

## FIELD EXPERIENCE OF AGRICULTURAL COMMUNICATION METHODS AND ATTITUDES TOWARD THE NEW TRENDS IN EXTENSION IN SYRIA

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**ABSTRACT:** *The role of agricultural extension has always been a hot topic and under debate for all agricultural specialists, simply because of its vital role in implementing the agricultural policies and rural development, because it is the linkage between the rural community and the organizations involved in rural development and agricultural sector in both farming and non-farming perspectives.*

*This research is divided to two basic sections; each is divided to two sub-categories as follows:*

- *The first part is dedicated to communication methods*
- *The second part is dedicated to new trends in global economy in terms of its influence on agriculture and rural development.*

*The main findings of this research are: Extension staff lacks to sufficient training qualitatively and quantitatively with social and economic constraints, which makes a reform of the current system is a must to overcome insufficiencies in different areas.*

**KEYWORDS:** Extension, Communication Methods, Constraints, Globalization, privatization, Pluralism, Decentralization, Reform, (ICTs)

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## INTRODUCTION

The role of agricultural extension is always a hot topic and under debate for all agricultural specialists, simply because of its vital role in implementing the agricultural policies and rural development, because it is the linkage between the rural community and the organizations involved in rural development and agricultural sector in both farming and non-farming perspectives. The importance of agricultural extension is remarkable in both developed and developing countries, but in the second type the role and concepts of extension are way far from the new techniques applies in the first type.

This research is divided to two basic sections; each is divided to two sub-categories as follows:

The first part is dedicated to communication methods, agricultural extension methods, with two sub-categories. First sub-category addresses the level of usage and importance of different types of the available methods based on real experience of agricultural extension officers, working in Latakia city in Syria. So this work will cover (19) communication tools that belong to mass, group and individual methods; in numbers (7, 8, 4) methods respectively, while the second sub-category identifies the constraints belong to usage of communication methods and the provision of advisory services.

The second part is dedicated to new trends in global economy in terms of its influence on agriculture and rural development, with two sub-categories. First sub-category addresses the attitude of extensionists toward those trends which are in order Globalization, Privatization, Pluralism, Decentralization, Reform and information and communication technologies (ICTs), while the

second sub-category identifies the information resources about these new approaches.

Being a part of this rapidly changing world, makes it crucial to all scholars and governments, particularly in developing countries, to assess and evaluate the current situation periodically as a tool of improving the current techniques and adopting the modern approaches, in a way that support the national development generally, and the agricultural one particularly.

Hence, this research is trying to fulfill this objective in the field of agricultural extension, by showing results based on field experience, regarding the level of usage and importance of agricultural communication methods on the first hand. On the other hand, it provides indicators of how extension officers think of the new trends and its influence on rural community regarding farming and non-farming aspects. The goal of this research is to provide a panoramic image of the current situation of an agricultural extension system in Syria, and to provide a solid base for PhD. on the basis of the provided findings and recommendations.

## REVIEW OF LITERATURE

The concept of sustainable agriculture and extension:

The terms Agricultural extension, rural development and sustainable rural developments are connected and intersected because the outcomes of them include higher efficiency, improved quality, target group orientation, job satisfaction for human resources, and better marketing opportunities for farmers (Qamar, 2005). The essence of agricultural extension is to satisfy knowledge, skills and needs of all types of target rural groups in order to help them in managing their farms efficiently and to become good citizens by improving their life quality or life standards (Farrington, 1995). It also helps in reforming and enhancing management of agricultural development process, by creating and establishing effective regulatory agencies for agriculture. Effective regulatory agencies create and promote a healthy and stable investment environment for the private sector and emerging farmer organizations, giving priority to agricultural agendas and local governmental or national institutions (Farrington, 1995). The agricultural advisory services can play a crucial role in providing this network of information on sustainable agricultural education. Hence, the role of extension is very important to support sustainable agriculture which is covering now farming and non-farming needs, which by turn require structural changes in the current extension approach at different levels. An enterprise that deals with the whole farm and its natural and human resources as one unit is more qualified to support sustainable livelihood and production systems than one which concentrates only on one product or generating income (Sallam, 1994). Extension not only occupies a bridge position or a linkage but also facilitates improving the efficiency and effectiveness of both the farmer and the research, to facilitate transfer of agricultural technologies and other recommended behavioural changes among the rural people groups, especially farmers. (Rivera et al., 1997)

A key factor to sustainable agricultural development and a prosperous rural community is the existence of sufficiently well trained staff in all of the disciplines needed at all levels of the planning, development and management processes. (Ommani et al., 2009) This means that the extensionist is like a teacher who needs to prepare his lessons before initiating any teaching process as a good teacher. Extension supervisors should have the ability to inspire and lead the field extension workers for Sustainable agriculture by conducting applicable and attractive approaches. (Swanson et al., 1997) Many graduates from the Agricultural institutions become extension staff members employed

by the agricultural extension department. Lecturers from the agricultural universities have contact with extension agents, officers and workers through training, research or/and through different extension activities (Cho and Boland, 2004).

Qualified and motivated staff members are the base of a successful extension body, but the basic problem of agricultural extension especially in developing countries is the lack of well trained staff, especially for field officers and workers to satisfy and match the requirements of Sustainable agriculture (Allahyari, 2009b), moreover the numbers of extension agents working in the agricultural extension are not enough in comparison with the huge farming lands and the large number of farmers, as well as weak incentives of technical staff who works really hard under difficult conditions for insufficient income (Cho and Boland, 2004). This is because of insufficient wages, and reward system is not connected to or not based on employees' competencies or qualifications, and of using non-financial reward in a low rate, side by side with the bureaucratic structure of agricultural extension services all prevent a better design of the current reward system (Ahmad et al., 2005) as well as lack of adequate activities in the areas of vocational training, organization, coordination and cooperation among different parties involved in this process (Kizilaslan and Kizilaslan, 2007). In order to develop their understanding, and ability to teach and conduct the concepts and principles of sustainable agriculture to farmers, the extensionists need a long time and intensive training to be able to do that (Lodhi et al., 2006). Even lucky extension staff members who have attended intermediate-level agricultural schools, agricultural middle institutions and faculties are rarely well prepared through training to take the charge of extension responsibilities. Some curriculums do not include training on extension methodologies, organizations, farm management and other topics and needs covered by extension. Education in technical fields is extremely suffering from a weak practical orientation and field training which both are so essential in preparing effective and qualified extension staff (Gaaya, 1993). The success or failure of any agricultural extension programs is dependent on effective performance of agricultural extension officers. It is approved that extension officers play a critical and vital role in any extension service or activity (Tladi, 2004).

Modern agricultural Extension Management uses three different mechanisms to create an open environment in which staff feels comfortable in sharing and providing agricultural information as follows: support the field staff in decision-making to encourage teamwork among the staff, because staff is informed about policies and other relevant areas at the right time using the right way (Okorley et al., 2009). It also supports an effective and open communication to build respect and trust among the staff, gives more ability to field staff to design their location-specific extension activities with farmers, encourages team work among the staff members, and also able to get an effective feedback from farmers and other stakeholders through greater interaction with them (Okorley et al., 2009). The sustainable farming practices demand cooperation and coordination among researchers, extension agents and farmers. The development and implementation of sustainable agricultural policy require active involvement, creativity and learning abilities of the farmers and the extension workers side by side through all levels of this process (Cho and Boland, 2004). The participation of farmers could be ensured through the creation of new groups including village-level farmer advisory groups (local Leaders), districts farmer advisory committees, and governorate farmer advisory councils. These groups represent different levels, so it will improve agricultural and rural program relevance and outcomes including the efficiency of the advisory services system and its staff (Kollontai, et al., 2008). The role of extension is changing from focusing on motivating rurals towards the adoption of improved and recommended practices by higher levels to making them

partners in solving problems. Practices should be adopted for problems addressed, necessarily to remove causes beyond the problem to be solved. Learning goals and objectives should include attitudes and interpersonal skills which will facilitate and ease farmer-to-farmer extension. Training methods help trainees to apply particular strategies and patterns of learning which they will use in their professional practice and real field situation. Extension workers who are expected to encourage farmers to apply technologies in their own farm and local environment should be encouraged to learn and well trained about sustainable technologies through direct observation and experimentation. In other words, to set a good example to farmers by teaching them through experiment (Hoque and Usami, 2008). Identifying suitable extension techniques and mechanisms have a very important role in developing the current extension system. Therefore, identifying and addressing extension methods and organizational characteristics for supporting Sustainable agricultural development, is one of the major approaches needs to be carefully planned and accurately implemented for development of the Agricultural extension system (Ommani et al., 2009).

#### Agricultural extension methods and organizational characteristics:

The study of agricultural extension methods and organizational characteristics indicates a wide and broad range of socially banned and legitimate activities which aim to enhance and improve the abilities of farmers by adopting more appropriate and often new practices and through adjustments to the changing conditions and current and emerging social needs (Swanson et al., 1997). Extension staff should use the individual extension methods such as farm and home visits as well as the group extension methods, such as group meetings, side by side with mass methods such as agricultural TV programmes (Cho and Boland, 2004). This depends on collaboration and coordination among research institutions, extension-education organizations, and farmers' associations, and rural credit (Agricultural Banks / Cooperative Agricultural Banks) (Allahyari et al., 2008). The focus and emphasis on the farmers' skills and education is the most important role for extension systems for accomplishment of goals and objectives of Sustainable agricultural development. The development and implementation of sustainable agricultural practices require active involvement, by research centers and private sector organizations and non-profit / non-governmental agricultural foundations and agricultural extension management in using Extension Methods for creating and spreading awareness among the farmers and other rural groups about improved agricultural technologies (Chaudhry et al., 2006)(Qamar, 2005) . Lack of or weak coordination, cooperation and communications among players involved is a serious problem affecting sustainable agricultural development and the success of any extension scheme (Kalantari et al., 2008) (Qamar, 2005). Lack of relevant technologies as well as inadequate finance resources are among the most important structural problems facing the agricultural sector in general and extension body in particular (Kizilaslan and Kizilaslan, 2007). Mass methods do not actively seek out relevant technical information, or take into account farmers' views and their experience reflected by their solutions to local problems and situations; or attempt to involve the users in the design and production of media content, an essential step if information are meant to be more relevant to farmers' needs is to let farmers take part in making and deciding the content of mass media campaigns based on their needs and experience (Cho and Boland, 2004). Also lack of financial support provided by Agricultural Banks to farmers limits and weakens the use of sustainable agricultural practices and the adoption of new technologies (Edeoghon et al., 2008). Participatory extension provides a framework for extension staff to make a real partnership with farmers which facilitates the development planning and activity implementation depending on their needs. This approach ensures that extension response becomes farmer driven, and helps rural communities implementing and conducting their

planned activities with the right of monitoring and evaluation of activities conducted by agricultural extension body (Rani, 2007).

Farmer Field Schools (FFSs) are a great tool in conducting sustainable agricultural development programs because its participatory nature that includes a significant focus on group and individual capacity building of farmers (Witt et al., 2008). Farmer field schools are considered as a popular educational tool worldwide to achieve various schemes of sustainable agricultural development. Such schools use experimental learning and group dynamics to engage farmers in the process of making decisions, solving problems, and learning new techniques in favour of increasing production (Davis et al., 2010). A significant dimension of a participatory approach is that agricultural extension staff members and involved agricultural organizations are themselves allowed to learn and design their own way on how to work and deal with farmers in a participative manner, rather than the dated top-down way. There is also a weak or poor utilization of information and communication technologies (ICTs) that facilitate and promote the flow of information among farmers, as well as among researchers and farmers (Kroma, 2003)(Rivera and Alex, 2004). In general, resources should be allocated to the lower administrative levels based on the assigned responsibilities, as a step toward shifting the authority of providing extension services to the emerging farmers' associations. Same step should be taken in fiscal management to give farmer associations the right to contract-out to private entities for extension services, which means more participation of private sector and less centralization in the delivery of services (Rivera et al., 2001).

#### New trends in agriculture and modernizing national agricultural systems

Extension services are meant to be for adults, so it adopts adult learning principles in its materials and techniques, with the emphasis on extension as informal way of teaching and learning. The new trends in extension are helpful tools for agricultural policy makers around the globe, especially in developing countries, where there is a misunderstanding of the major role of extension in the national development process and a misunderstanding of the new approaches in the field as well. This is basically is a result of confusing between the function of extension and the extension management, because logically speaking the failure in management leads to the failure in providing services, but this however does not imply or indicate that the function itself unimportant or unnecessary because both concepts are independent in their nature (Jones, Garforth, 1997) (Qammar, 2005).

Globalization in short is market release and trade liberation among countries, to ease and foster the exchange of knowledge and services with assurance of equality and fairness, but many people and even organizations have doubts about this point, and as a result they oppose this trend (Van ben Dan, 2000). Apart from politics, globalization has both opportunities and risks for farmers and producers in developing countries, but how to get the best out of it? The answer is by investing in the development of the rural human resources to be able to cope with the requirements of globalization (Qamar, 2000). Globalization support competition, innovation and requires creative techniques in all fields if service providers and producers want to keep their clients and to make them increase day after day (Okerly, 2009).

Privatization can be partial or full according to the national administrative system, and it gives a wider margin of contribution to the private sector, while the private sector is highly active in the developed countries, the situation is not the same in the developing countries, especially countries



with centralized systems. Now many funders and donors suggest the privatization of extension services in developing countries based on the fact that the private sector is playing a vital role in selling agricultural inputs to farmers related to farming and non-farming inputs and products, so why not taking part in guiding and helping them in related topics to have mutual benefits based on real partnership (Neuchatel Initiative Group, 2002)(Ozor, Nwankmo, 2009). Cooperation between systems of agricultural extension and research on the one hand and the private sector on the other hand, help providing applicable technology to support the robust farming sector, and contribute and facilitate the achievement of the mid and long-term goals of sustainable agricultural development (Rivera and Alex, 2004). Agricultural extension, public and private, to function well need a continuous flow of applicable innovations from all agencies in the field, within and out of the country. Creation and access of knowledge are still weak in the majority of developing countries (Alex, Byerlee, 2004). Establishment of new techniques and mechanisms will require a long-term obligation from all parties including donors, private sector and governments. This requires a widely shared vision at different levels— starting with international level through national and regional, to finish with community groups and representatives (Alex, Byerlee, 2004). Contractual System represents the partial privatization, where in most cases; private firms and companies do not provide or tend to specialize in providing pure advisory services but combine them with other products. Some specialized profitable private consulting companies (often supported by contracts in collaboration with the public sector) provide commercial services and products as in the UK, but the majority of for-profit advisory services is a part of a variety of input and output marketing chains such as input dealers and export companies. On the other hand, non-governmental organizations have a wider range of organizations which are more and more play a vital role in terms of providing extension services and implementing different development programmes (Sasakawa, 2000)(Neuchatel Initiative Group, 2002). Privatization engages in the transfer of fiscal and funding responsibility for delivery of services to private organizations and agencies. Privatization of agricultural extension service also includes schemes to transfer or shift public extension allocations to private agencies that undertake the delivery of services to the end-users. For instance, the (UK) has fully privatized the public extension service while Germany in some states funds the private extension services (Partial Privatization) (Neuchatel Initiative Group, 2002) (Qamar, 2005). Another valid point is; the private sector is actively engaging in selling farming inputs and agricultural machineries, so why it should not handle or at least take part in the task of giving advice to farmers about agricultural matters in relevant topics to its services. This competitive environment among all kinds of service providers will enhance the quality and lower the costs of services as a mean of attracting more clients, and thus companies will be in need of supplying more suitable and better services to its clients (Qamar, 2005).

