



REFORMING AGRICULTURAL EXTENSION IN EGYPT FROM THE VIEWPOINT OF CENTRAL LEVEL EXTENSION EMPLOYEES

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ABSTRACT

This study explored the opinions of central level extension employees about whether the Egyptian agricultural extension system needs to be reformed or not, and the alternatives they consider to be the best-fit options for extension in Egypt. The study covered 98 extension employees at the central level; findings show that all aspects of the Egyptian extension system are good candidates for reform and possible restructuring. These aspects could be ranked as financing, policy & organizational structure, staffing, and field operations as reported by 100%, 95%, 91%, and 68% of the respondents, respectively. Concerning the overall extension system, about 91% of the respondents reported that the Egyptian extension system is a good candidate for reform and possible restructuring. Findings also show that devolution, deconcentration, and delegation were the appropriate arrangements for extension decentralization as mentioned by 85%, 82%, and 55% of the respondents, respectively. Moreover, alternatives of providing and financing extension services were suggested and prioritized.

INTRODUCTION

Extension is an informal educational function that applies to any institution that disseminates information and advice with the intention of promoting knowledge, attitudes, skills and aspirations, although the term "extension" tends to be associated with agriculture and rural development (Rivera and Qamar, 2003: 7). Like many other im-

portant functions in daily life such as education and health, the extension function is also important for the welfare of farmers, no matter who performs it as long as it is done satisfactorily (Qamar, 2005: 5).

In recent years, the national public extension systems have been increasingly attacked for not being relevant, for insufficient impact, for not being adequately effective, for not being efficient and, sometimes, for not pursuing programme that foster equity (Rivera and Qamar, 2003: 5). In developing countries, bureaucratic inefficiency and poor program design and implementation have led to poor performance and incoherent links with client farmers and the research sector (Feder *et al.*, 1999: 1). This implies that agricultural extension services are under increasing pressure to become more effective, more responsive to clients, and less costly to government (The World Bank, 2000: 1).

The environment of agricultural extension is changing. A large number and variety of reforms have already been put in place worldwide (Rivera *et al.*, 2001: 33). Agricultural extension is in transition influenced by trends toward reduced government intervention in the economy, growth of the private sector and civil society, and globalization. These changes and a range of other pressures are forcing a reexamination of public extension services reexamination also shaped by a perception of poor performance of past investments in extension. The monopoly public services model for extension is obsolete in the more competitive, market-oriented climate of today's agriculture. Decentralization, privatization, cost sharing, cost recovery, and participation by stakeholders within a pluralistic financing and delivery system are some of the major reforms being pursued in extension's current transition (Alex *et al* 2004: 1).

Reform of public sector agricultural extension is on the agenda in many countries in which government extension services are criticized for being inefficient and out of touch with the needs of their clients and wider society (**Hoffmann et al 2000: 1**). **Qamar (2005: 21)** reported that it is of paramount importance that the policy-makers first have a look at the existing national agricultural extension system to determine whether the system needs to be reformed or not. Afterwards, **Birner and Anderson (2007: 1)** supported the view that identifying the reform options most likely to make extension more demand-driven remains a major challenge. The concept of demand-driven services implies making extension more responsive to the needs of all farmers. It also implies making extension more accountable to farmers and, as a consequence, more effective.

Relying on the previous quick discussion, it's obvious that determining the need for reforming agricultural extension and the alternatives of this reform are important issues if the idea of extension reform has to be discussed. From this starting point, the purpose of this research is to recognize the viewpoint of extension officials about reforming agricultural extension in Egypt through their opinions about whether the Egyptian agricultural extension system needs to be reformed or not, and the reform alternatives they choose to be better for extension in Egypt.

LITERATURE REVIEW

The need for Reforming Agricultural Extension

Agricultural extension organizations, like most other disciplines and institutions, are not immune to various developments taking place around them. Some major developments are: globalization and market liberalization, privatization, pluralism, decentralization, client participation in decision-making, natural and man-made disasters, information technology revolution, the multi-disciplinary nature of agriculture, heterogeneity between and within countries, the geographic dispersion of rural people, rural poverty, food insecurity, and sustainable development - all these realities are putting new pressure on the developing countries in their efforts to develop (**Rivera et al 2001: 12; Qamar, 2005: 9**).

