourcing could be a good option where, in some Egyptian Regions, there is a high need for a specific technical area of specializations (such as veterinary analytical services related to animal virus diseases). By this option, some AEAS could be contracted out and are provided by a highly specialized laboratory or private company or agency, for reasonable and affordable fees.**
- **Some AEAS could not be provided by the Government (such as the provision of good seed varieties of Maize in the summer season this year -2014). In this case, this specific service could be "outsourced" to the private companies of input supply. The Government should provide quality control over these companies to secure selling these seed varieties to farmers at the market prices.**

- **There are around 200 Agricultural extension centers, distributed all over the different rural areas of Egypt. They could be a good medium through which new mechanisms of cost-sharing or cost-recovery provision of quality AEAS could be initiated, experimented, verified and adapted to be a replicable model for different areas and categories of producers. In Daqahlia Governorate, in the Nile Delta, a mechanism of cost-sharing or cost-recovery for AEAS provision was experimented. It was found that the majority of farmers accepted to pay a symbolic amount of money per Feddan / Acre (10-20 Egyptian Pounds, equivalent to around 1-2 Euros).**
- **This successful experience was a collaborative work involving the Ministry of Agriculture and Land Reclamation (MALR), the Regional Faculty of Agriculture, in Mansura and local farmers.**
- **It needs to be applied verified and tested in other different rural locations and contexts for assessing its applicability and viability.**
- **Laws and legal regulations are needed to encourage producers to establish their own associations / groups or organizations for facilitating the access to knowledge and proper and timely application of the science-based production and marketing practices of their crops. One of the main objectives of such associations or farmers' organizations is to facilitate the access of its members to different sources of AEAS including public and / or private sources (El-Shafie, Emad M. 2014. Improving Agricultural Extension in Egypt, A Concept Note, workshop on: Towards a future Vision for improving Extension and Advisory Service, ENPARD-EGYPT, 9-10 April, 2014).**

ANNEX 4

LIST OF POTENTIAL MARKET EXTENSION ACTIVITIES

- **Technical know-how to improve quality, quantity and timing of production etc. (e.g. selection of products, varieties and animal breeds suitable for the market, good agricultural practices including soil fertility management, plant protection and water management),**
- **Know-how related to economics, business management and markets (e.g. (farm) enterprise analysis, marketing, market analysis, business planning and record keeping, but also advice on legal, regulatory and certification issues),**
- **Know-how to enable value chain actors to meet market or value chain quality requirements (e.g. post-harvest handling and storage, processing and packaging technology, meeting food safety and agricultural practices standards, consumer rights),**
- **Capacity development for strengthening producer and other value chain actor groups (e.g. financial management, leadership, situation analysis and action planning, negotiation skills, participatory innovation development),**
- **Facilitating and accompanying changes in value chain management (e.g. coordination of production and establishment of collective marketing, negotiation of contracts, legal aspects, brand development, linking producers to supermarket supply chains or fair-trade, organic and other specialized markets, access to certification and accreditation schemes),**
- **Facilitating linkages among different actors along value chains (e.g. convening multi-stakeholder forums to understand market trends and drivers, to foster better mutual understanding and trust, to identify bottlenecks along value chains and devise solutions, and to assist traders and processors to link up with reliable producers) (Sanne et al, 2008).**

الملخص

برنامج الجوار الأوروبي للتنمية الزراعية والريفية "انبارد"- المرحلة الثانية والذي بدأ عام 2015 انطلاقاً من أهمية الدور الاجتماعي-الاقتصادي الذي تلعبه الزراعة والمناطق الريفية في تنمية دول جنوب المتوسط. ويدعم برنامج "انبارد" دول جنوب المتوسط في بناء برامجهم القومية على المدى الطويل في إطار تشاركي ومنفتح، ومع كل الشركاء ووفقاً لاحتياجات كل دولة.