Pluralism means the right of all service providers to take part in the delivery of advisory services, including governmental agencies represented by public extension, non-governmental / non-profit organizations and farmers foundations (Alex, Byerlee, 2004)(Qamar, 2005). Agricultural extension policy and extension programs must genuinely recognize and acknowledge the potentials of local leaders in agricultural development and start a partnership with them in the overall efforts to provide innovative and applicable solutions (Ozor and Nwankwo, 2009). Among the basic roles played by the local leaders we have: making decisions related to different issues affecting the farmers that require collective effort, acting as a link between governmental organizations, private sector and the farmers for financial and technical assistance, monitoring and evaluation of projects under implementation, and raising funds through social activities and donation campaigns to finance agricultural development projects in the area (Ozor and Nwankwo, 2009). The involvement of local

groups in the planning of Agricultural extension programs, decision making and problem solving of both types non-agricultural and Agricultural issues requires an appropriate allocation of the available resources for this work (Niamh Dennehy et al., 2000). Promoting the farmers' participation, decentralization of activities and integrating the local groups' views are the most important approaches for agricultural extension in future (Allahyari et al., 2009)(Qamar, 2005). When local leaders are officially joined to agricultural extension programs, they complement the efforts of agricultural extension through reducing economic and social problems, costs, and increasing outputs, productivity, awareness and overall standards of living of rural target groups (Rivera, Alex 2004). Therefore, any agricultural extension management or agricultural organization promoting a development program for the rural community should cooperate and coordinate with those influential local leaders, available farmers' groups, private corporates and other non-governmental organizations in this process, to assure the success of its schemes in a pluralistic environment (Qamar, 2005). Most (NGOs) supply direct services to target groups, while others are more interested in establishing new institutions needed for the success of its programmes so they are known as institution builders. These organizations support service providers through promoting and financing producer organizations, growing markets, and reinforcing the available institutions. Rural producer organizations (RPOs) also have a wide range of goals and objectives, strategies techniques, and capacities. They vary in size from local producer groups to product associations that may be are linked nationally to bigger joined groups that may be by turn linked to international producer associations (Neuchatel Initiative Group, 2002). Rural knowledge and information needs to cover a wide range of areas of interest. Hence, there are benefits from having many types of service providers to deliver demand-led services. Governments in many cases are increasingly encouraging pluralistic extension systems, but globally pluralistic extension suffers from many difficulties. This kind of strategy requires new tools for financing or co-financing public good services and most importantly requires techniques in terms of delivery of training, providing technical support, designing mass media campaigns, monitoring and evaluation to assure of the quality of services provided by different contributors. To apply this strategy, governments are in need of a deeper understanding of the current extension services, while the most important condition to be satisfied is to define the role expected from the emerging agencies legally and legislatively before making any kind of changes (Neuchatel Initiative Group, 2002). Pluralistic systems are defined by the availability of finding new financial resources, limited bureaucracy, while the services are often well managed but sustainability of the emerging service providers is still a hot debate (Kristin Davis and Place, 2003).

Decentralization in definition is a transfer of decision making power and right to the lower levels in a way assures the participation of target people and social society groups of all kinds. Hence decentralization is a must for governments that trying to step further toward privatization and pluralism (Qamar, 2005). Contracting for agricultural extension services by the public sector and other service providers takes many forms and may include deals with public sector service providers, non-governmental organizations (NGOs), universities, extension consulting firms, research centers or rural producer organizations (RPOs). In contracting or contractual systems, generally the agency such as a public funding agency defines and set in details the task required or expected to be provided and then contracts for them, usually on a competitive standards. Services to be contracted are usually identified in conjunction with target groups, with taking into consideration that the programs could to be long-term and more program-oriented. Here, we have many examples of contracts which are administered by national departments as in Mozambique. Reversely, we have contracts of public extension agents, often seeking for subject matter specialists

with special professional experience, provided by a third party as in Uganda and Pakistan (Alex, Beyrlee, 2004). Many developing countries have a bad experience with decentralization, because of lack of qualified human resources, poor legislative background and dated administration methods, but again it does not mean that the concept itself is wrong, but the way of implementation is not correct (Dinar, Keynan, 2001)(Dorman et al, 2003)(Qamar, 2005). Thus, shifting from the current model which focuses on production to a livelihood or market-oriented approach requires policymakers to analyze in depth and carefully the feedback sent from extensionists involved in real field work, to know what really happens in decentralization, participation, and privatization, because an extension system which is meant to serve the wider agenda should be based on a high efficient and accessible system of information, training plans, multi service providers, research, monitoring and evaluation systems (Alex, Beyrlee, 2004) (Neuchatel group, 2004)(Neuchatel Initiative Group. (1999).

Reform is a response of the aforementioned trends and approaches especially globalization, because globalization is strongly linked to privatization, confronts countries with a new and highly competitive open and connected global market (Market-Oriented Extension). Major economic reforming is happening in both types developed and developing countries at different levels and techniques, and has greatly changed and affected the balance and role of responsibility between the public and private sectors (Fresco, 2000). In many cases, trade liberalization and market release puts developing countries at a disadvantage in the global market. Technological solutions, such as precision farming, are rapidly improving agricultural systems. As a result a new agenda and a variety of innovative approaches to extension have arisen and started to be adopted, progressively being shaped and mainstreamed by modern communications and information technologies (ICTs) (Alex, Zijp & Byrlee, 2002)(Rivera, Qamar, Crowder, 2002). The changing socio-economic environment for agricultural extension worldwide has led to a large number and variety of famous reform expertise. Various reforms have been implemented in different ways: promotion of pluralism, a strong linkage between public and private sectors, cost recovery schemes based on contractual provisions, decentralization that empowers lower levels of government, and transferring extension responsibility to farmers and their emerging organizations, and recently to community organizations (Nadhy, Byekwaso & Nielson, 2002)(Rivera, Alex, 2004). Finally, it is crucial to address that, though the public sector intervenes less in delivering front line extension, public funding for extension is still fundamental to provide public goods and services through private sector and (NGOs). Indeed, partnerships usually imply a separation of funding from delivery of extension services, which means public finance/private delivery and vice versa (Rivera, Alex, 2004) (Qamar, 2005).

New information and communication technologies (ICTs) make the whole world like a small village. (ICTs) now give a great power to all kinds of organizations to serve the humanity and to enhance life quality by different applications in all fields. Basically, extension agencies in developing countries suffer from two constraints in its face to face relationships with rural people and researchers as follows: Geographical location, poor logistics and transportation. But the good news is (ICTs) eliminate both of them. The main core of utilizing (ICTs) in extension is to intensify the efficiency of the current services in a way that serve both the extension body and rural community, but not to underestimate the importance of human factor in providing advisory services (Qamar, 2005). Five main trends are totally valid to use (ICTs) in agriculture, particularly for poor and small farmers: (1) low-cost and efficient connectivity, (2) adaptable and more affordable means to satisfy wide range of needs, (3) advances in storing data and exchange of knowledge and



experience, (4) innovative business models and partnerships with all participants in rural services, and (5) the uncontrolled access of information, including the open access movement and social media networks' applications. These drivers are vital in developing countries agriculture, because it has the power to revolutionize extension systems and the public extension services work (World Bank, 2011). New information and communication technologies have the power to greatly push extension systems and the public extension services work. (ICTs) give a robust push to all kinds of communication methods used in extension and make the process of mainstreaming ideas, solutions and technologies much more easier and faster for extensionists, while keep rural people up to date about whatever topic they like. Moreover, the communication among extension workers and researchers is about a button push (World Bank, 2011). (ICTs) complement other extension communication means which are already used, but there is a real need to know how farmers right now access information and to assess the available skills and infrastructure. A proposed program of to explore the use of (ICTs) to revolutionize information transfer and sharing through extension services as follows: (1) developing models allow the assessment of information access and the reached outcomes, (2) identifying good practices and schemes, (3) mainstreaming good practices, (4) emphasize (ICTs) content quality, and (5) provide and create improved information on available platforms taking into consideration the skills of target groups (Alex, Beyrlee, 2004).

Remarkable capacity building of all levels is needed for rural target groups and emerging producer associations to effectively address their needs in addition to be able to make contractual arrangements. Finally, in many developing countries there are just few qualified service providers. In such situation, contractual and competitive techniques may lead to a substitution of public sector monopoly by private sector monopoly, where the quality is not assured nor the coverage of all services, or in bad situations, failure to conduct plans because of lack of interested parties or investors. Success with such reforms requires establishing of sufficient and qualified entities to avoid monopoly and provide target people with other choices when needed (Neuchatel Group, 2004). Finally, these new approaches are really double edged weapons, if the needed requirements are not available. The most important factor to assure success is human resources training for extension officers and target groups, then a healthy legislative environment with the emphasis of sustainability and quality control of the emerging organizations. On the other hand, reform is the key factor of all these new trends and does not mean eliminating the public sector role, but adapting its role to the new changes note that its role is still vital for poor farmers and their families, and to control and monitor the performance of new foundations and organizations (Qamar, 2005)(Rivera, Alex, 2004)(Van Den Ban, 2000).

## METHODOLOGY

This research is explanatory in nature so it is trying to convey the current situation of the Syrian extension body in the light of extension personals' experience.

- Population

Extension staff including officials and field agents in Latakia city, which is divided to four administrative areas Latakia (اللاذقية), Jableh (جبلة), Alhaffeh (الحفة) and Alqerdaha (القرداحة) with total number of (1380) employees, (22) of them are holding administrative positions.

- **Sampling**

A stratified sample (10%) with respect to job description that covers administrative and field officials in the department of agricultural extension in Latakia city, which is divided to four administrative areas as follow:

- Study community = 1380
- Sample size (10%) = 138 including (96 Agricultural Extensionists), (7 veterinarians), (14 Agricultural Monitors) and (21 Veterinarian Assistants).
- Sample size by centers:
  - Latakia center = 53 (covers one support units + 5 extension units + extension department (4 officials out of 22))
  - Jableh center = 36 (covers one support units + 4 extension units)
  - Alhaffeh = 29 (covers one support units + 4 extension units)
  - Alqerdaha = 17 (covers one support units + 3 extension units)

- **Data Collection**

Data is collected during the period of (10 – 30 / 7 / 2015), by means of a survey that consists of four parts as follow:

- The personal information (Gender, Age, Educational Level, Job Description, Specialization, Years of Service in extension, Training on using extension communication methods and tendency to agricultural extension field).
- The level of usage and importance of the different kinds of communication methods (Mass, Group and Individual) and the related difficulties and constraints of using those methods.
- The knowledge and information about new approaches and practices (Global Developments and Challenges and (ICTs) applications in Agriculture).
- An open question about other countries experience in agricultural extension systems, how did you they about that and their opinion about that experience.

- **Data Analysis**

Data analysis based on the data type, which is categorical data, consists of two levels as follow:

- First Level: Non-Parametric Correlation Coefficient.
- Second Level: Non-Parametric Independence Tests.

Table (\*) provides the frequencies of the individual characteristics of the participants as follow:

Individual Characteristics		Frequencies
Gender	Males	59
	Females	79
Academic Major	Agricultural Extension	33
	Other Majors	105
Age Group	18-30	19
	31-45	76
	46-60	43
Educational Levels	Agricultural High School	15
	Agricultural/Veterinary Institution	20

	Agricultural Bachelor Degree	94
	Veterinary Bachelor Degree	7
	Higher Education	2
Job Description	Agricultural Monitor	14
	Agricultural Extensionists	96
	Veterinarian Assistant	21
	Veterinarian	7
Experience (years)	1-10	49
	11-20	59
	21-35	30
Training	Trained	107
	Untrained	31
Intensity	Low	29
	Average	21
	High	26
	Intensive	31
	Untrained	31
Tendency	Low	21
	Average	76
	High	41

Table (\*) - frequencies of the individual characteristics

## First Level: Non-Parametric Correlation Coefficient

The aim of this level is to find out if there is a relationship between the independent and dependent variables and the direction of this relationship.

Q1: What is the communication methods level usage in general?

	Methods	Sample	Mean	Std Deviation	Percentage	Usage Level	Grade
Mass Methods level	7	138	17.59	4.429	%62.8	High	1
Group Methods Level	8	138	15.53	4.620	%48.5	Average	3
Individual Methods Level	4	138	8.20	2.364	%51.25	Average	2

Table (1) – communication methods usage level in general

Based on table (1) we find that the highest percentage of level usage belongs to Mass Methods with (62.5%), (17.59) for Mean and (4.429) for Standard Deviation, to be followed by Individual Methods with (51.25%), (8.2) for Mean and (2.364) for Standard Deviation, and finally we have the Group Methods with (48.5%), (15.53) for Mean and (2.364) for Standard Deviation.

Hence, we can say that the level of usage is average to high whereas the mass methods have a high level of usage while group and individual methods have an average level of usage because it is easier in terms of its availability for both extensionists and target groups and because it demands less participation and efforts in preparing the materials needed to be transferred to target groups so it is more popular among extension officers.

Table (2) shows mean and standard deviation values of all communication methods individually as follows:

Level of Usage	Mean	Std Deviation	Grade
Agricultural Exhibition	3.24	0.963	1
Agricultural Short Movies	3.21	0.883	2
TV Programs	3.19	0.940	3
Farmers Field Schools	2.52	0.898	4
Interviews (Home, Office, Field)	2.46	0.952	5
Agricultural Museum	2.36	0.862	6
Real Materials (Individual Methods)	2.20	1.871	7
Production Contests	2.25	0.919	8
Real Materials (group Methods)	2.17	0.876	9
Articles and Brochures	2.17	0.851	9
Calls	2.00	0.863	10
Field Experiments	1.98	0.730	11
Posters	1.95	0.804	12
Presentations	1.90	0.882	13
Farmer Groups	1.86	0.717	14
Agricultural Theatre	1.54	0.765	15
Workshops and Symposiums	1.50	0.665	16
Blackboard	1.48	0.812	17
Post and Email	1.35	0.600	18

Table (2) – Mean and standard deviation of level of usage of all communication methods

This table contains (19) methods (7-8-4) for mass, group and individual methods respectively and based on table (2) we find that:

The top three methods all are mass methods which means all are less oriented methods in terms of advisory services and the direct field help with taking into consideration their importance in communication process providing that using in the right place at the right time. We have to say that the target group preference possibly influence the tendency toward those methods especially that it is not available all the time or in all places like the agricultural theater and the agricultural museum and this limitation of accessibility makes them more attractive to the target people.

For individual methods they hold advanced places with ranking of (5-7-10) note that they cover just four methods and that indicates that the personal relationship between the extensionist and the target

person plays a crucial role in the communication methods. Furthermore, the individual methods usually are more comfortable and available for both extension officers and the target groups so it has a strong privilege in terms of popularity because of easy access.

What is really shocking in the results shown in table (2) is that the group methods though it is very important in solving the real problems, field problems, and its vital role in technology transfer and getting effective feedback based on the real needs of target groups and their community they are the least used. Maybe, this is because lack or inefficient training because it requires real communication skills or because of poor logistics and infrastructure. Regardless the real reason beyond that, which will be discussed in constraints session later, this weakness make the whole advisory services less attracting and useful to target groups and less efficient to advisory services providers.

Finally, usage level of any method does not only connected to its importance and the skills of extensionists but also influenced by other factors such is its availability like (Post and Email) or not being usable outdoors or in field tasks such as (Presentations) or because of target groups preference such as movies, possibly because it is easier to receive information than interacting or getting involved as the group methods require.

Q2: What is the communication methods importance in general?

