



Farmers Speaking for Themselves

36th World Farmers' Congress

29 May – 4 June 2004
Washington D.C., USA

“Strengthening Farmers’ Linkages & Regional Cooperation in the Southern-Mediterranean basin”

Presented to the 36 World Farmers Congress

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INTRODUCTION

The Agriculture Sector of the Southern Countries of the Mediterranean Basin: this regional sector enjoys some favorable comparative advantages which for different reasons, and unlike the Northern countries of the Basin, have not been yet utilized effectively. Some of these advantages are the excellent agricultural climate and geography, farmers' skills, expertise and availability, reasonable supply chains and a large, rich and sophisticated export market at a stone throw.

Regional Development and its Influence on Inter-Regional Situation: although this regional agriculture sector is currently faced with multiple national and international challenges as well as some constraining problems, yet it has great potentials to develop, expand and consequently improve the livelihoods of a great rural community segment in this region. Developing this regional sector should be looked at as an Inter-regional requisite to offer realistic job opportunities which should reflect on resolving the pressing situation of legal and illegal migration flow from the south to the north. This foreseeable development should be based on South-North integration and not competition policies.

The Economic Importance of the Regional Agriculture Sector: in 2002 the contribution of this sector into the national Gross Domestic Production (GDP) of Morocco, Algeria, Tunisia, Libya, Egypt, Lebanon and Syria was 15%, 8%, 12%, 9%, 17%, 12% and 27% respectively while in Northern countries of the Basin it ranged from 2.4% to 4% with the exception of Turkey 12.9% and Greece 8.1%. Although the forgoing figures indicate the importance which the agriculture sector plays in the regional economies, yet it still lacks the proper means for efficient production, modernization and development which, when effectively applied, should lead to a larger share in GDP.

Regional Farmers' Needs: farmers in this region who own the land (be it large or small) and have the physical strength to cultivate it do not need or ask for charity but need the cooperation and adequate attention of intellectual people from their community or other communities who for different reasons had a better chance in life and received high education to explore their problems, find realistic solutions, guide them and put at their disposal simple productive and applied techniques. Such calibres are actually available on the national and regional levels within universities, research institutions, extension systems and regional organizations, but the problem is their poor linkages with farmers.

OBJECTIVES

Situation Assessment from a Farmer's Point of View: It is in the opinion of the author of this paper, as a farmer, that one of the major problems withholding the progression of this regional sector is the weak linkages between farmers, extension personnel, research institutions, education, and marketing bodies. This weak linkage is causing the obvious failure of effective flow and exchange of information, new technologies, problems and market exposures, assessment of constrains and activating practical solutions.

Identifying Resolving Measures: this paper will discuss the forgoing key constraining problem from farmers' perspective, with full transparency, in order to attempt identifying the proper resolving measures which should be self dependency driven. The assistance of Regional, Inter-regional and International development organizations is definitely needed but should, in the author's opinion, be limited to supporting technology transfer, enhancing collaborative work and activating the efficient use of the available national and regional research capabilities and providing guidance for strengthening farmer's linkages.

Raise the Awareness Level of International Agencies of the Regional Problems Nature: whereas in some instances International development organizations, agencies and donors assume problems similarities among different regions which makes their efforts partially ineffective, the author will attempt to expose the Southern Mediterranean Regional conditions and human attitudes on all levels of the linkages chain to differentiate them from those prevailing in the North with the objective of elevating the involvement outcomes of such agencies.

Recommendations: the paper will suggest certain measures which can facilitate the incorporation of participatory research into the mechanism of development through enhancing strong linkages between all stakeholders mentioned herein. In view of the influence of trade liberalization on farming activities and the prevailing conditions in developing countries which are different from those in the west, the terminology of "farmers' linkages" in this paper will not only cover farmers-extension-research relationships but education and marketing as well.