وقام الاتحاد الأوروبي باختيار المركز الدولي للدراسات الزراعية المتوسطية المتقدمة في مونبلييه (CIHEAM-IAMM) لتنفيذ أنشطة البرنامج. ويهتم البرنامج بسياسات دعم المزارعين وتنمية المناطق الريفية عبر تشجيع الشراكة والتعاون من خلال الحوار المستمر وتبادل أفضل الممارسات والتجارب مع أصحاب المصلحة أو الشركاء المعنيين في دول جنوب المتوسط.

قدم خبراء المركز الدولي للدراسات الزراعية المتوسطية المتقدمة- فرنسا الدعم الفني لتحديد القضايا الهامة التي تحتاج إلى تطوير من خلال إنشاء لجنة عمل مشتركة "Think-Tank" تشمل ممثلي مختلف أصحاب المصلحة في القطاع الزراعي من صناع القرار وقيادات وزارة الزراعة، والباحثين، والأكاديميين، والمنظمات غير الحكومية، وممثلي المنتجين والتعاونيات الزراعية، لتوفير الاستشارات التي تمكن صناع القرار من وضع السياسات الملائمة، عن طريق عقد اجتماعات مختلفة والتي تم فيها الاتفاق على قضيتين هامتين تمثلان أولوية ملحة وهما: الممارسات الزراعية الجيدة (GAP)، وإصلاح نظام الإرشاد الزراعي في مصر و ضرورة إصلاحه و تطويره كموضوع استراتيجي.

وقد عقدت ورشة العمل الخاصة بإصلاح نظام الإرشاد الزراعي في مصر في الفترة 13-14 مارس 2016، والتي عملت على تشخيص الوضع الراهن للإرشاد الزراعي بدقة، وخلصت فاعليتها إلى ضرورة إصلاح نظام الإرشاد الزراعي كي يتواءم مع التحديات الوطنية والدولية. ومن ثم كانت هناك حاجة لعمل ورش عمل أخرى، فتم عقد ورشتي عمل في مصر في الفترة 18-19 ابريل 2016. حيث قدمت كلا من لجنة عمل الـ "Think-Tank" جنباً إلى جنب مع أصحاب المصلحة ومسئولين من وزارة الزراعة والإدارة المركزية للإرشاد ، رؤية لثلاث سيناريوهات لإصلاح نظام الإرشاد الزراعي فى مصر. وفى هذه الورشة تم الاتفاق على عمل دراسة تقوم بتحليل دقيق للوضع الراهن (التطور التاريخى، السياسات والتغيرات المؤسسية، والخبرات الوطنية والدولية)، أضف إلى ذلك تحليل متعمق للسيناريوهات الثلاث المطروحة فى السياق الوطني والدولي، وصولاً إلى اختيار أنسب السيناريوهات أو الأقرب والأنسب للتنفيذ. ومن ثم تم عقد ورشة العمل الثالثة (20-21 نوفمبر، 2016) لعرض هذه السيناريوهات على كل الشركاء وأصحاب المصلحة لتحليلها واختيار أنسبها ووقع الاختيار على السيناريو الثالث.