	Methods	Sample	Mean	Std Deviation	Percentage	Usage Importance	Grade
Mass Methods Importance	7	138	12.57	2.981	%59.9	Average	1
Group Methods Importance	8	138	11.80	2.514	%49.2	Average	3
Individual Methods Importance	4	138	6.86	1.543	%57.2	Average	2

Table (3) – communication methods importance in general

Based on table (2) we find that the highest percentage of level usage belongs to Mass Methods with (59.9%), (12.57) for Mean and (2.891) for Standard Deviation, to be followed by Individual Methods with (57.2%), (11.8) for Mean and (2.514) for Standard Deviation, and finally we have the Group Methods with (49.2%), (6.86) for Mean and (1.452) for Standard Deviation.

Hence, we can say that all methods types have an average importance based on real field experience note that they are serving different goals in communication process so the one million question is why?

This belongs to lack of awareness of the goal of each type and this is possibly because of lack of training and a weak academic background.



Table (4) shows mean and standard deviation values of all communication methods individually as follows:

Importance	Mean	Std Deviation	Grade
Calls	2.38	0.665	1
Articles and Brochures	2.19	0.769	2
Agricultural Short Movies	2.14	0.747	3
Agricultural Exhibition	1.99	0.678	4
Presentations	1.75	0.524	5
Workshops and Symposiums	1.72	0.589	6
Interviews (Home, Office, Field)	1.70	0.635	7
Post and Email	1.67	0.556	8
Farmer Groups	1.66	0.505	9
Posters	1.64	0.577	9
Agricultural Theater	1.64	0.512	10
TV Programs	1.58	0.602	11
Blackboard	1.46	0.581	12
Field Experiments	1.43	0.511	13
Real Materials (Individual Methods)	1.31	0.495	14
Production Contests	1.24	0.428	15
Agricultural Theater	1.29	0.471	15
Farmers Field Schools	1.28	0.448	16
Real Materials (Group Methods)	1.16	0.367	17

Table (4) – Mean and standard deviation of importance of all communication methods

This table contains (19) methods (7-8-4) for mass, group and individual methods respectively and based on table (4) we find that:

The top three ranks belong to different kinds which mean the field experience of level of usage does not match the personal opinion of importance and this support what we mentioned before about the level of usage is not connected to the importance of the method itself but for other reasons such as availability.

Again the least importance methods are the group methods which mean there is a serious problem about how the extension officers conceive the role and function of those methods with taking into consideration other factors like availability and the preference of target people.

It is very important to draw your attention about the core of this study which is about reflecting the real field experience of advisory services staff with keeping in mind the importance of studying the target groups' involvement in the communication process but it is out of the scope of this study.

Q3: Is there any correlation between the level of usage of communication methods in general and the individual characteristics of participants in terms of (Gender, Age, Educational level, Academic Major, Job description, Experience, Training, Intensity of Training and Tendency toward Extension)?

To answer this question we calculate (Spearman's Correlation Coefficient) as in Table (5)

	Level of Usage		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.007	0.938	Insignificant
Age	0.052	0.545	Insignificant
Edu. Level	0.019	0.821	Insignificant
Job Description	-0.081	0.348	Insignificant
Academic Major	0.128	0.136	Insignificant
Experience	-0.111	0.193	Insignificant
Training	0.04	0.617	Insignificant
Intensity	-0.031	0.718	Insignificant
Tendency	<b>**0.268-</b>	<b>0.001</b>	<b>Significant</b>

Table (5) – correlation between the level of usage of communication methods in general and the individual characteristics

Based on Table (5) we find that there is no significant correlation between level of usage in general and the individual characteristics because the significance values are bigger than the equivalent value at (0.01) confidence interval except having a weak negative correlation between the level of usage and the tendency toward extension at (0.01) confidence interval.

In conclusion, there is only a weak negative inverse relationship between the level of usage generally and the tendency toward extension. This indicates that the more tendency the extension worker has the less he relies on different communication methods he is able to use and this affects negatively the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. In other words, more tendency means more dependence on experience and verbal communication.

Q4: Is there any correlation between the importance of communication methods in general and the individual characteristics of participants in terms of (Gender, Age, Educational level, Academic Major, Job description, Experience, Training, Intensity of Training and Tendency toward Extension)?

To answer this question we calculate (Spearman's Correlation Coefficient) as in Table (6)

	Importance		
	Correlation Coefficient	Value of Sig	Significance
Gender	0.013	0.884	Insignificant
Age	-0.042	0.628	Insignificant
Edu. Level	<b>** -0.255</b>	<b>0.003</b>	<b>Significant</b>
Job Description	-0.031	0.718	Insignificant
Academic Major	0.035	0.685	Insignificant
Experience	-0.037	0.664	Insignificant
Training	-0.44	0.607	Insignificant
Intensity	0.065	0.450	Insignificant
Tendency	-0.145	0.089	Insignificant

Table (6) – correlation between the importance of communication methods in general and the individual characteristics

Based on Table (6) we find that there is no significant correlation between importance in general and the individual characteristics because the significance values are bigger than the equivalent value at (0.01) confidence interval except having a weak negative correlation between the importance and the educational level at (0.01) confidence interval.

In conclusion, there is only a weak negative inverse relationship between the importance generally and the educational level. This indicates that the higher educational level the extension worker has the less he relies on different communication methods he is able to use and this affects negatively the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. In other words, higher educational level needs more modern tools and methods.

Q5: Is there any correlation between the usage level of each communication method under its category and the individual characteristics of participants in terms of (Gender, Age, Educational level, Academic Major, Job description, Experience, Training, Intensity of Training and Tendency toward Extension)?

To answer this question we calculate (Spearman's Correlation Coefficient) as in Tables (7-8-9)

	Mass Methods Level Usage Individually		
	Correlation Coefficient	Value of Sig	Significance
Gender	0.084	0.329	Insignificant
Age	*-0.215	0.012	Significant
Edu. Level	-0.087	0.308	Insignificant
Job Description	0.046	0.593	Insignificant
Academic Major	0.101	0.241	Insignificant
Experience	** -0.248	0.003	Significant
Training	-0.031	0.708	Insignificant
Intensity	0.043	0.518	Insignificant
Tendency	** -0.246	0.004	Significant

Table (7) – correlation between the usage level of mass communication methods individually and the individual characteristics

Based on Table (7) we find that there is no significant correlation between level of usage individually of mass methods and the individual characteristics because the significance values are bigger than the equivalent value at (0.01) and (0.05) confidence interval except having a weak negative correlation between the level of usage and the age at (0.05) confidence interval and with experience and tendency toward extension at (0.01) confidence interval.

In conclusion, there are weak negative inverse relationships among the level of usage of mass methods individually and the age, experience and tendency toward extension. This indicates that the more the extension worker has of these factors the less he relies on different communication methods he is able to use and this affects negatively the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. In other words, experience is the key factor in providing services more than the available methods.

	Group Methods Level Usage Individually		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.067	0.432	Insignificant
Age	0.074	0.387	Insignificant
Edu. Level	-0.090	0.294	Insignificant
Job Description	-0.129	0.133	Insignificant
Academic Major	0.065	0.452	Insignificant
Experience	0.077	0.372	Insignificant
Training	<b>**0.254</b>	<b>0.003</b>	<b>Significant</b>
Intensity	<b>*0.021</b>	<b>0.019</b>	<b>Significant</b>
Tendency	-0.144	0.091	Insignificant

Table (8) – correlation between the usage level of group communication methods individually and the individual characteristics

Based on Table (8) we find that there is no significant correlation between level of usage individually of group methods and the individual characteristics because the significance values are bigger than the equivalent value at (0.01) and (0.05) confidence interval except having a weak negative correlation between the level of usage and the training at (0.01) confidence interval and a weak positive correlation with intensity of training at (0.01) confidence interval.

In conclusion, there is a weak negative correlation between the level of usage of group methods and the training and a weak positive correlation with its intensity. Therefore, it is a clear sign that the respondents do not understand the role of those methods in effective communication process and they need more training qualitatively and quantitatively.

	Individual Methods Level Usage Individually		
	Correlation Coefficient	Value of Sig	Significance
Gender	0.074	0.391	Insignificant
Age	<b>*-0.194</b>	<b>0.022</b>	<b>Significant</b>
Edu. Level	-0.153	0.073	Insignificant
Job Description	-0.084	0.328	Insignificant
Academic Major	0.137	0.109	Insignificant
Experience	<b>*-0.187</b>	<b>0.028</b>	<b>Significant</b>
Training	-0.143	0.094	Insignificant
Intensity	0.026	0.765	Insignificant
Tendency	<b>** -0.246</b>	<b>0.004</b>	<b>Significant</b>

Table (9) – correlation between the usage level of individual communication methods individually and the individual characteristics

Based on Table (9) we find that there is no significant correlation between level of usage individually of individual methods and the individual characteristics because the significance values are bigger than the equivalent value at (0.01) and (0.05) confidence interval except having a weak negative correlation between the level of usage and the age and the experience at (0.05) confidence interval and the tendency toward extension at (0.01) confidence interval.

In conclusion, there are weak negative inverse relationships among the level of usage of individual methods individually and the age, experience and tendency toward extension. This indicates that the more the extension worker has of these factors the less he relies on different communication methods he is able to use and this affects negatively the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. In other words, experience is the key factor in providing services more than the available methods.

Q6: Is there any correlation between the importance of each communication method under its category and the individual characteristics of participants in terms of (Gender, Age, Educational level, Academic Major, Job Description, Experience, Training, Intensity of Training and Tendency toward Extension)?

To answer this question we calculate (Spearman's Correlation Coefficient) as in Tables (10-11-12)

	Importance of Mass Communication methods Individually		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.060	0.482	Insignificant
Age	<b>** -0.279</b>	<b>0.001</b>	<b>Significant</b>
Edu. Level	-0.071	0.411	Insignificant
Job Description	<b>** 0.243</b>	<b>0.004</b>	<b>Significant</b>
Academic Major	<b>* 0.211</b>	<b>0.013</b>	<b>Significant</b>
Experience	<b>** -0.265</b>	<b>0.002</b>	<b>Significant</b>
Training	0.053	0.535	Insignificant
Intensity	-0.044	0.607	Insignificant
Tendency	<b>* -0.189</b>	<b>0.027</b>	<b>Significant</b>

Table (10) – correlation between the importance of mass communication methods individually and the individual characteristics

Based on Table (10) we find that there is no significant correlation between importance individually of mass methods and the gender and educational level because the significance values are bigger than the equivalent value at (0.01) and (0.05) confidence interval while we have a weak negative correlation for age and the experience, and a weak positive correlation for job description at (0.01) confidence interval. Finally, we have a weak negative correlation between the importance and the tendency toward extension and a weak positive correlation for academic major at (0.05) confidence interval.

In conclusion, there are weak negative inverse relationships among the importance of mass methods individually and the age, experience and tendency toward extension. This indicates that the more the extension worker has of these factors the less he relies on different communication methods he is able to use and this affects negatively the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. In other words, experience is the key factor in providing services more than the available methods.



On the other hand, there are weak positive direct relationships among importance of mass methods individually and the job description and academic major. This indicates that the more the extension worker has of these factors the more he relies on different communication methods he is able to use and this supports the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. Hence, the academic background and systematic knowledge are both keys factors in applying and delivering useful extension content.

	Importance of group Communication methods Individually		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.035	0.685	Insignificant
Age	-0.063	0.465	Insignificant
Edu. Level	-0.038	0.662	Insignificant
Job Description	-0.110	0.198	Insignificant
Academic Major	0.076	0.378	Insignificant
Experience	-0.065	0.450	Insignificant
Training	0.167	0.055	Insignificant
Intensity	0.137	0.110	Insignificant
Tendency	-0.026	0.759	Insignificant

Table (11) – correlation between the importance of group communication methods individually and the individual characteristics

Based on Table (11) we find that there is no significant correlation between the importance individually of group methods and the individual characteristics because the significance values are bigger than the equivalent value at (0.01) and (0.05) confidence interval.

In conclusion, there is no correlation between the importance of group methods and any of the personal characteristics of participants. Therefore, it is a clear sign that the respondents do not understand the role of those methods in effective communication process.

	Importance of individual Communication methods Individually		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.020	0.817	Insignificant
Age	<b>** -0.229</b>	<b>0.007</b>	<b>Significant</b>
Edu. Level	-0.121	0.156	Insignificant
Job Description	-0.014	0.874	Insignificant
Academic Major	<b>* 0.190</b>	<b>0.026</b>	<b>Significant</b>
Experience	<b>** -0.227</b>	<b>0.007</b>	<b>Significant</b>
Training	<b>* 0.177</b>	<b>0.037</b>	<b>Significant</b>
Intensity	0.065	0.450	Insignificant
Tendency	<b>* -0.199</b>	<b>0.019</b>	<b>Significant</b>

Table (12) – correlation between the importance of individual communication methods individually and the individual characteristics

Based on Table (12) we find that there is no significant correlation between the importance individually of individual methods and the individual characteristics because the significance values are bigger than the equivalent value at (0.01) and (0.05) confidence interval except having a weak

negative correlation between the importance and the age and the experience at (0.01) confidence interval while we have a weak positive correlation between the importance and academic major, while we have a weak positive correlation for the training and a weak negative correlation for the tendency toward extension at (0.05) confidence interval.

In conclusion, there are weak negative inverse relationships among the importance of mass methods individually and the age, experience and tendency toward extension. This indicates that the more the extension worker has of these factors the less he relies on different communication methods he is able to use and this affects negatively the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. In other words, experience is the key factor in providing services more than the available methods.

On the other hand, there is a weak positive direct relationships between importance of individual methods individually and both the academic major and training. This indicates that the specialized and trained extension worker relies more on different communication methods he is able to use and this supports the communication process itself because the methods are designed to support the purpose of the delivered message which means they are vital not minor in achieving an effective communication task. Hence, the academic background and systematic knowledge are both keys factors in applying and delivering useful extension content.

Q7: What kind of constraints that face the extension officers?

To answer this question I have divided the constraints to economic (5), social and psychological (5) and Administrative (3) then I calculated the frequencies of each problem and the equivalent percentages. I used the Letter (E), (S) and (A) for economic, social and administrative respectively to indicate the problem type as follows in table (13):

Problem	Frequencies	Percentage	Grade
Lack of training – S	50	%12.1	1
Participants' lack of trust – S	50	%12.1	1
Lack of support provided to extension specialists financially and professionally-S	47	%11.4	2
Low income compared to other agricultural specialists – E	40	%9.7	3
Using outdated methods – E	38	%9.2	4
Poor logistics – E	34	%8.3	5
Extension officers' own thoughts about extension process effectiveness – S	32	%7.7	6
Lack of maintenance and weak logistics -E	26	%6.3	7
Lack of funding dedicated to extension research – A	24	%5.8	8
Lack of coordination among different players involved in extension field – A	23	%5.6	9
Poor infrastructure – E	19	%4.6	10
Poor administrative participation of extensionists as policy makers – A	18	%4.3	11
Difficulties belong to participants' preference of communication methods – S	13	%3.1	12

Table (13) - constraints that face the extension officers

Here, we have to clarify two points; the first is the type of constraints is set based on its influence on participants otherwise all constraints are administrative in first grade then economic at second level while the outcome of those types is social and psychological, while the second point is though we used the results of these constraints to set the type still the type of some problems overlaps with other types based on the personal perspective of these issues.

Based on table (13) generally, we find a domination of social and economic constraints within the top six constraints (1, 2, 6) for social and (3, 4, 5) for economic while the first rank for administrative problems is (8) and to prevail in the bottom of the list with ranking of (9) and (11).

Rank (1) was duplicated with a frequency of (50) for both (Lack of training 'Participants' lack of trust) and rank (2) with a frequency of (47) for Lack of support provided to extension specialists financially and professionally) which is a social and economic problem at the same time and finally rank (6) with a frequency of (32) for (Extension officers' own thoughts about extension process effectiveness) respectively for social problems.