Collion (2004: 1) reported that public sector extension services have come under increasing pressure to reform in the face of sometimes dramatic changes. Listed below, are some of the

changes that have affected public sector extension services.

1. The state financial crises that lead to a sharp decrease in overall public investments, leading to pressure to downsize and consider more cost-efficient extension methods away from the labor intensive, Train and Visit (T&V) management type approaches.
 2. The increasing criticisms of poor performance of public services extension such as (a) their lack of accountability to clients; (b) the lack of relevance and quality of their programs, due to poorly trained extension agents; (c) their limited coverage, in terms of area and type of clients, as they insufficiently address the needs of the poor, women farmers, and farmers in disadvantaged areas; and (d) their lack of sustainability.
 3. The emergence of other actors and service providers that can disseminate agricultural knowledge and information; in particular, producer organizations, NGOs, and private sector.
 4. The political forces linked to democratization, liberalization, and decentralization which in conjunction with financial constraints and emerging new actors, leads to redefining the role of public services and rethinking extension methods away from top-down, supply-driven approaches.
 5. The revolution in information and communication technologies which provides new vehicles for supplying information.
 6. The changes in agriculture and, therefore, in the information needs of farmers. Extension has to embrace a broadened mandate such as information on marketing. There is also growing public concern about environmental conservation and poverty reduction, which adds to the extension mandate.
- The modernization and reform of national agricultural extension systems is a major undertaking requiring careful analysis of the situation, comprehension of national policy on rural and agricultural development and food security, the leadership's vision of development for the country over the next 20 years or so, and finally taking bold policy decisions – some of which may have political implications, cost considerable amounts in terms of time, money and energy, and require effective monitoring of progress. It is therefore of paramount importance that the policy-makers first have a look at the existing national agricultural extension system to determine whether the system needs to be reformed or not. A quick review of various aspects of extension should be sufficient (**Qamar, 2005: 21**).

The Alternatives of Reforming Agricultural Extension

Decentralization of Agricultural Extension

Agricultural extension systems in developing countries are struggling to prove their importance and relevance to agricultural and rural development. In order to solve complex development problems, national extension systems need to encourage the active participation of rural people in planning, implementing, and monitoring extension programs, especially at the regional, district, and county level. To achieve this participation, extension organizations will need to formally decentralize or transfer the control of specific program planning and management functions to the local system levels where extension programs are actually implemented. However, shifting from a top-down agricultural extension system to a decentralized one is an intricate process, which requires not only strong commitment from the top, but also careful planning and implementation. Decentralization is a major undertaking that requires the full understanding of all parties involved, systematic capacity building at the lower system levels, and careful coordination to ensure successful implementation (Rivera and Alex, 2004: 1).

The rationale of decentralization is to (a) respond more effectively to local needs; (b) allow for mechanisms to ensure accountability to farmers; (c) attract local government funding to increase financial sustainability; (d) result in more efficient and equitable allocation of government resources; (e) build local capacity; and (f) ensure lower-cost service delivery (Collion, 2004: 3; The World Bank, 2000: 2).

Decentralization is most often thought of as the shifting (or devolution) of authority for extension to lower tiers of government. In general, decentralization involves the transfer of funding and management authority to sub-national government levels (Rivera et al 2001: 37). Three major factors are involved in the decentralization process (Swanson, 2008: 26-27):

1. Transferring specific decision-making functions to the district and sub district levels, starting with simple managerial functions, such as program planning and implementation, then setting priorities and allocating funds, and ending with other administrative functions such as program assessment and securing co-financing (such as fee-for-service financing from commercial farmers);

2. Public participation, reflecting the degree of decision-making authority that is progressively transferred to rural people, starting with an advisory capacity in program planning and implementation and ending with increased control over specific financial planning and accountability functions; and
3. Local government involvement in extension activities, including the possible outsourcing of specific extension activities to NGOs, FBOs and private firms, such as organizing producer groups, and then linking these groups to markets.