ومما لاشك فيه أن قطاع الإرشاد الزراعي كان قطاعاً قوياً وحيوياً منذ إنشاؤه فعلياً عام 1953، ولكنه مر بعدة مراحل تأرجحت مابين الصعود والهبوط نتيجة السياسات الزراعية المتعاقبة والمتلاحقة، وتداخل الاختصاصات والتشريعات والقرارات الوزارية، وعدم وجود كوادر بشرية شابة وإمكانات مادية قادرة على مواجهة هذه التحديات. إن النظام الإرشادي المتبع في المرحلة بين 1950-1970 كان متسقا مع السياسات الزراعية المعتمدة آنذاك وكان فعالًا، فمن البديهي أنه لم يعد يتوافق مع السياق الحالي والذي يتّصف بالأمور الآتية: تحول السياسات الزراعية وتوجهها نحو اقتصاد الأسواق منذ أكثر من 20 عام، التطور في هياكل الإنتاج الزراعي والذي يبدو جليًّا من خلال زيادة عدد الحيازات الزراعية، وانخفاض متوسط مساحات هذه الحيازات، وتفتت الأراضي الزراعية، والازدواجية الموجودة بين معظم الحيازات العائلية الصغيرة والصغيرة جدًّا من جهة، وبين المزارع الكبيرة التي تتمّ إدارتها كشركات كبيرة من جهة أخرى. أضف الى ذلك الضغط الهائل والمتزايد على الموارد المائية، والذي يعدُّ نتيجة بديهية لتزايد الاحتياجات النابعة من النمو السكّاني وزيادة المساحات الزراعية المزروعة، وارتفاع أسعار الطاقة الضرورية لتشغيل الآلات الزراعية، وضعف المعلومات الخاصة بالأسواق وعملية التسويق لدى صغار المزارعين، والذين تقدر أعدادهم بنحو 4 مليون مزارع ذوى حيازة زراعية أقل من 2 فدان.

وبناءاً على ما سبق، يبرز سؤال محوري هام ألا وهو هل نظام الإرشاد الزراعي بوضعه الحالي قادر على مواجهة التحديات الوطنية والدولية، وهل يعكس الاحتياجات والمشكلات الموجودة داخل المجتمعات الريفية، بل والتنافسية القائمة بين أصحاب المصلحة؟

تتضمن الدراسة جزأين أساسيين:

يتناول الأول 1) التطور في نظام الإرشاد الزراعي، 2) السياسات والتغيرات المؤسسية التي أثرت وشكلت مقومات النظام الحالي، 3) الخبرات الوطنية/المحلية والدولية والدروس المستفادة.

أما **الجزء الثاني** فيتعلق بتقديم سيناريوهات ثلاث معنية بتطوير وإصلاح نظام الإرشاد الزراعي في مصر، وهذه السيناريوهات كانت نتاج ما أسفرت عنه ورشة العمل التي تمت في أبريل الماضي، والتي تم اختيار أحداها لوضعها قيد التطبيق والتنفيذ (السيناريو الثالث) في ورشة عمل نوفمبر الماضي، **وتتمثل السيناريوهات الثلاث المطروحة فيما يلي:**

1. **تطوير النظام الحكومي الحالي**
2. **الخصخصة**
3. **إدارة ثنائية بالشراكة بين العام الحكومي / وغير الحكومي (شركات زراعية، منظمات أهلية، صغار وكبار المزارعين،شركات مدخلات زراعية ،الخ).**

وفيما يلي عرض لهذه السيناريوهات المطروحة حيث سيتم تناول أهداف كل سيناريو، ووظائفه، ومصادر التمويل، والمميزات والتحديات التي تواجه تنفيذ كل سيناريو.

السيناريو 1: تطوير النظام الحكومي الحالي

يتعامل هذا السيناريو مع فكرة أن النظام الإرشادي هو نظام حكومي عام وهو الفاعل الوحيد المنوط به تقديم الخدمات والاستشارات الإرشادية الزراعية.

أهداف الإرشاد الزراعي

1. محاربة الفقر في الريف وذلك عن طريق زيادة دخل الأسر الريفية.
2. زيادة الإنتاج الزراعي وتحسين نوعيته للحصول على غذاء صحي سليم.
3. رفع قيمة المزايا التي تتصف بها المناطق ومنتجاتها ومقارنتها ببعضها.
4. الحفاظ على البيئة.

وظائف الإرشاد الزراعي

1. تعزيز الربط بين الأبحاث العلمية من جهة، والعمل الميداني وتنميته وتطويره من جهة أخرى،
2. تنمية الكفاءات التقنية لدى المزارعين،
3. تنمية وتعزيز كفاءات النساء والشباب الريفي.

للقيام بهذه الوظائف، لابدّ من وجود مرشدين زراعيين متخصصين بتقنيات الإنتاج والتسويق والريّ والنواحي الاجتماعية.