THE NECESSITY FOR DEVELOPING THE REGIONAL AGRICULTURE SECTOR OF SOUTHERN- MEDITERRANEAN REGION

Considerable efforts should be engaged in developing the regional agriculture sector to bridge the gap in food production, provide employment opportunities and increase income. Increasing the share of this sector into the total GDP is becoming an indispensable national and regional obligation due to the following challenges and motives:

- ***Substitute the Real Weakness of the Region's Developing Countries in Competing with Developed Countries on Industrial Goods, Services and High-Tech.***
- ***Reduce Negative Impacts of Globalization,*** which has resulted in restricting the capability of developing countries to certain levels up the chain of "value added process" in addition to, imposed challenges to adjust to new patterns of trade, prices, and production, which are almost inexistent in these countries.
- ***Reduce Negative Impacts of Trade Liberalization,*** which has turned out to be an unequal bargain. World trade has become free but with unfair competition. Unlike their counter fellows across the Mediterranean, regional farmers are not subsidized for production inputs/outputs or export. Removing importation restrictions and lowering tariffs opened up domestic markets while western markets have not responded equally and have find different ways to protect their farmers against imports especially from developing countries.
- ***Take Advantage of the Ever-Growing World Markets for Agriculture Produce:*** as agricultural lands of the world tends to decrease and the population of the world continues to increase, undoubtedly there will be an exponential demand for food by domestic and foreign markets and that is where the regional countries can very well fit-in with the efficient

utilization of their land, water and human resources in the agriculture sector and specifically in certain products.

- ***Correct the Conceptual Misconduct in Applying the Principles of Privatization and Liberalization:*** this can be achieved through encouraging the formation of farmers' organizations and empowering existing ones to become partners with the regional state governments in planning the future of the sector.

The switch from centralized economy in which the state governments took complete responsibility of controlling what farmers should and should not grow to full liberalization was done almost over night and has given farmers the right to grow what ever they like except in certain few cases related for example to strategic rational usage of irrigation water. This quick turn was done in the almost inexistence, at that time, of active farmers' organizations and NGOs and has left certain vacuums in the system. Further and combined with the small land holdings representing more than an average of 80% of the total rural lands; this situation has created lot of problems which have many negative impacts on the sector development. These problems exemplify themselves, for example, in lowering certain products prices that do not leave any profit margin to farmers due to production surpluses and little export demands or in the huge cropping diversity on small holdings which represent a major problem for development.

- ***Face the Problem of Abandoning of Farmers' Offspring and the New Generations in General to Farming Activities:*** while this can be accepted in developed countries due to high levels of mechanization which replaces manpower to a great extent, it adds to the unemployment dilemma in developing countries and creates a vacuum in the agriculture sector causing additional constraints for its development. It is astonishing that with high rates of unemployment in the Southern Mediterranean Region, finding agriculture laborers is becoming progressively a very hard task. Improving the returns and net profit of the agriculture sector should resolve this issue as it will provide attractive employment opportunities.

PROPOSED MAIN CONCEPTUAL MEASURES OF THE "DEVELOPMENT PLAN" FOR THE AGRICULTURE SECTOR OF SOUTHERN - MEDITERRANEAN REGION

When the following conceptual measures are fulfilled, detailed criteria for developing the regional agriculture sector will become self driven:

- ***Enhance the Competitiveness Capability*** of the regional agricultural products through realistic exposure and diagnosis of farmers' problems to resolve them and through the implementation of advanced farming technologies to lower production costs, increase yields and improve the quality to meet the health and food standard specification of industrialized countries who can very well afford to pay good prices if these requirements are met.
- ***Capitalize on the Environmental Potentials*** through the selection of highly adaptable crops and varieties especially in horticulture. For example more attention should be paid to expand in growing regional specificity tree crops like dates, olives, figs, pomegranates, citrus and grapes in addition to herbal and medicinal plants. These are typical southern Mediterranean fruits and plants and can elevate exports returns without major competition from other

regions. Further the processing of these crops for added value is simple and requires relatively small seed investment which matches the financial resources of the regional states. To integrate with northern Mediterranean countries rather than competing with them and unless new remote markets are exploited, expansion in growing grapes and citrus should be done rationally to meet the demands of domestic markets and a narrow earlier ripening export window to EU markets of 10 to 14 days.