The term "decentralization" has been used in the literature to describe four alternative institutional arrangements: deconcentration, delegation, devolution and transfer to private firms and NGOs. These four institutional arrangements reflect different combinations of the three Decentralization factors mentioned above. Brief descriptions of these four alternative institutional arrangements follow (Swanson, 2008: 28; Rivera and Alex, 2004: 2; Rivera et al 2001: 29):

1. **Deconcentration:** Under this institutional arrangement, selected managerial functions (e.g. program planning and implementation) are assigned to district and local levels within the national/provincial/state-level agricultural extension system.
2. **Delegation:** In this form of decentralization, a semi-autonomous government agency may be assigned responsibility for providing or coordinating extension services on a territorial basis. Also, some managerial, priority setting and fund allocation functions are delegated to district-level extension systems.
3. **Devolution:** Under this arrangement, program planning, management and co-financing responsibilities are transferred to local and/or district-level governments. These local governments have discretionary authority to exercise their responsibilities and are bound only by national policy guidelines.
4. **Transfer of Specific Extension Activities to NGOs, FBOs and Private Firms:** Decentralization in this form involves shifting responsibilities for specific extension activities from the central government to FBOs, NGOs and/or private firms at different levels. This approach is much more commonplace in industrially developed countries as the technology transfer function is increasingly privatized.

Providing and Financing Agricultural Extension

An environment of declining government budgets combined with waning donor interest has led to significant cuts in public extension services. Those public extension activities that remain are under increasing pressure to provide an accountable and responsive service to citizens. At the same time, the retreat of governments from managing agricultural input and output marketing, a diversification in the sources of agricultural research, and increased opportunities for trade, have opened many new opportunities for the private sector, including extension provision (Chapman and Tripp, 2003: 1). The modality of using more than one organization, whether public or non-public, for delivering and financing extension services to farming communities, is gaining popularity. The obvious rationale is the pooling of all available resources in order to alleviate pressure from low budgets and staff in the ministries of agriculture, as well as to let the farmers benefit from a variety of sources. Many developing countries are already practicing pluralism in extension (Qamar, 2005: 13).

It has been universally recognized that institutional pluralism in extension's development contributes to success. The consensus of opinion also holds that to achieve differing agricultural goals and serve diverse target populations, a combination of public, private and voluntary extension efforts is needed. Experience shows that diversity is the only way to address ever-changing conditions and various categories of users (Ameur, 1994: 12). A number of cases illustrate the fact that other actors can provide certain types of extension services more efficiently and more effectively than public sector agencies. Different service providers can be associated with public services depending upon the domain or type of users targeted, thereby complementing public extension services in areas where these service providers are more efficient than public services (Collion, 2004: 1-2).

Many services that were managed in the past by governments are now being managed and delivered by the private sector, especially in developed countries. The underlying reason is dwindling budgets of public institutions, which makes them relatively inefficient and less productive, causing not only financial loss to the government but also creating discontent among people. The private sector, on the other hand, has generally more resources, innovative ideas, and a motive for profit and is thus keen to offer efficient and better services to its clientele (Qamar, 2005: 11). Private

extension is not a single entity, but includes a wide range of modalities, from the spontaneous emergence of private markets for certain types of advice and service to carefully guided public support for the development of private extension provision. A key to understanding private extension is the fact that it is possible to separate the provision of funding from the provision of service. If privatized extension is to make a contribution, it will not embody the replacement of a monolithic public extension system by a similarly undifferentiated private system; instead, it will allow the development of a range of extension modalities and funding strategies (Chapman and Tripp, 2003: 1).

To identify strategies for making agricultural extension demand-driven, it is useful to consider the range of institutional options by which these services can be provided and financed, taking into account that organizations of the public, private, and third sectors can collaborate in various combinations (Birner & Anderson, 2007: 5). Table (1) classifies the institutional options.

Agricultural Extension in Egypt

Agricultural information and extension services in Egypt are part of a pluralistic complex involving multiple systems within the public and private sectors to provide information, education, and problem solving assistance to farmers and their families. In Egypt, the tendency is for the public sector extension system, at least in theory, to serve the vast majority of small farmers, while the private sector suppliers and consultants work with corporate farms and large estates. The array of providers, purposes and functions that can be attributed to agricultural extension justifies calling it "a complex". Its providers are not only multiple but involve both public and private sector, and often these overlap or are mutually supportive. However, different providers will tend to emphasize distinct functions-whether information transfer, education by way of farm-management training, or problem solving through an on-farm and office consultation (Rivera et al 1997: 68).