الجهاز الإداري

يقترح هذا السيناريو إصلاح الجهاز الإداري الإرشادي الحالي الذي ترتبط فيه عملية نشر المعلومات وتعميمها بوزارة الزراعة لا سيّما الخدمات الخاصة بالأبحاث الزراعية ألا وهي خدمات مركز البحوث الزراعية (ARC) وخدمات المحافظات.

انطلاقًا من مبدأ أن وظائف وزارة الزراعة تكمن في البحث ونشر المعلومات والخدمات وتعميمها، فإن الإصلاح يستند إلى فكرة إنشاء مجلس زراعي أعلى يمثل فيه الأبحاث والجامعات والمؤسسات المصرفية والتعاونيات، والمزارعين وشركات الإنتاج الغذائية-الزراعية Agro-food وشركات مستلزمات الإنتاج وذلك بهدف الحصول على مزيد من التنسيق بين السياسات الزراعية وسياسات البحث العلمي وسياسة الإرشاد الزراعي.

والهدف هنا هو تقريب، بل ودمج، الإدارة المركزية للإرشاد الزراعي، المسئولة عن تنفيذ أنشطة الإرشاد، مع الخدمات الخاصة بالأبحاث العلمية داخل مركز البحوث الزراعية. وبهذا تتضمن الإدارة المركزية للإرشاد الجديدة الإدارات العامة الآتية: تخطيط البرامج الإرشادية، التدريب، المرأة والشباب الريفي، التسويق، الإرشاد الزراعي، البيئة، والمتابعة والرصد والتقييم.

في هذا السيناريو، تكمن مسئوليات وزارة الزراعة الأساسية بإصدار القوانين والتشريعات المناسبة ومراقبة تطبيقها والالتزام بها عن طريق نظام رصد وتقييم دقيق ومحدّد،وتقوم بتمويل 50% من الميزانية المخصصة للإرشاد الزراعي.

الموارد المالية

يحافظ هذا المقترح أو السيناريو على صبغته الحكومية العامة بحيث يسهم الجهاز المعنيّ بنسبة وقدرها 50% من الميزانية المقدّمة لعملية الإرشاد. وبالتدريج، يتمّ تقليص نسبة التمويل التي تقدمها الحكومة (عن طريق وزارة الزراعة) لتُستَبدَل بموارد تمويلية خاصة، ومنها على سبيل المثال:

- نسبة من الأرباح التي تحقّقها التعاونيات الزراعية،
- نسبة من الأرباح التي تحققها المصارف (البنوك)،
- نسبة من الضرائب المفروضة على الأراضي الزراعية،
- التعويضات والأجور التي يدفعها المزارعون لقاء بعض الخدمات الإرشادية.

التحديات والمشكلات

يمكن تقسيم هذه التحديات والمشكلات إلى ثلاث فئات:

1. تحديات مؤسسية وتشريعية وقانونية: منها ضرورة تغيير الهيكل التنظيمي لوزارة الزراعة، وغياب التنسيق المؤسسي بين مختلف الجهات الموجودة في مراكز صنع القرار المختلفة والأجهزة الأخرى بكافة أنواعها (مثلًا مراكز الأبحاث العلمية، والجهات المنفّذة لهذه الأبحاث)، وعدم وجود إطار تشريعي محدّد لمعايير الجودة والمراقبة الخاصّين بإنتاج المدخلات.
2. التحدّيات المتعلقة بمجال التعليم والتدريب: نظام التعليم (على المستوى الجامعي) لا يتناسب مع الاحتياجات وهنا نرى ضرورة ملحّة بتحديد معايير دقيقة لتوظيف المرشدين الزراعيين. أما عن التدريب، فهو يعاني من نقص في الأدوات والأساليب، والمنهجيات التقليدية.
3. التحدّيات السياسية المتعلّقة بأولويات السياسات الزراعية: سوء تقسيم المهام على المدى البعيد، ورفض بعض الجهات الفاعلة المحتمل للمشاركة في عملية التمويل.