For economic constraints, rank (3) with a frequency of (40) for (Low income compared to other agricultural specialists) and rank (4) with a frequency of (38) for (Using outdated methods) and rank (5) with a frequency of (34) for (Poor logistics) respectively for economic ones.

The most crucial problem the participants face administratively is (Lack of funding dedicated to extension research) with rank (8) and frequency of (24) note that it is an administrative and economic constraint at the same time.

Problem Type of	Frequencies	Percentage	Grade
Social	192	%46.4	1
Economic	157	%37.9	2
Administrative	65	%15.7	3

Table (14) - constraints in frequencies and percentages

Based on table (14) we find that participants issued that the major constraints they have in general are social with a frequency of (192) then economic ones with a frequency of (157) and finally the administrative ones with a frequency of (65).

Hence, we can say that the majority of agricultural extension officials are not satisfied in terms of job satisfaction socially in first grade and about the income they get at second grade while administratively there is no major complaints but with a close look to the data and numbers we have in tables (13) – (14) we conclude that:

1. Extension staff is not qualified in terms of training and they have a very low job satisfaction (Lack of training).
2. Target groups and any other party qualified to take advantage of advisory services have a trust issue belong to the service quality and reliability. Some could claim this is because of using wrong methods to fulfill the target groups' needs and desires (Participants' lack of trust).
3. Extensionists consciously or subconsciously are not satisfied about the outcomes of their career socially, economically and professionally and this by turn influences their self-esteem (Lack of support provided to extension specialists financially and professionally / Low income compared to other agricultural specialists).

4. Regardless the training of extension workers the work environment conditions do not support providing high quality services with desirable outcomes because of lack of new tools, convenient logistics and a good maintenance of the available tools and gadgets (Using outdated methods / Poor logistics / Lack of maintenance / Poor infrastructure).

5. Having no job satisfaction with low income compared to other specialists and with no supportive work conditions will cause a very bad self-image and lead the extensionists to lose their trust and underestimate their job and its outcomes because of having a very low self-esteem and negative emotions about their career. Hence, being an extension officer you are subordinate to others (Lack of support provided to extension specialists financially and professionally / Extension officers' own thoughts about extension process effectiveness).

6. The main core of extension body is to provide a healthy and strong linkage among the real needs of rural community and the research and decision making centers but with having the aforementioned problems combined with lack of funding to improve current services or to make researches related to the field itself and how it can be improved leads to inefficiency and to have a misleading feedback which affect directly any schemes to improve and support the extension body (Lack of funding dedicated to extension research / Lack of coordination among different players involved in extension field / Poor administrative participation of extensionists as policy makers).

(Figure No.1) shows a proposed model for effective extension system:

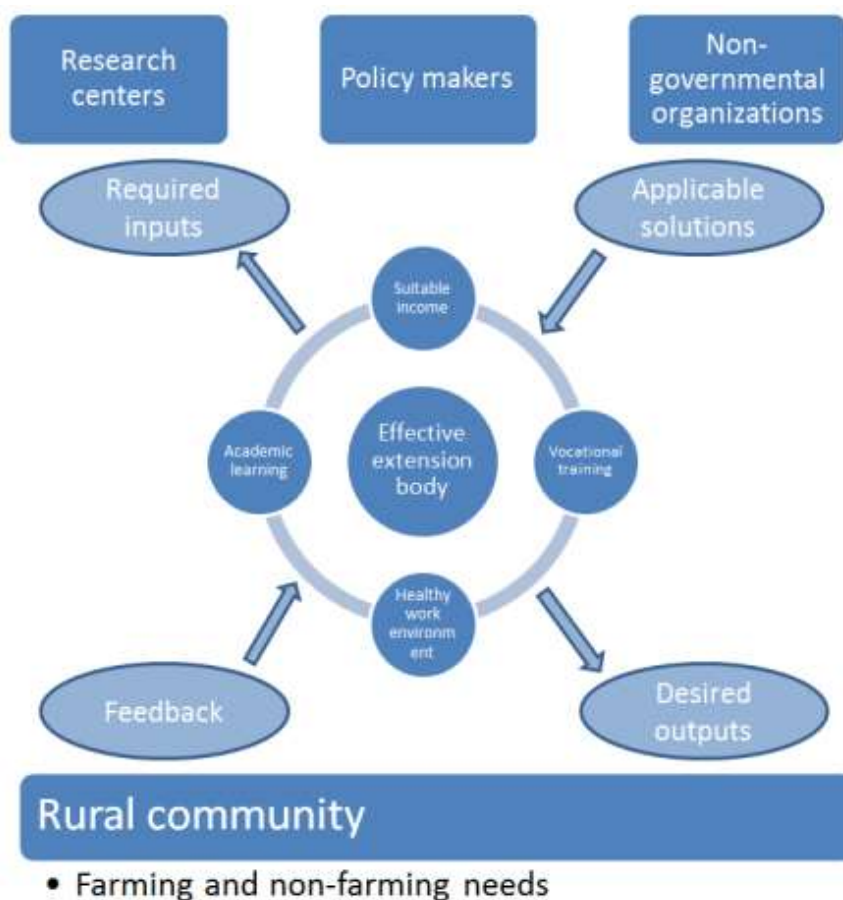


Figure No.1 - a proposed model for effective extension system:

- According to figure (1) we find that the extension body is the place where the rural community oriented feedback, that covers needs and desires, is processed before being transferred as inputs which reflect the real situation to research centers, decision making centers and non-governmental and non-profit organizations involved. As a result, those centers now have the required inputs to set and provide applicable solutions including policies, technologies and outcomes needed by the rural community to improve the general life quality in all aspects.
- Again those solutions, policies and technologies need to be processed by the extension body within its different levels before being implemented and deployed as desired outputs by both the extension staff and rural people.
- To ensure that the feedback is reliable and the outputs will fulfill the needs and desires of the society, we have to make sure that the linkage demands, which is represented by the extension body, of this two-way process are fully fulfilled by providing a qualitative academic education, followed by topic oriented vocational training and supported by a rewarding income and healthy work conditions in terms of equipment, logistics and infrastructure that matches the field nature of extension work.

Finally, by making a comparison among the complaints and constraints the sample members have shown and the data analysis results we have on the first side, and the requirements shown in this figure No.1 on the other side, we find out that the advisory system in Syria urgently requires a structural changes in all levels belong to extension system in terms of institutional and functional aspects. In other words, the current Syrian advisory services system is in need of a transformation in quality and quantity. The key factor to achieve this goal and the related objectives is investment in human resources development at all levels and linking training to needs is a vital part of this development process.

Q8: Which kind of Attitude do the extensionists have toward the new trends in agricultural extension in general?

To answer this question I calculated the frequencies and percentages in general in table (15)

New Trends	Proponent		Opponent	
	Frequencies	Percentage	Frequencies	Percentage
Globalization	116	%84,1	22	%15,9
Privatization	95	%68,8	43	%31,2
Pluralism	112	%81,2	26	%18,8
Decentralization	117	%84,8	21	%15,2
Extension System Reform	115	%83,3	23	%16,7
ICTs	126	%91,3	12	%8,7

Table (15) – new trends in frequencies and percentages

Based on table (15) we find that the highest tendency is toward the (ICTs) with (91.3%) which emphasize its importance in our life socially and professionally while the least acceptance is about privatization with (68.8%) which is still high but reflects a misunderstanding of private sector role in national development especially that the Syrian economy is governmentally controlled and the public sector is the major provider of all services. On the other hand, the private sector is highly



active in both commerce and industry while its contribution in agriculture is relatively weak and sometimes unnoticed.

For other trends they are all accepted with a high recommendation over (80%) in general so we can say the participants are aware of and desire those changes to take place in reality.

Q9: What reasons beyond those attitudes about new trends in the field?

In this study respondents have been asked to choose two options out of four in terms of support or refusal and later the reader will have a better understanding about those options with enough explanation about the top two views of both sides.

#### 1. Globalization:

Advantages	Frequencies	Percentage	Grade
Support competition	74	%29.3	1
Requires behavioural changes	68	%27.6	2
Improve technology	58	%25	3
Knowledge exchange	42	%18.1	4
Disadvantages	Frequencies	Percentage	Grade
Unfair competition between rich and poor countries	14	%31.8	1
Rich countries become richer and poor ones poorer	12	%27.2	2
The requirements needed are not available	9	%20.5	3
Knowledge monopoly	9	%20.5	3

Table (16) – globalization advantages and disadvantages

Based on table (15) globalization in general gets (84.1%) of acceptance and this is very high level with rank of (3/6) in contrast to (15.9%) of refusal. Based on table (16) the respondents show that the main two reasons of supporting globalization are (Support Competition) and (Requires Behavioral Changes) respectively. On the other hand, the main two factors of opposing globalization are (Unfair Competition between Rich and Poor Countries) and (Rich Countries Become Richer and Poor Countries Poorer) respectively.

As a result, we can say that the respondents are aware of the benefits globalization brings but at the same time some show concerns about the social and economic effects of globalization in unfair world.

## 2. Privatization:

Advantages (Full Privatization)	Frequencies	Percentage	Grade
Extension services should be paid	23	%42.6	1
Private sector is more flexible	20	%37	2
Private sector is more efficient	6	%11.1	3
Public sector failed in this task	5	%9.3	4
Advantages (Partial Privatization)	Frequencies	Percentage	Grade
Cooperation between both sectors is needed (Contractual System)	48	%35.3	1
Public sector support should be kept to help small and poor farmers	38	%27.9	2
Public sector has institutional and financial roles	28	%20.6	3
Public sector's role is irreplaceable but modifiable	22	%16.2	4
Disadvantages	Frequencies	Percentage	Grade
Private sector cares only about returns	30	%34.9	1
Small and poor farmers will be banned from getting advisory services	30	%34.9	1
Private sector does not care about social responsibility toward the whole rural community so its services will focus on services with good returns only	14	%16.2	2
Lack of corporates that have interests in investing in agriculture especially in extension	12	%14	3

Table (17) – privatization advantages and disadvantages

Based on table (15) privatization in general gets (68.8%) of acceptance and this is the lowest percentage in comparison to other trends, in contrast it gets (32.2%) of refusal. Having two kinds of privatization and based on table (17) the respondents show that the main two reasons of supporting full privatization are (Extension Services Should be Paid) and (Private Sector in more Flexible) respectively. On the other hand, the main two factors of choosing partial globalization are (Cooperation between two sectors is needed {Contractual system}) and (Public Sector Support Should be Kept to Help Small and Poor Farmers) respectively. In terms of opposing privatization the main two factors are (Private Sector Cares only about Returns / Small and poor farmers will be banned from getting advisory services) and (Small and Poor Farmers Will be Banned from Getting Advisory Services) respectively.

As a result, we can say that the respondents are aware of the advantages privatization brings but at the same time some show real concerns about the role of private sector in development with emphasis of the important role of public sector especially that in Syria almost all services are controlled and provided by the government especially in agriculture because it plays a crucial role in the national security in general and in food security in especial terms so the advisory services are all for free note that some previous services or some support has stopped during the last ten years

note that those services cover production inputs support that used to be distributed by extension body through the extension units with providing technical support in need.

### 3. Pluralism:

Advantages	Frequencies	Percentage	Grade
Different resources mean better services and cheaper costs	81	%36.2	1
Non-governmental and non-profit organizations are more efficient than governmental ones because of lack of centralization	56	%25	2
Non-governmental and non-profit organizations are more caring about social responsibility than private ones	44	%19.6	3
Beneficiaries will be able to show and reflect their needs and goals through farmers organizations	43	%19.2	4
Disadvantages	Frequencies	Percentage	Grade
Sustainability of services provided by Non-governmental and non-profit organizations is not long lasting	17	%32.6	1
Beneficiaries can be distracted because of having different resources with different goals	16	%30.7	2
Possibility of conflicts among different organizations because of having different goals	11	%21.4	3
Farmers organizations itself need support which can be invested in improving current extension services	8	%15.3	4

Table (18) – pluralism advantages and disadvantages

Based on table (15) pluralism in general gets (81.2%) of acceptance and this is very high level with rank of (5/6) in contrast to (18.8%) of refusal. Based on table (18) the respondents show that the main two reasons of supporting pluralism are (Different resources mean better services and cheaper costs) and (Non-governmental and non-profit organizations are more efficient than governmental ones because of lack of centralization) respectively. On the other hand, the main two factors of opposing pluralism are (Sustainability of services provided by Non-governmental and non-profit organizations is not long lasting) and (Beneficiaries can be distracted because of having different resources with different goals) respectively.

As a result, we can say that the respondents are aware of the core of pluralism but at the same time some have worries about sustainability of services possibly because in previous projects with international funders most of the services were stopped by the end of the project. Furthermore, the target groups are used to receive help and guidance from one provider which is the governmental

extension body without having any other option especially if we know that just few companies are really investing in agriculture not commercially but in terms of improving the general sector and giving rural people a chance to have a better life. Therefore, respondents fear that many service providers could confuse beneficiaries more than helping them.

#### 4. Decentralization:

Advantages	Frequencies	Percentage	Grade
Decentralization makes decision making more interactive and effective	78	%33.3	1
Decentralization supports monitoring and evaluation	68	%29.1	2
Beneficiaries should participate in decision making process	59	%25.2	3
Civil community groups can convey the needs and desires to decision making centers	29	%12.4	4
Disadvantages	Frequencies	Percentage	Grade
Requirements needed are not available	12	%28.6	1
Sustainability issue of civil community group and organizations	11	%26.2	2
Centralization is better in terms of sustainability and institutional structure	11	%26.2	2
Results need a long time to take place	8	%19	3

Table (19) – decentralization advantages and disadvantages

Based on table (15) decentralization in general gets (84.8%) of acceptance and this is very high level with rank of (2/6) in contrast to (15.2%) of refusal. Based on table (19) the respondents show that the main two reasons of supporting decentralization are (Decentralization makes decision making more interactive and effective) and (Decentralization supports monitoring and evaluation) respectively. On the other hand, the main two factors of opposing decentralization are (Requirements needed are not available) and (Sustainability issue of civil community group and organizations \ Centralization is better in terms of sustainability and institutional structure) respectively.

As a result, the respondents are really in favor of decentralization after trying centralization for over (40) years and their main complaints are about requirements needed and the sustainability issue of the emerging bodies especially in terms of financial and institutional resources. In other words, respondents are in need of more flexible system and a new way of administration.

## 5. Extension system reform:

Advantages	Frequencies	Percentage	Grade
Reform is a must after using same techniques for such a long time	79	%34.3	1
Giving chance to other service providers to participate in this field (contractual system))(	55	%23.8	2
New situations require new rules and new system (Privatization and Pluralism)	50	%21.7	3
Reforming will modify the role of public extension system but not eliminate it	46	%20	4
Disadvantages	Frequencies	Percentage	Grade
Other extension bodies can participate in providing services without decentralization or privatization by improving the legislative aspect and updating the current laws	15	%32.6	1
Extension services should be free and available for all	11	%24	2
Reforming the current system should be transitional and takes the needs of beneficiaries as a top priority but this point is not assured	10	%21.7	3
Reforming needs different conditions socially and economically	10	%21.7	3

Table (20) – Reform advantages and disadvantages

Based on table (20) reform in general gets (83.3%) of acceptance and this is very high level with rank of (4/6) in contrast to (16.7%) of refusal. Based on table (20) the respondents show that the main two reasons of supporting reform are (Reform is a must after using same techniques for such a long time) and (Giving chance to other service providers to participate in this field {contractual system}) respectively. On the other hand, the main two factors of opposing reform are (Other extension bodies can participate in providing services without decentralization or privatization by improving the legislative aspect and updating the current laws) and (Extension services should be free and available for all) respectively.