Agricultural extension in Egypt is represented in the organizational structure of the Ministry of Agriculture and Land Reclamation (MALR) as a sector, among 7 sectors. This sector includes four main central administrations; one of these administrations is Central Administration for Agricultural Extension (CAAE). The extension organization is represented at all administrative levels, starting from the central level in Cairo (represented by the

Table 1. Options for providing and financing agricultural extension services

Provision of Service	Financing of Service				
	Public sector	Private sector: farmers (individuals)	Private sector: companies	Third sector: nongovernmental organizations (NGOs)	Third sector: farmer-based organizations (FBOs)
Public sector	(1) Public sector extension	(5) Fee-for service extension, provided by public sector	(9) Private companies contracting public sector extension agents	(11) NGOs contracting public sector extension agents	(15) FBOs contracting public sector extension agents
Private sector: Companies	(2) Publicly financed contracts or subsidies to private sector extension providers	(6) Private extension agents, farmers pay fees	(10) Information provided with sale of inputs or purchases of outputs	(12) Extension agents from private company hired by NGOs	(16) FBOs contracting extension agent from company
Third sector: (NGOs)	(3) Publicly financed contracts or financial support to NGOs providing extension	(7) Extension agents hired by NGO, farmers pay fees		(13) Extension agents hired by NGO, service provided free of charge	
Third sector: (FBOs)	(4) Public financial support to supplied to extension provision by FBOs	(8) Extension agents hired by FBO, farmers pay fees		(14) NGO financing extension agents who are employed by FBO	(17) Extension agents hired by FBO, service free to members

Source: Birner and Anderson, (2007: 5)

CAAE), and Directorates of Agriculture at Governorate and District levels down to the Village level. Yet, the governmental extension is highly criticized for being ineffective and irrelevant. Village Extension Workers (VEWs), being the most important grass roots level, working closely with farmers and their families, suffer from several problems related to: low socio-economic status due to low salaries, incentives and promotion opportunities, lack of sufficient educational qualifications and training, insufficient transportation facilities. According to the Egyptian Strategy for Agricultural Development up to 2030", the existing extension organization needs reform and development policies for several reasons, including: (a) Ineffective performance of extension personnel, associated with limited resources and ever-decreasing numbers of extension workers, (b) Lack of trust of producers, especially those working in highly specialized and sophisticated activities, in extension worker, (c) Lack of mutual relationships between research and extension workers in addition to lack of involvement

of university staff and technicians in extension work, (d) unfair salaries of extension workers, especially VEWs (El-Shafie, 2009: 46).

METHODOLOGY

A framework for determining the need for extension reform (FDNER), developed by Qamar (2005: 21- 24), was used to determine whether the Egyptian agricultural extension system needs to be reformed or not, the framework contains 32 statements for key aspects of the extension system, which are marked as true or false. If false is marked for most of the statements, then the extension system is a good candidate for reform and possible restructuring. Alternative of decentralization (Swanson, 2008: 28; Rivera and Alex, 2004: 2; Rivera et al 2001: 29) and those of providing and financing services (Birner and Anderson, 2007: 5) were used to determine central level employees' opinions about extension reform alternatives.

A questionnaire form, include the FDNER statements, decentralization arrangements, and alternatives of providing and financing services, was prepared and distributed among the central level extension employees (156 employees) worked for CAEE during the period from January to February 2013. The process of their completion was followed up. The total number of completed forms was 98 or 62.8% of the total number of the employees. Frequencies and percentages were used for data display.

RESULTS

Determining the need for reforming agricultural extension system in Egypt

In order to determine whether the Egyptian agricultural extension system needs to be reformed or not, the central level extension employees were asked to determine their opinions about the statements included in the FDNER. Findings in **Table (2)** show respondents' opinions on the framework statements.

With regard to the aspect of policy and organizational structure, all of respondents have regretted unfair/ subjective basis for staff rewards and accountability, most of respondents (95%) decided the centralization of extension services, inequity and injustice in salaries, benefits, career development, opportunities, training, adequate operational budget, proper housing, availability of transport between them and the professional staff of other disciplines, notably of researchers, and pre-service academic programs are just theoretical. The majority of respondents (62%) reported that government policy encourages non-public institutions, NGOs, the private sector and farmers' organizations to become involved in the delivery of extension services. More than half of them (54%) reported that the country does have a national policy on extension, and the extension staff at all levels is given frequent opportunities for receiving in-service training (52%).