تكمن مزايا السيناريو الأول في أنه يعتمد على جهاز إرشادي موجود مما يسمح بتغطية وخدمة الأراضي، يعزز من شأن الخبرة التراكمية، ويضمن عملية رصد النشاطات الإرشادية ومتابعتها وتقييمها، كما يحافظ نسبيًّا على القرب الإداري التنظيمي مع هيكل مركز البحوث الزراعية.

السيناريو2: الخصخصة

تتمثل أهداف الإرشاد فيما يلي: التنمية الريفية وتنمية رأس المال البشري وزيادة عائدات المزارعين لتحسين ظروف المعيشة.

وظائف الإرشاد الزراعي

يجب على الإرشاد أن يؤدّي المهام الثلاث الآتية:

1. تعزيز القدرات والكفاءات التقنية للمزارعين،
2. تسهيل عملية التسويق والتصدير،

3. تقديم النصح والإرشاد والمعلومات للحفاظ على البيئة.

في بداية الأمر، تُنَفَذُ نشاطات الإرشاد باستخدام الأساليب والطرق التقليدية وشيئًا فشيئًا تتطور هذه الأساليب حتى يتم التوصل إلى استخدام تقنيات التواصل الحديثة (الإنترنت، والهواتف المحمولة، الخ) على المدى المتوسط، لا سيّما عند التواصل مع المزارعين الشباب.

الجهاز الإداري

في هذا السيناريو، تتمّ عملية الإرشاد بإشراف مركز البحوث الزراعية (ARC) وذلك كي تبقى قريبة من النشاطات البحثية الزراعية. يتألف الجهاز من 4 أقسام إقليمية لأخذ خصائص كلّ إقليم واحتياجاته المحلية بعين الاعتبار: قسم إدارة المخاطر (مثل مخاطر التغيرات البيئية)، وقسم إدارة الشراكة مع القطاع الخاص ومنظمات المجتمع المدني. أمّا عن قسمي الرصد والمتابعة والتقييم، ومعايير الجودة، فهما يتقاطعان مع كل النشاطات في كلّ الأقسام الأخرى.

يتيح هذا النوع من التنظيم المجال للشراكة مع مختلف أنواع الأجهزة والمؤسسات مثل المنظمات غير الحكومية، والشركات الخاصة ومع أشكال مختلفة من التنظيمات بمختلف أنواعها. بإمكاننا اعتبار هذا الشكل التنظيمي كمرحلة انتقالية تقود في نهاية المطاف إلى نظام إرشادي مستقل تمامًا عن السلطات الحكومية.

الموارد المالية

في المرحلة الأولى، يجب أن تكون نسبة التمويل الحكومي مهمة نسبيًا، وبالتدريج يتحول النظام التمويلي إلى نظام مستقلّ. أمّا عن الموارد التي من شأنها تعبئة التمويل فهي على التوالي:

- نسبة من أرباح أعمال شركات إنتاج المدخلات الزراعية وتوزيعها والمنتجات البيطرية،
- نسبة من أرباح التعاونيات الزراعية،
- مساهمات منظمات المجتمع المدني بحيث يتمّ اقتطاع نسبة من المبلغ الإجمالي المخصص للمشروعات التي تقوم بها هذه المنظمات،
- نقابات المزارعين،
- الأجور التي يدفعها المزارعون لقاء بعض الخدمات

بالنسبة لبعض الجهات الفاعلة، يمكن لبعض المساهمات أن تكون غير عينية مثل القيام بعملية التدريب والتأهيل المستمر.