- ***Strengthening National Farmers' Linkages and Enhancing Regional Cooperation*** as effective tools in agriculture development. This requires a process of melting the ice between researchers, extension workers and farmers so that they can work hand in hand for the development of the regional agriculture sector and the welfare of an important segment of the whole community. At all times academic persons forming integrated members of the working team should remember that in the history of mankind development researchers were actually farmers at the first place.

PROBLEMS & BOTTLENECKS CAUSING FARMERS' WEAK LINKAGES

A. On Farmers' Side:

- ***Mistrust in Extension Workers and The Message They Carry - (Conflict of Interest):*** this situation has a historical background that goes back to decades of centrally planned economy; a period during which regional governments have monopolized agriculture production inputs and were the only buyer of strategic and non-strategic crops at fixed low prices which did not even cover the production costs leaving the majority of farmers in real poverty and has caused the creation of new generation who are willing to do anything but farming. Regional examples of products subjected to such unfair trading were in Tunisia hard wheat, soft wheat, barley, olive oil, beef, veal, sheep meat and milk, while in Egypt it were rice, cotton, sugarcane, beans, hard wheat, soft wheat, some fresh vegetables, beef, veal, fish, and poultry. During this period, and even now, farmers used to look at extension workers as servants of the governments' unfair plans and not as servants of farmers and the public interests.
- ***Mistrust in Cooperatives:*** again during the decades of centrally planned economy, cooperatives were enforced on farmers to execute the government plans of issuing production inputs and secure the confiscation of the resulting crops at the government low set prices. In many instances the management and administrative persons of these cooperatives were corrupt and farmers experiences with these bodies has left them with the great belief that cooperatives are merely organizations to impose injustice on the poor farmers and are used for the benefit of handful corruptive persons who took advantage of the situation. The historical inheritance of these negative experiences has made many farmers wary of adopting this option, an attitude which even weakens farmer to farmer linkages.
- ***Illiteracy:*** in spite of national campaigns and high local and donors' investment to eradicate illiteracy, there is still a considerably large illiterate segment among farmers, especially elderly ones, who are a good source of indigenous farming techniques which should be looked at with great respect and receive proper attention for improvements. This situation has automatically created a barrier between farmers on one side and extension workers and researchers on the other side.

- ***Tendency towards Individualism:*** this is a culture inheritance resulting from historical and geographical isolation before the eruption of population and has started to diminish, yet it negatively affects farmers' willingness to cooperate among themselves or with others. Many farmers look at neighbor farmers as their competitors from whom they should hide their successes or even failures. Aside from further weakening of farmer to farmer linkages, sometimes this attitude contributes in disseminating false information which can be taken and treated by the system for facts.
- ***Inherited Poverty from Decades of Centralized Economy:*** this recognizable situation in addition to farmers' traditional beliefs limit their ability to invest in adopting new technologies.
- ***Small Holdings and Relative Absence of Collective Farmers' Activities:*** aside from the fact that small holdings farmed by small farmers can not achieve the competitiveness of "economies of scale" required to face the mechanised, large-scale production methods used in western countries, the weak existence of national and regional cooperatives under this situation makes the transfer of the extension message and technology rather difficult as it has to be addressed to uncountable individual farmers rather than groups of farmers.
- ***Low Returns:*** many small farmers who cultivate the greatest portion of land do not see a future in farming due to increased production costs and on the other side stability of their products prices, or even worse as in some cases prices have fallen down. In many regional states marketing agriculture products is monopolized by few greedy middlemen who do little but earn all the profit leaving pitiful earnings to the hard working farmers. This combined situation has lowered farmers' morals and made them reluctant to work closely with extension workers and caused them to distance their next generation from farming activities adding to the complexity of the whole development situation.
- ***Farmers' Pride in What They Are Doing:*** as regional farming has not so far gone through modernization with the same pace that happened in the west, farmers tend to take pride in the traditional methods they have inherited generation after generation and sometimes believe that their knowledge extend beyond those of the extension workers. This situation complicates the extension system mission.
- ***Growing Low Cash Horticulture Crops:*** since many farmers do not see a future in farming and under newly evolved conditions, some have planted their small holdings with low cash tree crops which they believe do not need their full time occupation so that they can secure their livings in other trades. These semi abandoned farming land is progressively increasing and is becoming a source of pests complicating the extension duties.