In terms of financing, all of respondents reported that main funding source for the agricultural

extension services is limited only to the government and, sometimes, donor-funded projects and there are no other sources of funding for extension activities.

In relation to staffing, the majority of respondents (87%) reported that technical subject-matter staff is concentrated at the central and provincial level, at the same time 92% of respondents reported that most of the staff, including field extension workers, is based at district, sub-district and lower levels. About 63% of respondents reported the satisfactory gender representation in technical subject-matter specialists and field extension workers.

With respect to field operation, all of respondents reported that operational funds for field extension activities have never been sufficient and extension staff always complains about shortage of funds and transport facilities for the field extension staff are inadequate to enable the staff to move from village to village to contact farmers. Moreover, most of respondents (95%) reported that the main sources of improved agricultural technologies and recommendations are just national agricultural research institutes; there are no other technology sources used by the extension workers, about 92% of respondents indicated the big size of supervision scope (number of farmers/ the geographical area) which lead farmers to complain about the slackness of extension workers for not visiting them constantly.

In order to determine which aspects to concentrate on while reforming the extension system; statements related to each aspect are combined and responses are divided into two categories: the extension system is need (does not need) to be reformed with about 50% or more of statements are false (true). Findings indicated in **Table 3**, show that all aspects of extension system are good candidates for reform and possible restructuring, they could be ranked as financing, policy & organizational structure, staffing, and field operations as reported by 100%, 95%, 91%, and 68% of respondents, respectively. Concerning the overall extension system, about 91% of respondents reported that the Egyptian extension system is a good candidate for reform and possible restructuring.

Table 2. Opinions of extension officials about the framework for determining the need for extension reform in Egypt. (N= 98)

No	FDNER 's Statements	True		False	
		F	%	F	%
Policy and organizational structure					
1.	The Ministry of Agriculture runs only main agricultural extension services, and none of the technical departments within the Ministry has its individual extension workers in the field	8	8.18	90	91.82
2.	There is an inter-disciplinary committee or unit at the national level, which is responsible for overall coordination, policy advice, and monitoring and evaluation of extension activities	17	17.27	81	82.73
3.	The country does have a national policy on extension	53	53.64	45	46.36
4.	The extension services are fully decentralized, with all key decision-making including financial aspects carried out at district or lower level	4	4.55	94	95.45
5.	The government policy encourages non-public institutions, NGOs, the private sector and farmers' organizations to become involved in the delivery of extension services, in addition to those delivered by the government department of extension	61	61.82	37	38.18
6.	The basis for staff rewards and accountability is objective, based on the performance of each extension worker	0	0.00	98	100
7.	The extension professional staff enjoys the same level of salaries, benefits, career development, opportunities of in-country and overseas studies and training, adequate operational budget and physical facilities such as proper housing, availability of transport, etc. as enjoyed by the professional staff of other disciplines, notably of researchers	4	4.55	94	95.45
8.	The extension staff at all levels is given frequent opportunities for receiving in-service training to update their technical knowledge and skills	52	52.73	46	47.27
9.	Extension staff does not feel constrained by logistic difficulties and a lack of sufficient incentives	9	9.09	89	90.91
10.	The pre-service academic programs in agricultural extension that the would-be extension staff attends at the academic institutions are not just theoretical but of great practical value, and that is why new extension workers feel very confident while talking to experienced farmers	4	4.55	94	95.45
11.	Monitoring, evaluation and impact assessment of extension programs are carried out on a regular basis	27	27.27	71	72.73
Financing					
12.	The main funding source for agricultural extension services is not limited to the government and, sometimes, donor-funded projects; there are other sources of funding for extension activities	0	0.00	98	100
Staffing					
13.	The technical subject-matter staff is not concentrated (60% or more) at the central and provincial level	12	12.73	86	87.27
14.	About 75% or more of the total staff, including field extension workers, is based at district, sub-district and lower levels	90	91.82	8	8.18
15.	The technical subject-matter specialists and field extension workers all combined include at least 20% female staff	56	57.27	42	42.73

Continued

Table 2. (Continued)