As a result, the respondents put decentralization in second place and reform in fourth place among the new trends while it is clear to everybody the connection, a strong one between both aspects we can see that there is a strong desire to have a structural changes in the current system in terms of flexibility, transparency and modernized ways of governing. Here, we have to acknowledge that the Syrian administrative system was over centralized before 1990 to be less centralized during the coming decade till 2000. After 2000 the entire system became more open and flexible after applying a package of refinements and adjustments in different areas politically and economically. Back to the point we can feel the desire of having real changes with addressing their fears about making structural changes without having assured results on the one hand. On the other hand, we can see that whenever something affects the conceived role of public sector many questions will be raised which means participants really desire improving the current system but without influencing the



benefits they already have and the services used to get which make this issue is controversial one when it comes to apply in reality.

#### 6. Information and Communication Technology (ICTs):

Advantages	Frequencies	Percentage	Grade
Connect people easily	57	%22.6	1
Access to all kind of information is almost for free in most cases	51	%20.3	2
Overcome borders and obstacles (provide easy access to far and remote areas)	48	%19	3
Less costs by providing a virtual environment before applying any plan in reality	44	%17.5	4
An effective tool for self-improvement and self-study	35	%13.9	5
Exchange knowledge and experience with people beyond borders for researchers, extensions and beneficiaries	17	%6.7	6
Disadvantages	Frequencies	Percentage	Grade
Beneficiaries are not qualified to get benefit of its applications in wide range	8	%33.3	1
Free and uncontrolled information resources can be misleading	8	%33.3	1
Required infrastructure are very expensive	7	%29.2	2
Environmental effects and environmental pollution caused by infrastructure and equipment needed	1	%4.2	3

Table (21) – ICTs advantages and disadvantages

Based on table (15) (ICTs) in general gets (91.3%) of acceptance and this is the highest level in contrast to (8.7%) of refusal. Based on table (21) the respondents show that the main two reasons of supporting (ICTSS) are (Connect people easily) and (Access to all kind of information is almost for free in most cases) respectively. On the other hand, the main two factors of opposing (ICTs) are (Beneficiaries are not qualified to get benefit of its applications in wide range / Free and uncontrolled information resources can be misleading) and (Required infrastructure are very) respectively.

As a result, the respondents put this trend in the top among the new trends which reflects the huge effect of those modern technologies on our life socially and professionally whereas there is a consensus about making communication process a way easier and providing infinite source of information but always there are some fears that should be taken into consideration such as how others will use those technologies and if they are qualified or not to do that. A more crucial concern about the credibility and quality of free information available and all of these fears are valid.

Q10: Is there any correlation between the new trends and the individual characteristics of participants in terms of (Gender, Age, Educational Level and Tendency toward Extension)?

In this question the chosen individual characteristics represent the individual factors that affect the way a person interacts with his surrounding environment at home and work place and as a person under the influence of the national policy. In other words, those characteristics affect the one's attitude toward different stimuli in different fields.

To answer this question we calculate (Spearman's Correlation Coefficient) as in Table (22-23-24-25-26-27)

#### 1. Globalization

	Globalization		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.144	0.092	Insignificant
Age	-0.097	0.256	Insignificant
Educational Level	0.044	0.606	Insignificant
Tendency	<b>*-0.207</b>	<b>0.01</b>	<b>Significant</b>

Table (22) – correlation between the globalization and the individual characteristics

Based on Table (22) we find that there is no significant correlation between the globalization and the individual characteristics because the significance values are bigger than the equivalent value at (0.05) confidence interval except having a weak negative correlation between the globalization and the tendency at (0.05) confidence interval.

In conclusion, there is only a weak negative inverse relationship between globalization and the tendency toward extension. This result is reasonable because extension services usually conceived as free services and an informal education while globalization is usually understood as a privatization process and more useful to rich than poor people, so having a high tendency toward extension means you are less enthusiastic toward globalization.

#### 2. Privatization:

	Privatization		
	Correlation Coefficient	Value of Sig	Significance
Gender	<b>*-0.178</b>	<b>0.037</b>	<b>Significant</b>
Age	0.112	0.191	Insignificant
Educational Level	0.150	0.80	Insignificant
Tendency	-0.004	0.963	Insignificant

Table (23) – correlation between the Privatization and the individual characteristics Table (23) – correlation between the Privatization and the individual characteristics

Based on Table (23) we find that there is no significant correlation between the privatization and the individual characteristics because the significance values are bigger than the equivalent value at (0.05) confidence interval except having a weak negative correlation between the privatization and gender at (0.05) confidence interval.

In conclusion, there is only a weak negative inverse relationship between privatization and the gender. This result is reasonable because studies show that females have more tendencies toward new ideas than males.

## 3. Pluralism:

	Pluralism		
	Correlation Coefficient	Value of Sig	Significance
Gender	0.117	0.173	Insignificant
Age	-0.044	0.608	Insignificant
Educational Level	-0.095	0.269	Insignificant
Tendency	<b>*-0.195</b>	<b>0.022</b>	<b>Significant</b>

Table (24) – correlation between the Pluralism and the individual characteristics

Based on Table (24) we find that there is no significant correlation between the pluralism and the individual characteristics because the significance values are bigger than the equivalent value at (0.05) confidence interval except having a weak negative correlation between the pluralism and the tendency at (0.05) confidence interval.

In conclusion, there is only a weak negative inverse relationship between pluralism and the tendency toward extension. This result is reasonable because extension services are usually conceived as free services and an informal education while pluralism usually implies that privatization is one of its levels sooner or later, so having a high tendency toward extension means you are less enthusiastic toward pluralism.

## 4. Decentralization:

	Decentralization		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.042	0.628	Insignificant
Age	-0.050	0.561	Insignificant
Educational Level	0.033	0.699	Insignificant
Tendency	-0.123	0.149	Insignificant

Table (25) – correlation between the Decentralization and the individual characteristics

Based on Table (25) we find that there is no significant correlation between the decentralization and the individual characteristics because the significance values are bigger than the equivalent value at (0.05) confidence interval.

## 5. Extension system reform:

	Extension System Reform		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.124	0.146	Insignificant
Age	0.162	0.058	Insignificant
Educational Level	-0.003	0.970	Insignificant
Tendency	-0.061	0.479	Insignificant

Table (26) – correlation between the Reform and the individual characteristics

Based on Table (26) we find that there is no significant correlation between the reform and the individual characteristics because the significance values are bigger than the equivalent value at (0.05) confidence interval.

## 6. Information and Communication Technologies (ICTs):

	(ICTs)		
	Correlation Coefficient	Value of Sig	Significance
Gender	-0.097	0.257	Insignificant
Age	-0.007	0.934	Insignificant
Educational Level	-0.072	0.404	Insignificant
Tendency	<b>*-0.170</b>	<b>0.047</b>	<b>Significant</b>

Table (27) – correlation between the (ICTs) and the individual characteristics

Based on Table (27) we find that there is no significant correlation between the (ICTs) and the individual characteristics because the significance values are bigger than the equivalent value at (0.05) confidence interval except having a weak negative correlation between the (ICTs) and the tendency at (0.05) confidence interval.

In conclusion, there is only a weak negative inverse relationship between (ICTs) and the tendency toward extension. This result is reasonable because extension services are usually involve in personal interaction and field work more than relying on technology especially when old methods of communication are used and when the infrastructure and logistics both are poor while (ICTs) usually implies that high technology and advanced infrastructure are required, so having a high tendency toward extension means you are less enthusiastic toward (ICTs) under the current circumstances.

The extensionists also have been asked about the (ICTs) best agricultural applications and their answers are shown in table (28)

(ICTs) Agricultural applications	Frequencies	Percentage	Grade
Internet Based Services	62	44.9 %	1
Cellular Phone Networks	52	37.7 %	2
Distance Learning	24	17.4 %	3

Table (28) – (ICTs) best agricultural applications

Based on table (28) we find that extensionists are aware of the benefits of (ICTs) applications in agriculture with an emphasis on Internet Based Services (44.9%), because internet infrastructure is the base for other kind of applications. Regardless that the distance learning occupied the last rank among the three options with (17.4 %), but still a good sign that extensionists are willing to utilize it directly in their provided services if the requirements for that are available.

Q11: How the extensionists get their information about the new trends in the field?

To answer this question I calculated the frequencies and the equivalent percentages as in table (29)

	Internet		Media		Specialized Journals		Academic Research	
		%		%		%		%
globalization	49	%35,4	63	%45,7	9	%6,4	17	%12,5
Privatization	20	%14,5	86	%62,3	11	%8	21	%15,2
Pluralism	33	%23,9	68	%49,3	20	%14,5	17	%12,3
Decentralization	26	%18,8	84	%60,9	17	%12,3	11	%8
Reform	32	%23,2	74	%53,6	14	%10,1	18	%13,1
(ICTs)	77	%55,8	48	%34,8	12	%6,4	1	%8,7

Table (29) – frequencies and percentages of information resources

According to new trends individually

Based on table (29) we find that:

- The most important information resource about globalization is media to be followed by internet then academic research and specialized journals respectively.
- The most important information resource about privatization is media to be followed by academic research then internet and specialized journals respectively.
- The most important information resource about pluralism is media to be followed by internet then specialized journals and academic research respectively.
- The most important information resource about decentralization is media to be followed by internet then specialized journals and academic research respectively.
- The most important information resource about reform is media to be followed by internet then academic research and specialized journals respectively.
- The most important information resource about (ICTs) is internet to be followed by media then academic research and specialized journals respectively.

Table (30) – frequencies and percentages of information resources in general

	Frequencies	Percentage	Grade
Media	423	%51.1	1
Internet	237	%28.6	2
Academic Research	85	%10.3	3
Specialized Journals	83	%10	4

In

conclusion, the domination of media and internet as top two is obvious with one case where internet surpassed media as an information resource of (ICTs). Therefore, we can say that respondents are aware of media influence and effect and at the same time they do not take the information provided through media for granted because they are aware of that fact about being biased in its coverage of events and the information quality, credibility and content are all prone to the control of funders and owners. As a result, they rely on internet as an independent resource to have a better understanding about what is going on about different issues and concepts and this trait itself is a strong privilege for them.

On the other hand, specialized journals and academic research occupied the third and fourth ranks alternatively with one distinguished case of academic research with second place for privatization



and this is justifiable because just two people (1.4%) are qualified with a higher education degree while the majority (68.1%) holds a university degree which means the majority is no longer interested in research and academic knowledge but more focusing on gaining experience.

In other words, the majority of respondents are receiving information about different topics including career related topics like other normal citizens and this is basically because of shortage of highly educated people working in advisory services.

Q11: Is there any correlation between the information resources of the new trends and the individual characteristics of participants in terms of (Gender, Age, Educational Level and Tendency toward Extension)?

To answer this question we calculate (Spearman's Correlation Coefficient) as in Table (31-32-33-34)

#### 1. Gender

	Gender		
	Correlation Coefficient	Value of Sig	Significance
Globalization	-0.044	0.609	Insignificant
Privatization	-0.083	0.335	Insignificant
Pluralism	-0.060	0.482	Insignificant
Decentralization	-0.005	0.953	Insignificant
Reform	0.016	0.855	Insignificant
(ICTs)	0.099	0.249	Insignificant

Table (31) – correlation between gender and information resources of new trends

Based on Table (31) we find that there is no significant correlation between the gender and the information resources if new trends because the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals.

In conclusion, Gender has no effect over the information resources of the new trends.

#### 2. Age

	Age		
	Correlation Coefficient	Value of Sig	Significance
Globalization	0.134	0.118	Insignificant
Privatization	0.062	0.469	Insignificant
Pluralism	0.072	0.399	Insignificant
Decentralization	0.084	0.326	Insignificant
Reform	0.032	0.706	Insignificant
(ICTs)	0.047	0.583	Insignificant

Table (32) – correlation between age and information resources of new trends

Based on Table (32) we find that there is no significant correlation between the age and the information resources if new trends because the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals.

In conclusion, age has no effect over the information resources of the new trends.

### 3. Educational Level

	Educational Level		
	Correlation Coefficient	Value of Sig	Significance
Globalization	0.007	0.939	Insignificant
Privatization	0.001	0.992	Insignificant
Pluralism	0.097	0.259	Insignificant
Decentralization	-0.028	0.744	Insignificant
Reform	0.004	0.966	Insignificant
(ICTs)	-0.070	0.418	Insignificant

Table (33) – correlation between Educational level and information resources of new trends

Based on Table (33) we find that there is no significant correlation between the educational level and the information resources if new trends because the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals.

In conclusion, Educational level has no effect over the information resources of the new trends.

### 4. Tendency toward Extension

	Tendency		
	Correlation Coefficient	Value of Sig	Significance
Globalization	0.187	0.037*	Significant
Privatization	0.097	0.260	Insignificant
Pluralism	-0.040	0.645	Insignificant
Decentralization	0.052	0.541	Insignificant
Reform	-0.014	0.869	Insignificant
(ICTs)	0.082	0.337	Insignificant

Table (34) – correlation between tendency and information resources of new trends

Based on Table (34) we find that there is no significant correlation between the age and the information resources if new trends because the significance values are bigger than the equivalent

value at both (0.01) and (0.05) confidence intervals except having a weak positive correlation between the privatization and gender at (0.05) confidence interval.

In conclusion, there is only a weak positive direct relationship between tendency toward extension and information resources of globalization.

Q12: Does the advisory services staff has the incentive of self-improvement by exploring and analysing other countries expertise in agricultural extension or not?

To answer this question the participants have been asked an open question:

*“Do you have any information about other countries experience in advisory services? In case you have, what are they? How did you get them? Are they applicable or suitable to the Syrian case?”*

Just five participants (3.6%) of the sample have answered with (Yes) and their information were about public extension system especially in agricultural sector and the advisory services with a consensus of being applicable in Syria.

Hence, with this very low percentage the majority of respondents tend to be content with the skills and knowledge provided through training and field experience without having initiatives and incentives of self-improvement related to their career by learning from other countries expertise and applying that in their work experience.

#### 4.2 Second Level: Non-Parametric Independence Tests

The aim of this level is to understand how the independent variables categories behave and affect the dependent variables to get in depth understanding of the relationships among studied variables.

Q1-I: Are there any differences between the level of usage of communication methods in general and the individual characteristics of participants in terms of (Gender, Age, Educational level, Job description, Academic Major, Experience, Training, Intensity of Training and Tendency toward Extension)?

##### 1. Gender

	Gender	Freq.	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Mass Methods Level	Male	59	69.77	4116.50	2314.5	0.938	Insignificant
	Female	79	69.30	5474.50			
Group Methods Level	Male	59	71.76	4234.00	2197	0.503	Insignificant
	Female	79	67.81	5357.00			
Individual Methods Level	Male	59	68.26	4027.50	2257.5	0.724	Insignificant
	Female	79	70.42	5563.50			

Table (1-I) - Mann-Whitney U test for level of usage according to gender

Based on Table (1-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods. Moreover, the mean ranks are almost the same for both genders.

In conclusion, gender has no effect over the level of usage of communication methods.

## 2. Age

	Age Group	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods Level	18-30	19	75.92	8.122	2	0.017*	Significant
	31-45	76	76.01				
	46-60	43	55.16				
Group Methods Level	18-30	19	62.79	1.543	2	0.426	Insignificant
	31-45	76	74.11				
	46-60	43	64.33				
Individual Methods Level	18-30	19	69.61	3.3122	2	0.191	Insignificant
	31-45	76	70.55				
	46-60	43	67.59				

Table (2-I) - Kruskal-Wallis test for level of usage according to age

Based on Table (2-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types except for mass communication methods at (0.05) confidence interval. About the mean ranks, we find that the mean rank of age group (31-45) is the highest in all types in general. As to mass methods, we find young staff members with age range (18-30) and (31-45) are more dependable on mass methods because it is easier to use and need fewer skills compared to other types.