التحديات والمشكلات

تكمن التحديات الأساسية فيما يأتي:

- وجود الآليات الفعّالة لتعبئة الموارد المالية: يتطلب وجود هذه الآليات القيام بإصلاحات تشريعية في العديد من الميادين والمجالات،
- عدم وجود إطار قانوني تشريعي لتنظيم وتنسيق الشراكة بين القطاعين العام والخاص،
- التاريخ الحافل بالخلافات والحذر المتبادلين، وقلّة الشفافية التي تجعل عملية التعاون بين المؤسسات العامة والخاصة معقدة وصعبة للغاية،
- صعوبة إقناع المزارعين بدفع أجور بعض خدمات الإرشاد الزراعي لا سيّما أنهم تعودوا لفترة طويلة من الزمن على أن تكون مجانية، ومن البديهي ألا يتقبلوا هذا التغيير بسهولة،

سيكون تنفيذ هذا السيناريو معقّدًا جدًّا لأنه يتطلّب تخطيطًا دقيقًا على عدة مراحل لضمان نجاحه دون أن يُحدث تصادمًا بين النظامين الحكومي والخاص على المدى الطويل. ولكن هذه العقبات لا يمكنها بشكل من الأشكال أن تقلّل من شأن المزايا التي يقدمها هذا السيناريو. فصيغة الجهاز الحكومي المقترح أقلّ تعقيدًا من الجهاز الموجود حاليًا، كما وأنّه يخفّف من الازدواجية

ويحسّن عملية التنسيق بين مجموع الجهات الفاعلة. وأخيرًا، يسمح نظام الرصد والمتابعة والتقييم بتطوير متتابع ومستدام للجهاز المعني.

السيناريو 3: إدارة ثنائية بالشراكة بين العام الحكومي / وغير الحكومي

يقوم هذا السيناريو على مبدأ تولى القطاع الحكومي المهام السياسية و الإستراتيجية وتولى القطاع الخاص بمعناه الواسع الوظيفة التنفيذية.

تتجلى المهام الثلاث للإرشاد فى: تأهيل المزارعين، وتقديم الإرشاد والنصح التقني، ولعب دور الوسيط بين المزارعين والجهات الفاعلة الأخرى الخاصة بالتسويق.

وظائف الإرشاد الزراعي

يُنظر إليها على أنها وظائف عامة قادرة على تغطية الكثير من الاحتياجات مثل:

- نشر المعرفة و التكنولوجيا، وتعتبر هذه المهمة الرئيسية لعملية الإرشاد،
- المساهمة في حسن سير الأعمال في القطاع الزراعي وتنميته وذلك على صعيد سلاسل قيم الإنتاج الزراعي برمتها،
- التسويق ولعب دور الوسيط بين المنتجين والجهات المشاركة الأخرى لا سيّما الموجودة منها في الأسواق (مثل الصناعيين، والمختصين بعمليتي التسويق والتصدير، الخ).

الجهاز الإداري

يختلف الهيكل التنظيمي المقترح في هذا السيناريو اختلافًا جذريًّا عن سابقَيه، فهو يفصل بين مختلف الوظائف التي يمكن توصيفها بالسياسيّة، والوظائف الأخرى التنفيذية. فيوكل المهام السياسية إلى القطاع الحكومي، بمعنى آخر إلى وزارة الزراعة، والمهام الأخرى التنفيذية إلى القطاع الخاص وبالتحديد للمنظمات المهنية ومنظمات المجتمع المدني.

وتتجلّى مهمّات وزارة الزراعة فيما يأتي:

1. إعداد استراتيجيات محددة وتخطيط أنشطة إرشادية ملائمة لأولويات السياسات الزراعية وتوجهاتها.
2. تدريب المرشدين
3. اعتماد مجموعة من الأشخاص القائمين على عملية الإرشاد.

أما عن الأشخاص الذين اعتمدتهم الإدارة المركزية للإرشاد، فسيلعبون فيما بعد دور المرشدين الزراعيين وسيعملون مع منظمات المجتمع المدني المهنية.