No	FDNER 's Statements	True		False	
		F	%	F	%
Field operations					
16.	The extension staff is mainly accountable to farmers whom they are supposed to serve, and not just to superior officers	36	36.36	62	63.64
17.	The main sources of improved agricultural technologies and recommendations are not just national agricultural research institutes; there are many other technology sources used by the extension workers	4	4.55	94	95.45
18.	Main methods used by the extension services are not limited to traditional method (result field demonstrations, farm visits, home visits, individual & group farmers contact, mass media, published materials), but they also use innovative extension modalities	52	52.73	46	47.27
19.	The extension services do not follow any single "imported" extension method (such as T&V or FFSs); the extension services use several original extension methods suiting different micro-climate zones, and they have been developed locally based on the social, economic, geographical and agricultural conditions of each zone	86	87.27	12	12.73
20.	The extension services have developed and apply modern information technology tools such as ITC, Internet, etc.	36	36.36	62	63.64
21.	The preparation of periodic extension program plans is not usually done by extension staff at central or provincial level in spite of the fact that they are the ones most aware of farmers' needs as well as of the available budget within which the program is to be prepared	29	30.00	69	70
22.	These are farmers' groups at village level whom extension workers involve actively in preparing plans for extension services, which are then passed on to higher authorities for funding and service delivery	27	27.27	71	72.73
23.	Extension workers do not pay most of their attention to male farmers, nor do they give preference to visiting big farmers, but visit women farmers on an equal basis	17	17.27	81	82.73
24.	The extension services approach is neither supply driven nor technology-driven but is demand-driven and human-focused	38	39.09	60	60.91
25.	The main mandate of extension is not only transfer of improved agricultural technologies to farmers, with some non-extension duties, but also includes non agricultural educational messages such as environment, population, food security	90	91.82	8	8.18
26.	Operational funds for field extension activities are always sufficient and extension staff never complains about shortage of funds	0	0.00	98	100
27.	Transport facilities for the field extension staff are adequate to enable the staff to move from village to village to contact farmers	0	0.00	98	100
28.	The number of farmers and the geographical area to be covered by each field extension worker are not too large, and farmers don't complain that the extension worker doesn't visit them often	8	8.18	90	91.82
29.	Operational linkages between extension and agricultural research and other relevant institutions such as those dealing in farm inputs, credit, marketing, etc. are indeed strong	57	58.18	41	41.82
30.	The extension staff has a definite say in ensuring timely supply of farm inputs to farmers, needed for adoption of extension advice based on the recommendations of researchers	35	35.45	63	64.55
31.	Improved agricultural technologies are always tested by extension workers for their environment-friendliness before they are recommended to farmers for possible adoption	52	52.73	46	47.27
32.	The extension services make use of modern information technology, as far as possible, in support of extension activities	57	58.18	41	41.82

Source: the study's findings

Table 3. Distribution of respondents according to their responses about aspects of the framework of determining the need for extension reform (FDNER) (N= 98)

Aspects of the framework	Number of statements	Categories of extension officials' responses			
		Need to be reformed*		Does Not need to be reformed**	
		F	%	F	%
Policy & organizational structure	11	94	95.45	4	4.55
Financing	1	98	100.00	0	0.00
Staffing	3	89	90.91	9	9.09
Field operations	17	67	68.18	31	31.82
The overall extension system	32	89	90.91	9	9.09

*(**) = False (True) is marked for about 50% or more of the statements

Source: the study's findings

The alternatives of reforming agricultural extension system in Egypt

Alternatives of extension decentralization

In order to determine which alternative of decentralization is appropriate for reforming and restructuring of the Egyptian extension system, respondents were asked to determine their opinions on some arrangements of decentralization, namely: Deconcentration, Delegation, Devolution, and Transferring of specific extension activities to NGOs, FBOs and private firms at different levels.

Findings in **Table (4)** show that the top priority decentralization alternative is devolution which could be reflected in transferring program planning, management and co-financing responsibilities to local and/or district-level governments as reported by 85% of respondents. The second preference as reported by 82% of respondents was the deconcentration or assigning selected managerial functions (e.g. program planning and implementation) to district and local levels within the national/ provincial/ state-level agricultural extension system. While delegation (a semi-autonomous government agency may be assigned responsibility for providing or coordinating extension services on a territorial basis) is located in the third priority of 55% of respondents. On the other hand, 71% of respondents considered transferring of specific extension activities to NGOs, FBOs and private firms at different levels as an inappropriate arrangement of extension decentralization.