In conclusion, age has effect only over the level of usage and the participants belong the age group (31-45) are the most active in using different kinds of communication methods in general.

## 3. Educational Level

	Educational Level	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods Level	Agri. High School	15	79.1	10.242	4	0.037*	Significant
	Agri. Institution	20	84.15				
	Agri. Bachelor Degree	94	62.44				
	Veterinary Bachelor Degree	7	92.93				
	Higher Education	2	101				
Group Methods Level	Agri. High School	15	105.7	17.948	4	0.001**	Significant
	Agri. Institution	20	55.45				

	Agri. Bachelor Degree	94	65.01				
	Veterinary Bachelor Degree	7	86.07				
	Higher Education	2	91.5				
Individual Methods Level	Agri. High School	15	87.77	4.851	4	0.303	Insignificant
	Agri. Institution	20	71.28				
	Agri. Bachelor Degree	94	67.18				
	Veterinary Bachelor Degree	7	65.21				
	Higher Education	2	39				

Table (3-I) - Kruskal-Wallis test for level of usage according to educational level

Based on Table (3-I) we find that there is significance for level of usage of mass methods and educational level at (0.05) confidence interval and for level of usage of group methods and educational level at (0.01) confidence interval, which means educational level has a positive effect of both mass and group communication methods usage level. About the mean rank of mass and methods, all groups got very high ranks except agricultural bachelor degree holders and the same situation for both agricultural bachelor and institution degree holders for group methods. What matters here that the performance of agricultural bachelor degree holders is always stable but with low mean rank compared to other groups.

In conclusion, educational level has effect over the level of usage of both mass and group methods and reflects the personal preference of the mix of communication methods used in a way or another. Moreover, the agricultural bachelor degree holders are in need for appraisal and suitable training.

#### 4. Job Description

	Job Description	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods level	Agri. Monitor	14	87.96	8.789	3	0.032*	Significant
	Agri. Specialist	96	63.24				
	Veterinary Assistant	21	78.00				
	Veterinary	7	92.93				
	Agri. Monitor	14	98.75	10.384	3	0.016*	Significant



Group Methods level	Agri. Specialist	96	65.56	3.991	3	0.262	Insignificant
	Veterinary Assistant	21	62.48				
	Veterinary	7	86.07				
Individual Methods level	Agri. Monitor	14	88.79				
	Agri. Specialist	96	66.59				
	Veterinary Assistant	21	71.38				
	Veterinary	7	65.21				

Table (4-I) - Kruskal-Wallis test for level of usage according to job description

Based on Table (4-I) we find that there is significance for level of usage of mass methods and group methods and job description at (0.05) confidence interval, which means job description has a positive effect of both mass and group communication methods usage level. About the mean ranks, all groups got a high to very high ranks except agricultural specialists who are agricultural bachelor degree holders. What matters here again is that the performance of agricultural bachelor degree holders is always stable but with low mean rank compared to other groups.

In conclusion, job description has effect over the level of usage of both mass and group methods and reflects the personal preference of the mix of communication methods used in a way or another. Here it is crucial to be noted that agricultural specialists who hold a bachelor degree in agricultural sciences in different disciplines and represent the majority of extension staff, got a stable but good to very good mean rank in terms of educational level and job description (generally less than other groups especially staff members with lower education and job description). This indicates that they do not prefer engaging in field work as other groups and need more training on using different types of communication methods.

##### 5. Academic Major

	Academic Major	Freq.	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Mass Methods level	Agri. Extension	33	59.82	1974	1413	0.071	Insignificant
	Other	105	72.54	7617			
Group Methods level	Agri. Extension	33	60.98	2012.5	1451.5	0.102	Insignificant
	Other	105	72.18	7578.5			
Individual Methods Level	Agri. Extension	33	71.14	2347.5	1678.5	0.762	Insignificant
	Other	105	68.99	7243.5			

Table (5-I) - Mann-Whitney U test for level of usage according to academic major

Based on Table (5-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods. About the mean ranks, extension specialists got a weak mean rank at both mass and group methods but a good one for the individual methods. On the other hand, other specialists they show a stable performance for all communication methods types.

In conclusion, academic major has no effect over the level of usage but shows that extension specialists' performance is not as good as other specialists.

## 6. Experience

	Experience (Years)	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods Level	1-10	49	74.89	8.498	2	0.014*	Significant
	11-20	59	73.46				
	21-35	30	52.92				
Group Methods Level	1-10	49	68.87	3.828	2	0.147	Insignificant
	11-20	59	74.90				
	21-35	30	59.92				
Individual Methods Level	1-10	49	71.66	0.472	2	0.790	Insignificant
	11-20	59	69.48				
	21-35	30	66.00				

Table (6-I) - Kruskal-Wallis test for level of usage according to experience

Based on Table (6-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods except for mass communication methods at (0.05) confidence interval, which means experience has a positive effect of mass communication methods usage level. About the mean rank of mass methods, staff member with (1-10) years of experience got the highest mean rank, to be followed with members of (11-20) years, while the more experienced staff members got the lowest mean rank.

In conclusion, experience has effect only over the level of usage of mass methods.

## 7. Training

	Training	Freq.	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Mass Methods level	Trained	107	68.69	7349.5	1571.5	0.615	Insignificant
	Untrained	31	72.31	2241.5			
Group Methods level	Trained	107	64.83	6936.5	1158.5	0.003**	Significant
	Untrained	31	85.63	2654.5			
Individual Methods Level	Trained	107	66.77	7144.5	1366.5	0.094	Insignificant
	Untrained	31	78.92	2446.5			

Table (7-I) - Mann-Whitney U test for level of usage according to training

Based on Table (7-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods except for group

methods at both (0.01) and (0.05) confidence intervals, which reflects the importance of training to master these methods because these methods require more advanced skills than the other types. About the mean ranks, trained staff member have shown more stable performance than the untrained staff members but with respect to group methods untrained performed better based on the mean rank.

In conclusion, training has effect only over the level of usage of group methods.

## 8. Intensity

	Intensity	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods level	Low	29	59.93	2.196	3	0.538	Insignificant
	Average	22	50.36				
	High	25	54.20				
	Intensive	31	50.87				
Group Methods level	Low	29	50.81	2.445	3	0.485	Insignificant
	Average	22	60.86				
	High	25	50.34				
	Intensive	31	55.06				
Individual Methods level	Low	29	54.41	4.980	3	0.173	Insignificant
	Average	22	63.95				
	High	25	53.52				
	Intensive	31	46.94				

Table (8-I) - Kruskal-Wallis test for level of usage according to intensity

Based on Table (8-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods. About the mean ranks, all groups almost showed a stable performance.

In conclusion, training intensity has no effect over the level of usage of communication methods, which means the content of training does not match the needs of extension staff.

## 9. Tendency

	Tendency	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods level	Low	21	64.71	5.387	2	0.068	Insignificant
	Average	76	75.68				
	High	41	60.49				
Group Methods level	Low	21	85.79	14.002	2	0.001**	Significant
	Average	76	73.32				
	High	41	54.07				
Individual Methods level	Low	21	70.98	10.179	2	0.006**	Significant
	Average	76	76.92				
	High	41	54.99				

Table (9-I) - Kruskal-Wallis test for level of usage according to tendency

Based on Table (9-I) we find that the significance values are smaller than the equivalent value at both (0.01) and (0.05) confidence intervals for both group and individual types of communication methods, which means the more tendency toward extension the staff member has the more he relies on group and individual communication methods. About the mean ranks, all groups almost showed a stable performance. It is crucial to be noted that more tendency means less level of usage based on the equivalent mean rank, which indicates the need of good training on the right usage of different types of communication methods side by side with the right selection of staff members.

In conclusion, tendency toward extension has effect over the level of usage of group and individual communication methods, which mean selection of extension staff should be as systematic and professional as possible.

Q2-I: Are there any differences between the importance of communication methods in general and the individual characteristics of participants in terms of (Gender, Age, Educational level, Job description, Academic Major, Experience, Training, Intensity of Training and Tendency toward Extension)?

#### 1. Gender

	Gender	Freq.	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Mass Methods Level	Male	59	65.40	3858.50	2088.5	0.241	Insignificant
	Female	79	72.56	5732.50			
Group Methods Level	Male	59	69.44	4097.00	2327	0.986	Insignificant
	Female	79	69.54	5494.00			
Individual Methods Level	Male	59	73.18	4317.50	2113.5	0.274	Insignificant
	Female	79	66.75	5273.50			

Table (10-I) - Mann-Whitney U test for importance according to gender

Based on Table (10-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods.

In conclusion, gender has no effect over the importance of communication methods.

#### 2. Age

	Age Group	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods Level	18-30	19	76.05	1.017	2	0.601	Insignificant
	31-45	76	69.72				
	46-60	43	66.22				
Group Methods Level	18-30	19	55	6.287	2	0.043*	Significant
	31-45	76	75.24				
	46-60	43	65.77				
Individual Methods Level	18-30	19	60.00	1.705	2	0.426	Insignificant
	31-45	76	71.05				
	46-60	43	70.97				

Table (11-I) - Kruskal-Wallis test for importance according to age

Based on Table (11-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types except for group methods at (0.05) confidence interval. About mean ranks, the second and third age groups, which represent elder staff members, have shown higher mean ranks, which means the elder the staff member is the more he understand the importance of group methods.

In conclusion, age has effect only over the importance of group methods, which require more or specific skills compared to other types.

### 3. Educational Level

	Educational Level	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods Level	Agri. High School	15	78.60	8.009	4	0.091	Insignificant
	Agri. Institution	20	87.00				
	Agri. Bachelor Degree	94	64.17				
	Veterinary Bachelor Degree	7	72.14				
	Higher Education	2	67.50				
Group Methods Level	Agri. High School	15	72.77	2.677	4	0.613	Insignificant
	Agri. Institution	20	79.00				
	Agri. Bachelor Degree	94	66.52				
	Veterinary Bachelor Degree	7	73.00				
	Higher Education	2	77.75				
Individual Methods Level	Agri. High School	15	94.87	12.468	4	0.014*	Significant
	Agri. Institution	20	75.75				
	Agri. Bachelor Degree	94	65.71				



	Veterinary Bachelor Degree	7	55.86				
	Higher Education	2	42.50				

Table (12-I) - Kruskal-Wallis test for importance according to educational level

Based on Table (12-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods except for individual methods at (0.05) confidence interval. About the mean ranks for individual methods, the less education the staff member has the more he relies on individual methods. Here we should pay attention to the number in each group so we can be tolerant with veterinarians and higher education staff members due to their number or size in the sample, but for the first three groups we find an indirect relationship between the educational level and the importance of communication methods, in particular for agriculture bachelor degree holders, which indicates that they are less qualified than other groups including groups with lower educational levels. Moreover, their performance in all types is stable but also lower than other groups, which is a serious sign about the performance of the majority of the staff members.

In conclusion, educational level has effect only over the importance of individual methods but the educational level reflects the personal understanding of the importance of communication methods used in a way or another.

#### 4. Job Description

Table (13-I) -

	Job Description	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods level	Agri. Monitor	14	81.71	7.564	3	0.056	Insignificant
	Agri. Specialist	96	64.24				
	Veterinary Assistant	21	84.52				
	Veterinary	7	72.14				
Group Methods level	Agri. Monitor	14	84.29	3.472	3	0.324	Insignificant
	Agri. Specialist	96	66.76				
	Veterinary Assistant	21	71.02				
	Veterinary	7	73.00				
Individual Methods level	Agri. Monitor	14	98.61	13.179	3	0.004**	Significant
	Agri. Specialist	96	65.23				
	Veterinary Assistant	21	74.17				
	Veterinary	7	55.86				

Kruskal-Wallis test for importance according to job description

Based on Table (13-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods except for individual ones at (0.01) confidence interval. About the mean ranks, the agricultural monitors got a very high mean rank, while the veterinarians got a high mean rank, which indicates that staff member are more motivated to use individual methods and by turn they prefer making a friendly personal relationships with target groups.

In conclusion, job description has effect only over the importance of individual methods but the job description as the educational level reflects the personal preference of the importance of communication methods used in a way or another.

## 5. Academic Major

	Academic Major	Freq.	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Mass Methods level	Agri. Extension	33	60.73	2004	1443	0.104	Insignificant
	Other	105	72.26	7587			
Group Methods level	Agri. Extension	33	70.20	2316.5	1709.5	0.891	Insignificant
	Other	105	69.28	7274.5			
Individual Methods Level	Agri. Extension	33	77.58	2560	1466	0.119	Insignificant
	Other	105	66.96	7031			

Table (14-I) - Mann-Whitney U test for importance according to academic major

Based on Table (14-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods. About the mean ranks, extension specialists got a higher mean ranks at both group and individual methods but a lower one for the mass methods. On the other hand, other specialists they show a stable performance for all communication methods types.

In conclusion, academic major has no effect over the importance of all types of communication methods.

## 6. Experience

	Experience (Years)	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods Level	1-10	49	77.53	5.229	2	0.073	Insignificant
	11-20	59	68.19				
	21-35	30	58.97				
Group Methods Level	1-10	49	68.59	4.052	2	0.132	Insignificant
	11-20	59	75.08				
	21-35	30	60.02				
Individual Methods Level	1-10	49	66.67	1.196	2	0.550	Insignificant
	11-20	59	73.18				
	21-35	30	66.88				

Table (15-I) - Kruskal-Wallis test for importance according to experience

Based on Table (15-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods.

In conclusion, experience has no effect only over the importance of communication methods of all types.

## 7. Training

	Training	Freq.	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Mass Methods level	Trained	107	68.49	7328	1550	0.533	Insignificant
	Untrained	31	73	2263			
Group Methods level	Trained	107	66.49	7114	1336	0.050*	Significant
	Untrained	31	79.90	2477			
Individual Methods Level	Trained	107	66.25	7089	1311	0.038*	Significant
	Untrained	31	80.71	2502			

Table (16-I) - Mann-Whitney U test for importance according to training

Based on Table (16-I) we find that the significance values are smaller than the equivalent value at (0.05) confidence intervals for both group and individual communication methods. About the mean ranks, both groups have shown a stable performance but the untrained staff members performed better based on the mean rank in both types, which means untrained staff members are aware of the importance of group and individual methods but lack training.

In conclusion, training has effect over the importance of both group and individual methods.

## 8. Intensity

	Intensity	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods level	Low	29	61.24	2.955	3	0.399	Insignificant
	Average	22	53.25				
	High	25	50.22				
	Intensive	31	50.81				
Group Methods level	Low	29	54.78	1.134	3	0.769	Insignificant
	Average	22	53.36				
	High	25	49.92				
	Intensive	31	57.02				
Individual Methods level	Low	29	57.02	1.600	3	0.659	Insignificant
	Average	22	56.77				
	High	25	53.62				
	Intensive	31	49.52				

Table (17-I) - Kruskal-Wallis test for level of usage according to intensity

Based on Table (17-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods. About the mean ranks, all groups almost showed a stable performance.

In conclusion, training intensity has no effect over the level of usage of communication methods. Here, it is important to be noted that the intensity of training has no effect over both the level of usage and importance which indicates that the content of training is neither sufficient nor matching the needs of both staff members and target groups.

## 9. Tendency

	Tendency	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Mass Methods level	Low	21	72.33	2.504	2	0.286	Insignificant
	Average	76	72.68				
	High	41	62.15				
Group Methods level	Low	21	75.38	1.882	2	0.390	Insignificant
	Average	76	70.86				
	High	41	63.96				
Individual Methods level	Low	21	78.62	2.902	2	0.234	Insignificant
	Average	76	70.34				
	High	41	63.28				

Table (18-I) - Kruskal-Wallis test for importance according to tendency

Based on Table (18-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of communication methods. About the mean ranks, all groups almost showed a stable performance.