الموارد المالية

في هذا السيناريو، تتقلص نسبة الميزانية الحكومية المخصصة لنشاطات الإرشاد الزراعي لتخصص فقط للمهمات المرتبطة بوزارة الزراعة. ستكون مصادر التمويل الرئيسية الخاصة بتنفيذ أنشطة الإرشاد الزراعي مقسمة على النحو الآتي:

- أجور خدمات الإرشاد الزراعي، وتحدد هذه الأجور تبعًا لفئات المزارعين ونوع الخدمات المقدمة لهم،
- نسبة من الضرائب المدفوعة عن الأراضي المزروعة،
- نسبة من الأرباح التي تجنيها شركات تصدير المنتجات الزراعية،
- نسبة من أرباح عقود التسويق التي تمّ توقيعها ضمن إطار الزراعة التعاقدية.

التحديات والمشكلات

بما أنّ السيناريو 3 يختلف اختلافًا كبيرًا عن سابقَيه من حيث التصميم، فالتحدّي الأساسي الذي يواجهه هو أن يتقبله أصحاب القرار والعاملون حاليًا في مجال الإرشاد الزراعي. كما يشكّل عدم التوافق بين الإطار التشريعي القانوني والواقع عقبة كبرى في سبيل تطبيق هذا السيناريو لا سيّما أنه يجب القيام بتعديلات جذرية للنصوص والقوانين المنظمة التي من شأنها السماح بالقيام بإدارة مشتركة بين وزارة الزراعة والمنتجين وتنظيم العلاقات فيما بينهما، وتحديد القوانين الخاصة بالمجتمع المدني.أما عن التحدّي الأخير، فيتجلّى بالقدرة على تقديم كافة الخدمات الإرشادية في كلّ أقاليم البلاد، فمنظمات المزارعين ومنظمات المجتمع المدني غير موجودة بالشكل الكافي في كل المناطق و القرى.

وبالرغم من وجود كلّ تلك العقبات، يتميّز هذا السيناريو بالمميزات الآتية:

- المرونة والسلاسة في تصميم الجهاز الإرشادي، لا سيّما فيما يتعلّق بالمكوّن الحكومي العام،
- خلق شراكة حقيقية بين العام الحكومي/ والخاص،
- دعم منظمات المنتجين والمجتمع المدني.

وختاماً، يتبن أن السيناريوهات الثلاثة المقترحة تأخذ بعين الاعتبار الانخفاض الحالي والمستقبلي الواضح في التمويل المخصص لنظام الإرشاد الزراعي، كما وتقدم اقتراحات مفادها أنّه لا بدّ من تعدّد مصادر التمويل. تشترك السيناريوهات الثلاثة بالعديد من المشكلات، مثل ضرورة تغيير القوانين والتشريعات ووجوب تعبئة مصادر مالية أخرى متعددة وعدم الاقتصار على الميزانية الحكومية.

بالمقابل، تقدّم هذه السيناريوهات خيارات مختلفة من حيث التنظيم الإداري والمؤسّسي، ففي السيناريو 1 يبقى الجهاز حكوميًّا ولكن يُعاد تنظيمه كليًّا، وفي السيناريو 2 يبدو الجهاز الإرشادي أكثر بساطة ويفتح الباب على الشراكة بين القطاعين العامّ والخاصّ كمرحلة وسطية ويخطو بعدها نحو الخصخصة الكاملة، وفي السيناريو 3 تمّ تبسيط جهاز الإرشاد ليتيح المجال لإنشاء إدارة مشتركة للجهاز الإرشادي بحيث يقوم الجهاز الحكومي بالمهمات الإستراتيجية والسياسيّة، وتقوم المنظمات المهنية والمجتمع المدني بمهمة تنفيذ أنشطة الإرشاد الزراعي.

وتبقى هذه السيناريوهات محل طرح ومناقشة على قيادات وزارة الزراعة والشركاء بغية اختيار توجّه جديد مناسب للإرشاد الزراعي ويتواكب مع التحديات الراهنة والمستقبلية.