Alternatives of providing and financing extension services

In order to determine which alternatives of providing and financing extension services are appropriate for reforming and restructuring the Egyptian extension system, respondents were asked to determine their opinions on seventeen alternatives.

Results in **Table (5)** show the central level extension employees' opinions about alternatives of providing and financing extension services. Only five alternatives were indicated by the majority of respondents as appropriate to establish, the top two priority alternatives include the provision of extension services by the public extension agents, while financing these services by contracting of NGOs or FBOs with public sector extension agents, these alternatives were indicated by 75% of respondents. The third alternative, indicated by about 61% of respondents, reports that extension services could be provided with sale of inputs or purchases of outputs by private sector firms. The next option reported by about 58% of respondents, implies that extension agents could be hired by FBO in order to provide free services to members. The last appropriate alternative is that NGOs provide financial supports to extension agents who are employed by FBO (52% of respondents). On the other side, the majority of respondents indicated that the other alternatives are inappropriate to establish within the Egyptian extension system.

CONCLUSION

Based on the research results, it could be concluded that Egyptian extension system is a good candidate for reform and possible restructuring. It also became clear that the most appropriate arrangements of extension decentralization are: 1) devolution, 2) deconcentration, and 3) delegation. With regard to the alternatives of providing and financing extension services, it came out that the most appropriate alternatives are: 1) public extension could provide the extension services with financing from NGOs, 2) public extension could provide the extension services with financing from FBOs, 3) Private firms provide and finance the extension services, 4) FBOs provide and finance the extension services, and 5) Services could be provided by FBOs with financing form NGOs. In addition to the previous reforming alternatives, following actions could be valuable and interested: 1) formulate a clear national extension policy using strategic thinking, 2) direct the extension policy toward demand-driven and market oriented approaches in addition to public goods issues, 3) establish an enabling environment for extension workers, 4) initiate to recruitment of qualified extensionists with required competencies for the job, 5) promote Public-Private Partnerships (PPPs) and

Table 4. Opinions of respondents about alternatives of extension decentralization (N= 98)

No.	Alternatives of extension decentrali- zation	Appropriate		Inappropriate		Rank
		F	%	F	%	
1.	Deconcentration	80	81.82	18	18.18	2
2.	Delegation	54	55.45	44	44.55	3
3.	Devolution	84	85.45	14	14.55	1
4.	Transfer of specific extension activities to NGOs, FBOs and private firms at dif- ferent levels	29	29.09	69	70.91	4

Source: the study's findings

Table 5. Opinions of respondents about alternatives of providing and financing extension services (N= 98)

No.	Financing of services	Provision of services	Appropriate		Inappropriate		Rank
			F	%	F	%	
1.		Public sector	41	41.82	57	58.18	9
2.	Public sector	Private sector: Companies	43	43.64	55	56.36	8
3.		Third sector: NGOs	32	32.73	66	67.27	11
4.		Third sector: FBOs	47	48.18	51	51.82	6
5.		Public sector	44	44.55	54	55.45	7
6.	Private sector: farmers	Private sector: Companies	21	21.82	77	78.18	15.5
7.		Third sector: NGOs	28	28.18	70	71.82	13
8.		Third sector: FBOs	31	31.82	67	68.18	12
9.	Private sector: companies	Public sector	24	24.55	74	75.45	14
10.		Private sector: Companies	60	60.91	38	39.09	3
11.		Public sector	73	74.55	25	25.45	1.5
12.	Third sector: NGOs	Private sector: Companies	21	21.82	77	78.18	15.5
13.		Third sector: NGOs	40	40.91	58	59.09	10
14.		Third sector: FBOs	52	52.73	46	47.27	5
15.	Third sector: FBOs	Public sector	73	74.55	25	25.45	1.5
16.		Private sector: Companies	20	20.00	78	80.00	17
17.		Third sector: FBOs	57	58.18	41	41.82	4

Source: the study's findings

institutional pluralism, and 6) establishing national agricultural innovation system to improve a more profitable relationship among the institutions, the for-profit and not-for-profit organizations, the producers and other stakeholders engaged in agricultural development.