In conclusion, tendency toward extension has no effect over the level of usage of communication methods.

Q3: Are there any differences in the attitude toward the new trends or approaches in extension and the individual characteristics of participants in terms of (Gender, Age, Educational Level and Tendency toward Extension)?

In this question the chosen individual characteristics represent the individual factors that affect the way a person interacts with his surrounding environment at home and work place and as a person under the influence of the national policy. In other words, those characteristics affect the one's attitude toward different stimuli in different fields.

#### 1. Gender

	Gender	Freq	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Globalization	Male	59	73.70	4348.50	2082.5	0.092	Insignificant
	Female	79	66.36	5242.50			
Privatization	Male	59	76.07	4488.00	1943	0.038*	Significant
	Female	79	64.59	5103.00			
Pluralism	Male	59	65.86	3885.50	2115.5	0.172	Insignificant
	Female	79	72.22	5705.50			
Decentralization	Male	59	70.69	4171.00	2260	0.626	Insignificant
	Female	79	68.61	5420.00			
Reform	Male	59	73.20	4319.00	2112	0.145	Insignificant
	Female	79	66.73	5272.00			
(ICTs)	Male	59	71.69	4229.50	2201.5	0.255	Insignificant
	Female	79	67.87	5361.50			

Table (19-I) - Mann-Whitney U test for new trends according to gender

Based on Table (19-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of new trends except for privatization at (0.05) confidence interval. About the mean ranks of privatization, males got higher mean rank compared to females, which mean they are more supporters to pluralism than females.

In conclusion, gender has effect only over the attitude toward privatization where males are more in favor of pluralism than females.

## 2. Age

	Age Group	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Globalization	18-30	19	73.03	2.118	2	0.347	Insignificant
	31-45	76	71.21				
	46-60	43	64.92				
Privatization	18-30	19	62.53	1.180	2	0.554	Insignificant
	31-45	76	69.79				
	46-60	43	72.07				
Pluralism	18-30	19	71.03	0.283	2	0.868	Insignificant
	31-45	76	70.12				
	46-60	43	67.73				
Decentralization	18-30	19	69.89	0.077	2	0.962	Insignificant
	31-45	76	69.89				
	46-60	43	68.63				
Reform	18-30	19	65.26	2.108	2	0.349	Insignificant
	31-45	76	67.99				
	46-60	43	74.05				
(ICTS)	18-30	19	67.13	0.757	2	0.685	Insignificant
	31-45	76	70.76				
	46-60	43	68.31				

Table (20-I) - Kruskal-Wallis test for new trends according to age

Based on Table (20-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of new trends.

In conclusion, age has no effect over the attitude toward new trends in extension.

## 3. Educational Level

	Educational Level	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Globalization	Agri. High School	15	67.70	1.309	4	0.860	Insignificant
	Agri. Institution	20	65.40				
	Agri. Bachelor Degree	94	70.98				
	Veterinary Bachelor Degree	7	68.36				



	Higher Education	2	58.50				
Privatization	Agri. High School	15	61.80	3.151	4	0.533	Insignificant
	Agri. Institution	20	61.80				
	Agri. Bachelor Degree	94	71.49				
	Veterinary Bachelor Degree	7	77.57				
	Higher Education	2	82.50				
Pluralism	Agri. High School	15	79.50	7.153	4	0.128	Insignificant
	Agri. Institution	20	73.75				
	Agri. Bachelor Degree	94	66.04				
	Veterinary Bachelor Degree	7	86.07				
	Higher Education	2	56.50				
Decentralization	Agri. High School	15	68.20	1.366	4	0.850	Insignificant
	Agri. Institution	20	69.35				
	Agri. Bachelor Degree	94	69.28				
	Veterinary Bachelor Degree	7	78.71				
	Higher Education	2	59.00				
Reform	Agri. High School	15	76.40	3.975	4	0.466	Insignificant
	Agri. Institution	20	61.45				

	Agri. Bachelor Degree	94	70.48				
	Veterinary Bachelor Degree	7	67.86				
	Higher Education	2	58.00				
(ICTs)	Agri. High School	15	81.90	8.594	4	0.072	Insignificant
	Agri. Institution	20	63.50				
	Agri. Bachelor Degree	94	68.64				
	Veterinary Bachelor Degree	7	73.36				
	Higher Education	2	63.50				

Table (21-I) - Kruskal-Wallis test for new trends according to educational level

Based on Table (21-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of new trends. About mean ranks, we find that staff members with higher education, who are just two in the sample, got the lowest mean rank which means they have some concerns about the new trends compared to other groups.

In conclusion, educational level has no effect over the attitude toward new trends in extension.

#### 4. Tendency

	Tendency	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Globalization	Low	21	84.79	9.234	2	0.010**	Significant
	Average	76	67.58				
	High	41	65.23				
Privatization	Low	21	71	0.080	2	0.961	Insignificant
	Average	76	68.88				
	High	41	69.88				
Pluralism	Low	21	76.21	5.440	2	0.066	Insignificant
	Average	76	71.93				
	High	41	61.55				
Decentralization	Low	21	75.43	2.153	2	0.341	Insignificant
	Average	76	69.89				
	High	41	65.73				
Reform	Low	21	77.71	2.801	2	0.246	Insignificant
	Average	76	67.08				
	High	41	69.78				
(ICTs)	Low	21	83.21	12.613	2	0.002**	Significant
	Average	76	66.22				
	High	41	68.55				

Table (22-I) - Kruskal-Wallis test for new trends according to tendency

Based on Table (22-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all types of new trends except for globalization and (ICTs) at (0.01) confidence interval. About mean ranks for both globalization and (ICTs), we find that staff members with low tendency toward extension got the highest mean rank, which means they are more in favor of these trends compared to other groups.

In conclusion, tendency has effect over both the attitude toward globalization and (ICTs) in extension, with more support from staff members with low tendency toward extension.

Q3: Are there any differences in the information resources of the new trends or approaches in extension and the individual characteristics of participants in terms of (Gender, Age, Educational Level and Tendency toward Extension)?

#### 1. Gender

	Gender	Freq	Mean Rank	Sum of Rank	Mann-Whitney U	Value of Sig	Significance
Globalization	Male	59	71.37	4211.00	2220	0.608	Insignificant
	Female	79	68.10	5380.00			
Privatization	Male	59	72.81	4295.50	2135.5	0.333	Insignificant
	Female	79	67.03	5295.50			
Pluralism	Male	59	72.08	4253.00	2178	0.480	Insignificant
	Female	79	67.57	5338.00			
Decentralization	Male	59	69.70	4112.50	2318.5	0.953	Insignificant
	Female	79	69.35	5478.50			
Reform	Male	59	68.84	4061.50	2291.5	0.854	Insignificant
	Female	79	69.99	5529.50			
(ICTs)	Male	59	65.47	3862.50	2092.5	0.247	Insignificant
	Female	79	72.51	5728.50			

Table (23-I) - Mann-Whitney U test for information resources according to gender

Based on Table (23-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all information resources of all new trends.

In conclusion, gender has no effect over the information resources of new trends.

## 2. Age

	Age Group	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Globalization	18-30	19	78.47	8.811	2	0.012*	Significant
	31-45	76	61.07				
	46-60	43	80.44				
Privatization	18-30	19	80.00	7.622	2	0.022*	Significant
	31-45	76	62.17				
	46-60	43	77.81				
Pluralism	18-30	19	75.00	2.365	2	0.307	Insignificant
	31-45	76	65.11				
	46-60	43	74.83				
Decentralization	18-30	19	76.29	6.045	2	0.049*	Significant
	31-45	76	62.91				
	46-60	43	78.15				
Reform	18-30	19	79.24	7.103	2	0.029*	Significant
	31-45	76	62.04				
	46-60	43	78.38				
(ICTS)	18-30	19	62.03	1.059	2	0.589	Insignificant
	31-45	76	71.37				
	46-60	43	69.50				

Table (24-I) - Kruskal-Wallis test for information resources according to age

Based on Table (24-I) we find that the significance values are smaller than the equivalent value at (0.05) confidence interval for information resources of globalization, privatization, decentralization and reform. About mean ranks, we find that the staff members of the age group (31-45) for the lowest mean rank for the aforementioned trends in term of information resources.

In conclusion, gender has effect over the information resources of globalization, privatization, decentralization and reform, which means age affect the personal preference of information resources for the aforementioned trends.

## 3. Educational Level

	Educational Level	Freq	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Globalization	Agri. High School	15	69.33	0.891	4	0.926	Insignificant
	Agri. Institution	20	66.30				
	Agri. Bachelor Degree	94	70.80				
	Veterinary Bachelor Degree	7	59.29				
	Higher Education	2	70.50				
Privatization	Agri. High School	15	69.97	2.639	4	0.620	Insignificant
	Agri. Institution	20	66.85				
	Agri. Bachelor Degree	94	70.54				
	Veterinary Bachelor Degree	7	54.64				
	Higher Education	2	95.75				
Pluralism	Agri. High School	15	54.03	6.841	4	0.145	Insignificant
	Agri. Institution	20	74.98				
	Agri. Bachelor Degree	94	69.96				
	Veterinary Bachelor Degree	7	92.64				
	Higher Education	2	42.25				
Decentralization	Agri. High School	15	64.83	2.049	4	0.727	Insignificant
	Agri. Institution	20	74.50				

	Agri. Bachelor Degree	94	69.96				
	Veterinary Bachelor Degree	7	67.2				
	Higher Education	2	41.00				
Reform	Agri. High School	15	62.43	2.457	4	0.636	Insignificant
	Agri. Institution	20	70.20				
	Agri. Bachelor Degree	94	71.80				
	Veterinary Bachelor Degree	7	59.36				
	Higher Education	2	43.00				
(ICTs)	Agri. High School	15	72.33	3.026	4	0.553	Insignificant
	Agri. Institution	20	79.50				
	Agri. Bachelor Degree	94	66.22				
	Veterinary Bachelor Degree	7	74.36				
	Higher Education	2	85.28				

Table (25-I) - Kruskal-Wallis test for information resources according to educational level

Based on Table (25-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all information resources of all new trends.

In conclusion, educational level has no effect over the information resources of the new trends.



## 4. Tendency

	Tendency	Freq.	Mean Rank	Kruskal-Wallis	DF	Value of Sig	Significance
Globalization	Low	21	64.33	5.348	2	0.066	Insignificant
	Average	76	64.83				
	High	41	80.80				
Privatization	Low	21	69.98	2.681	2	0.262	Insignificant
	Average	76	65.57				
	High	41	76.55				
Pluralism	Low	21	69.48	0.417	2	0.812	Insignificant
	Average	76	71.13				
	High	41	66.49				
Decentralization	Low	21	61.55	1.337	2	0.512	Insignificant
	Average	76	71.49				
	High	41	69.88				
Reform	Low	21	71.40	0.086	2	0.966	Insignificant
	Average	76	69.11				
	High	41	69.26				
(ICTs)	Low	21	59.86	3.302	2	0.192	Insignificant
	Average	76	72.67				
	High	41	70.10				

Table (26-I) - Kruskal-Wallis test for information resources according to tendency

Based on Table (26-I) we find that the significance values are bigger than the equivalent value at both (0.01) and (0.05) confidence intervals for all information resources of all new trends.

In conclusion, tendency has no effect over the information resources of the new trends.

## 4. Findings

• According to correlation coefficient analysis in terms of the level of usage and importance of communication methods, I found the following:

1. Extensionists tend to use mass methods because it is easier and need less training to be used.
2. Extensionists reflected a low level of usage for group methods because it needs skills in group management and group dynamics, which means training content does not match the needs of extensionists and poor in terms of quality and quantity.
3. Low awareness of the importance of different kinds of communication methods, which is a result of inappropriate and insufficient training.
4. The values of correlation coefficient are always weak and mostly inverse ones, which mean staff members do not believe that these methods are useful and designed to achieve specific goals. Therefore, they rely more on personal experience and this is a direct result of lack of professional training, especially for group methods.

• According to correlation coefficient analysis in terms of the attitudes toward the new approaches in agricultural extension, I found the following:

1. Extensionists are extremely in favour of the new trends in general except privatization, which got a good support but not as high as other trends.
2. About globalization they have fears basically because of the unfair competition between the rich and poor countries.

3. About privatization, which got the lowest support among all trends, they have fears basically because of the current contribution of the private sector in development process and this is logical in a country like Syria where the public sector is the major provider for almost all services.
4. About pluralism they have fears basically because of the sustainability of (NGOs) and its services.
5. About decentralization they have fears basically because of the sustainability of the emerging (RPOs) and unavailability of the required conditions to apply decentralization.
6. About reform they have fears basically because they do not want to lose the free or supported services provided by public sector, but at the same time they showed desire of more flexible and transparent governing system.
7. About (ICTs) they have fears basically because of the ability of target groups to get benefit of these technologies and the credibility of free and open content. Note that extensionists think that the best applications of (ICTs) in agriculture are internet based services, cellular networks and distance learning respectively.
8. The values of correlation coefficient are always weak and mostly inverse ones, which mean staff members they have real fears about these trends and this is logical under the current conditions in terms of the administrative systems and the approaches adopted in the current advisory systems, because adoption of these trends requires qualified human resources, accurate planning and successful implementation. Otherwise, the results will be disastrous especially in terms of losing the current institutions.

• According to dependence analysis in terms of the level of usage and importance of communication methods, I found the following:

1. Gender has no effect over the level of usage and importance of communication methods.
2. Age has effect over the level of usage of mass methods and the importance of group methods. Members of the age group (31-45) were more active in using different methods.
3. Educational level and job description have effect over the level of usage and importance. On the one hand, educational level and job description reflect the personal preference of communication methods in terms of usage level and importance. On the other hand, agricultural bachelor degree holders (Educational level) who are Agricultural specialists (Job Description) have shown a stable performance but with low score among all groups including groups with lower educational level and job description, which mean they are less qualified and need more training than other staff members.
4. Academic major has no effect over both the level of usage and importance of communication methods, which mean the academic knowledge is not relevant to the field experience or real life.
5. Experience has effect over the level of usage of mass methods which are preferred by low and average experienced staff members due to being easy to use compared to other types, while it has no effect over the importance of communication methods.
6. Training has effect over the level of usage of group methods and the importance of both the group and individual methods, which means training is needed.
7. Intensity of training has no effect over the level of usage and importance of communication methods, which means the training content is insufficient and does not match the needs of extension staff.
8. Tendency toward extension has effect over the level of usage for both group and individual methods, which mean selecting staff members should be more systematic and professional side by side with providing suitable training. On the other hand, tendency has no effect over the importance of communication methods.

- According to dependence analysis in terms of the attitudes toward the new approaches in agricultural extension, I found that generally the individual characteristics have no effect over the attitudes toward the new approaches in the field.

- As to Information resources of the new trends I found the following:

1. Media and internet are the basic resources of getting information about the new trends, while specialized magazines and academic research are minor. This is a bad sign because the majority of staff members is university degree holders (69%) and indicates that they do not have incentives and motives to improve themselves academically after graduation and a result of shortage of higher education degree holders among staff members, just two in the sample (1.4%). The result of lacking incentives for self-improvement is also proven in the response to the open question.

2. According to correlation coefficient analysis in terms of the information resources of the new approaches in agricultural extension, I found that generally the individual characteristics have no effect over the information resources of the new approaches in the field.

3. According to dependence analysis in terms of the information resources of the new approaches in agricultural extension, I found that generally the individual characteristics have no effect over the information resources of the new approaches in the field.