REFERENCES

Alex, G., Byerlee, D., Collion, M. and Rivera, W. (2004): **Extension and rural development, converging views on institutional approaches?** Agriculture and Rural Development

Discussion Paper 4, The World Bank, Washington, D.C. Available at:

<http://siteresources.worldbank.org/intard/825826111129171182/20431824/discussionpaper4final.pdf>

Ameur, C. (1994): **Agricultural extension, a step beyond the next step**, World Bank Technical Paper Number 247, The World Bank, Washington, D.C. Available at: http://www-wds.worldbank.org/external/default/WDSContentServlet/WDSP/IB/1994/07/01/000009265_3970311122748/Rendered/PDF/multi_page.pdf

- Birner, R. and Anderson, J. (2007):** How to make agricultural extension demand-driven? the case of India's agricultural extension policy, Discussion Paper 00729, International Food Policy Research Institute, Washington, DC. Available at: <http://www.ifpri.org/sites/default/files/pubs/pubs/dp/ifpridp00729.pdf>
- Chapman, R. and Tripp, R. (2003):** Changing incentives for agricultural extension – a review of privatized extension in practice, Network Paper No. 132, Overseas Development Institute, London. Available at: <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinionfiles/5192.pdf>
- Collion, M. (2004):** Introduction to revitalization within public sector services, In: Extension reform for rural development: volume 4, revitalization within public sector services, Agriculture and Rural Development Discussion Paper 11, World Bank, Washington, DC. Available at: http://siteresources.worldbank.org/intard/8258261111129171182/20431831/extension_reform_v1_final.pdf
- El-Shafie, E. (2009):** Improving agricultural extension in Egypt, a need for new institutional arrangements, 19th European Seminar on Extension Education, Theory and practice of advisory work in a time of turbulences, 15 - 19 September, Assisi (Perugia), Italy. Available at: http://www.academia.edu/3144181/19th_European_Seminar_on_Extension_Education
- Feder, G., Willett, A. and Zijp, W. (1999):** Agricultural extension: generic challenges and some ingredients for solutions, Policy Research Working Paper 2129, The World Bank, Washington, D.C. Available at: http://www-wds.worldbank.org/external/default/wdscontent/servr/iw3p/ib/1999/09/14/000094946_99060905321332/additional/109509322_20041117142020.pdf
- Hoffmann, V., Lamers, J. and Kidd, A. (2000):** Reforming the organization of agricultural extension in Germany: lessons for other countries, Network Paper No. 98, Overseas Development Institute, London. Available at: <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinionfiles/5128.pdf>
- Qamar, K. (2005):** Modernizing national agricultural extension systems: a practical guide for policy-makers of developing countries, FAO, Rome. Available at: <ftp://193.43.36.93/docrep/fao/008/a0219e/a0219e00.pdf>
- Rivera, W. and Alex, G. (2004):** Extension reform for rural development: Volume 1, decentralized systems, Agriculture and Rural Development Discussion Paper 8, World Bank, Washington, DC. Available at: http://siteresources.worldbank.org/intard/8258261111129171182/20431831/extension_reform_v1_final.pdf
- Rivera, W., El-Shafie, E. and Aboul-Seoud, K. (1997):** The public sector agricultural extension system in Egypt: a pluralistic complex in transition, Journal of International Agriculture and Extension Education, 4 (3): 67- 74. Available at: http://www.aiaee.org/attachments/398_Rivera-Vol-4-3-7.pdf
- Rivera, W. and Qamar, K. (2003):** Agricultural extension, rural development and the food security challenge, FAO, Rome. Available at: <ftp://193.43.36.93/docrep/fao/006/y5061e/y5061e00.pdf>
- Rivera, W., Qamar, K. and Van Crowder, L. (2001):** Agricultural and rural extension worldwide: options for institutional reform in the developing countries, FAO, Rome. Available at: <ftp://193.43.36.93/docrep/fao/004/y2709e/y2709e.pdf>
- Swanson, B. (2008):** Global review of good agricultural extension and advisory service practices, FAO, Rome. Available at: <ftp://193.43.36.93/docrep/fao/011/i0261e/i0261e00.pdf>
- The World Bank. (2000):** Decentralizing agricultural extension, lessons and good practice, Washington, D.C. Available at: <http://siteresources.worldbank.org/intard/82582611111063678817/20431788/decentralization.pdf>