- As to constraints I found the following:

- Basic constraints are social then economic while the administrative ones do not really matter the extension staff.

- Based on the data shown in tables (13-14) I found:

1. Extension staff is not qualified in terms of training and they have a very low job satisfaction (Lack of training and self-esteem).

2. Target groups and any other party qualified to take advantage of advisory services have a trust issue belong to the service quality and reliability. Some could claim this is because of using wrong methods to fulfill the target groups' needs and desires (Participants' lack of trust).

3. Extensionists consciously or subconsciously are not satisfied about the outcomes of their career socially, economically and professionally and this by turn influences their self-esteem (Lack of support provided to extension specialists financially and professionally / Low income compared to other agricultural specialists).

4. Regardless the training of extension workers the work environment conditions do not support providing high quality services with desirable outcomes because of lack of new tools, convenient logistics and a good maintenance of the available tools and gadgets (Using out-dated methods / Poor logistics / Lack of maintenance / Poor infrastructure).

5. Having no job satisfaction with low income compared to other specialists and with no supportive work conditions will cause a very bad self-image and lead the extensionists to lose their trust and underestimate their job and its outcomes because of having a very low self-esteem and negative emotions about their career. Hence, being an extension officer you are subordinate to others (Lack of support provided to extension specialists financially and professionally / Extension officers' own thoughts about extension process effectiveness).

6. The main core of extension body is to provide a healthy and strong linkage among the real needs of rural community and the research and decision making centers but with having the aforementioned problems combined with lack of funding to improve current services or to make researches related to the field itself and how it can be improved leads to inefficiency and to have a misleading feedback which affect directly any schemes to improve and support the extension body

(Lack of funding dedicated to extension research / Lack of coordination among different players involved in extension field / Poor administrative participation of extensionists as policy makers).

- As to the open question that reflects the advisory services staff's incentive of self-improvement by exploring and analyzing other countries expertise in agricultural extension, just five participants (3.6%) of the sample have answered with (Yes). Hence, with this very low percentage the majority of respondents tend to be unwilling or content with the skills and knowledge provided through training and field experience without having initiatives and incentives of self-improvement related to their career by learning from other countries expertise and applying that in their work experience. Taking into account the constraints they have in their work, this defect can be justifiable.

## DISCUSSION

1. Extension specialists at all administrative levels with different educational levels and academic backgrounds suffer from poor training in both quality and quantity especially about utilizing communication methods of different types. This affects how they perceive the role of the available communication methods and let them rely heavily on their own experience in field work. As a result, the outcome of the extension services is not noticed and also enlarges the gap among the field officers and the target groups because of the absence of a professional approach and the appropriate communicative tools.
2. The respondents showed a great positive attitude in general toward the new trends of global economy. Normally, those trends require a huge adjustments for a stable political and economic systems but in Syria while the unrest is still going on with the robust damage to the national economy and infrastructure, those adjustments are a real opportunity to modernize and revitalize the current system with its institutions with less efforts at least on the administrative level.
3. This study shows that extension staff relies on media and internet to get information about different topics rather than other resources such as academic journals, which means it will be useful to establish an agricultural TV channel with relevant online channel and other social networks such as Facebook and YouTube with the goal of improving agricultural specialists' skills, especially extension ones on the first hand, and improving skills of all types of rural target groups including rural youth and rural women on the other hand, through providing topic-oriented content that matches the needs and desires of all categories of rural target groups in addition to the extension and agriculture specialists. It is important to provide the needed content in a modern and attractive way to catch the attention of target groups and to assure the quality of communication process at different levels.
4. This study showed that the main constraints of extension work are economic and social represented basically by low self-esteem as a result of the weak needed training, trust gap with beneficiaries, low job satisfaction because of unrewarding income compared to other agricultural specialists regardless the hard working conditions and finally because of poor infrastructure, logistics and dated communication methods. Hence, this research proposes a model for effective extension system as follows:

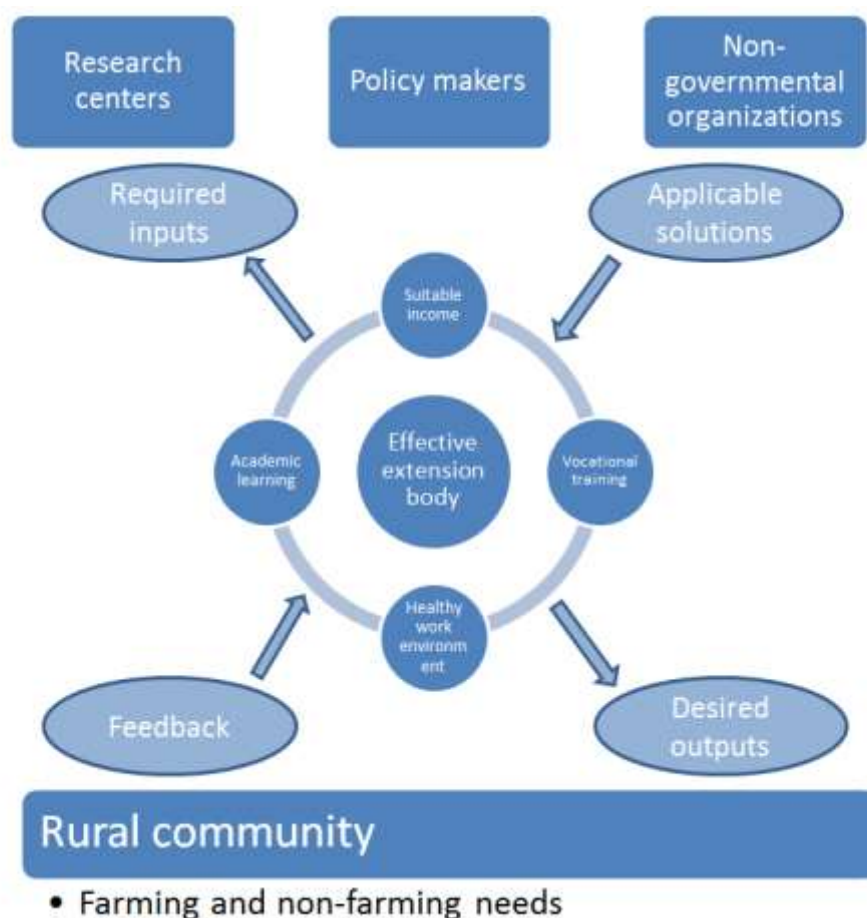


Figure No.1

- According to figure No.1 we find that the extension body is the place where the rural community oriented feedback, that covers needs and desires, is processed before being transferred as inputs reflect the real situation to research centers, decision making centers, non-governmental and non-profit organizations involved. As a result, those centers now have the required inputs to set and provide applicable solutions including policies, technologies and outcomes needed by the rural community to improve the general life quality in all aspects.
- Again those solutions, policies and technologies need to be processed by the extension body within its different levels before being implemented and deployed as desired outputs by both the extension staff and rural people.
- To ensure that the feedback is reliable and the outputs will fulfill the needs and desires of the society, we have to make sure that the linkage demands, which is represented by the extension body, of this two ways process are fully fulfilled by providing a qualitative academic education, followed by topic oriented vocational training and supported by a rewarding income and healthy work conditions in terms of equipment, logistics and infrastructure that matches the field nature of extension work.

Finally, by making a comparison among the complaints and constraints the sample members have shown and the data analysis results we have on the first side, and the requirements shown in this figure on the other side, we find out that the advisory system in Syria urgently requires a structural changes in all levels belong to extension system in terms of institutional and functional aspects. In other words, the current Syrian advisory services system is in need of a transformation in quality and quantity. The key factor to achieve this goal and the related objectives is the investment in

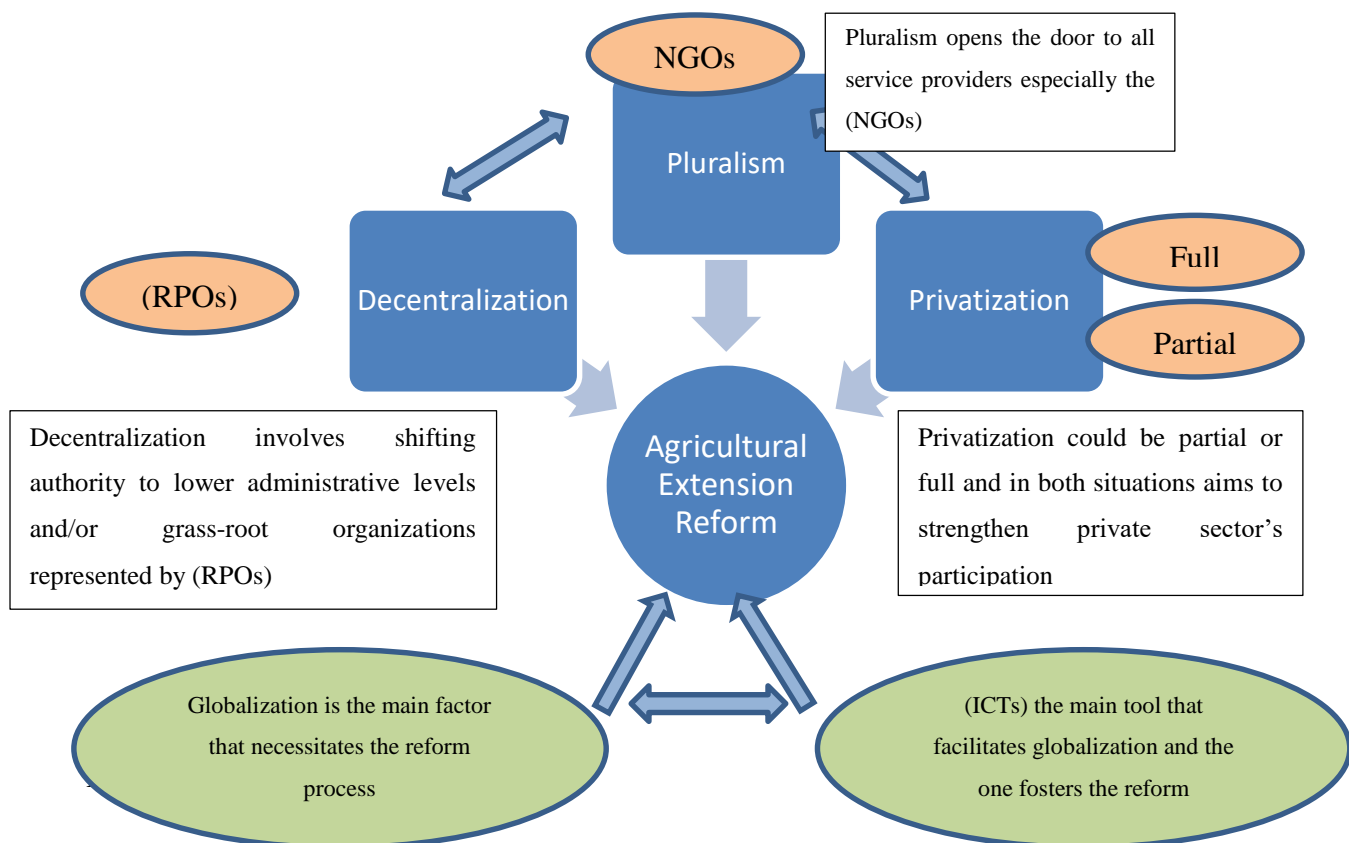


human resources development at all levels and linking training to needs is a vital part of this development process.

5. The need of adopting a new national extension strategy as follow:

- In short-term, providing intensive vocational and topic oriented training to extension staff with adopting a motivating rewards and incentives system. At the same time setting the structural framework of the new extension strategy, which takes into consideration the new trends and new goals of extension and advisory services system.
- In mid-term, implementing the new extension strategy with emphasis on monitoring and evaluation of all level, side by side with the developing of human resources at all levels.
- In long-term, appraisal of this strategy to be modified in light of the emerging changes in the field.
- It is worthy noting that academic knowledge and vocational training at all level should be connected to the real needs and based on real data and periodic evaluation to keep both the academic and vocational processes up to date, which in turn serve the target groups and national policies in the best way.

6. A proposed reform model based on the ideas and concepts reviewed before. I offer this model to explain the forces which affect the agricultural extension, and to show the new trends and approaches in this context as shown in (Figure No.2) below:



According to Figure (2) we find that:

- In terms pluralism the focus should be on building capable and sustainable (NGOs) from all kinds for farming and non-farming needs.



- In terms of privatization the focus should be on selecting the right privatization scheme either full or partial according to the national policies.
- In terms of decentralization the focus should be on building farmers' abilities and empowering them through the support of the emerging (RPOs).
- These approaches require an integrated national reform policy, especially in the field of agriculture and extension, which by turn rely heavily on the availability of the qualified human resources.
- These structural changes are a direct result of globalization which by turn facilitated by (ICTs) applications in different fields, which makes the investment in building the needed infrastructure is a must, note that the small Syrian population combined with the on-going political and economic
- The on-going armed conflict will make the initial cost of this investment expensive in the early phases but the awaited returns in mid and long-run will cover it, particularly the better (ICTs) infrastructure a country has, a better will be able to get benefit out of the international globalized economy.
- The pace and intensity of applying these new approaches are ruled by the national agenda in terms of reconstruction schemes and other priorities of economic policies.
- Generally, reform process requires qualified human resources, flexible and healthy legislative environment and sufficient access to (ICTs). Without matching these pre-conditions properly the whole process can be a total disaster on all levels.

#### Implication to Research and Practice

This study provides deep insights about how the agricultural extension work in Syria based on the real field experience of extension officers. On the other hand, this study tries to explore how the extension specialists think of and interact with the new approaches in the field.

By addressing the applied communication methods and the constraints the front line officers face in particular, we have a solid foundation to improve the current system without any structural changes. By knowing how the extension staff members look or understand the future of extension services, we have a better understanding of the investment opportunities in the field with taking into consideration the destruction caused by the armed conflict in some areas and the need of an effective extension organizations for both farming and non-farming needs.

As a direct contribution this study provides two models; one for a healthy extension system while the other is for a reform model or a modern extension model.

It is important to be noted that this research is descriptive in nature in terms of level of usage and importance of extension communication methods, while it is exploratory in terms of the new trends so it does not seek to prove any theory but to address and explore the current attitude toward the new approaches in extension.

## CONCLUSION

The core of this study is to analyse the current situation of advisory services in the study area, in terms of the level of usage and importance of communication methods based on a real field experience, and to clarify which obstacles they have in their daily work. On the other hand, trying to find out how extension staff perceives the new approaches, if they are in favour of or opposed to it, not only this but also how they get to know about these trendy concepts, to find out their personal preference in getting information about different topics.

Based on the results of this research, we can say that the current extension approach is dated in terms of its communication methods, strategies and organizational structure, but this is only the dark side. With the qualified members academically supported by suitable training and well-designed policies the future of Syrian extension services is really promising.

This research focuses on extension officers' experience in terms of; how the beneficiaries of extension services interact with the extension staff and the communication means in use, and how the extension staff understand the new trends, and in which way they think it will affect their career and the rural community.

Taking the absence of fund and the logistics difficulties into consideration, combined with the lack of personal security because of the armed conflict in my country Syria, where this study is held; make it reasonable to just focus on the extension staff dimension apart from the importance of studying and analysing the target groups in terms of their satisfaction of the current extension services and how they think the new approaches in the field will affect their lifestyle in different aspects.

### Future Research

The future of this study is to provide a solid foundation for PhD. study, which will be about (ICTs) applications in agricultural communication and how (ICTs) transmitted the communication methods to a higher level in terms of efficiency and popularity. The main research will be about how we can use smart phone's applications as an effective communicative tool in the service of extension and rural community.

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