B. On Extension Workers' Side

- ***Inadequate Training:*** extension workers have not been well trained on the following key issues and skills:
 - Adequate reporting to their supervisors, *vis-à-vis* the political decision makers. In many events they report what they assume is expected from them irrespective of its reality following "the easier said than done" approach.
 - Effective means of communication with farmers.
 - Effective means of technology transfer and monitoring.
 - Proper procedure of problems diagnostic analysis.

- Proper procedure of evaluating and assessing results.
 - The use of IT technologies as an important tool in extension activities.
- **Physical Isolation:** by nature of their work, extension workers are physically isolated and there is little interaction with their fellow workers or researchers so that exchange of experiences, knowledge and know how on their level is weak. When there is a chance of international training, overseas symposium attendance, exchange programs with other countries, they are forgotten and become out of the equation to be replaced by higher level superintends who are doing administrative work within the system and are not in direct contact with farmers.
 - **Wages:** in some instances extension workers are offered very poor wages that they are tempted with the help of their direct supervisors, who petty their situation, to work as part-timers so that they can find other ways of sustaining their lives and astonishingly this could be in farming their own land if they are from the locality they work in, or in the worst case they might use their position for personal gain.
 - **Weak Extension Vision:** many extension workers do not clearly understand their mission. They still think that their role in life is to workout the quantities of fertilizers or fodder supplies for farmers or report farmers misconducts in using water or building on agriculture lands, etc to other authorities of the governmental system.
 - **Confusion of Fresh Graduates Extension Workers:** this confusion arises from the undeveloped and irrelevant education system which they have gone through in their university studies and the reality which they are faced with either by the huge diversification of cropping modules evolving from the existence of small holdings in combination with the loose application of liberalization strategies or by modernized “economics of scale” farming methods utilizing updated techniques and managed by private entities. In most cases this confusion is not dealt with through training courses, workshops or seminars and remains with them for the rest of their lives and result in losing self confidence and abstaining from being active.
 - **“Jack of All Trades” Approach:** unfortunately some active extension workers assume that they are experts in all agriculture disciplines from variety selection to crop management, soil conservation to plant protection to water management, to post harvest treatments, etc and they act accordingly. Sooner than later, reality exposes their failure in functioning as such, and consequently they lose farmers’ confidence and contribute in further weakening of linkages.
 - **Question:** if the forgoing conditions are not recognized and dealt with and resolved, how can we expect extension workers to be efficient conductors in the linkages system to produce what is actually expected from them?

C. On Researchers’ Side:

- **Irrelevant motivation:** the majorities of researches are motivated by personnel career development and therefore are mostly of academic nature with little impact, if any, on agriculture development and farmers’ needs and welfare. Most research topics are selected either from the literature or books or as replicates of other completed researches with the change of some conditions, therefore their results are rarely applicable in the field. This

irrelevancy reflects on the national research program and in return does not serve the national development objectives.

- ***Weak Tendency for Cooperation with Other Stakeholders:*** when researchers are obliged, for one reason or the other, to perform field trials or surveys, the applied process mechanism does not allow for obtaining and exchanging of information effectively between researchers, extension workers and farmers. The role of the extension worker can be reduced to convincing some willing farmers and securing cheap labor for field activities. The role of farmers is either looked at as an applicator whose feed back is not really valued or as a consultant to advice on local matters but when it comes to participating with suggestions or ideas, researchers are mostly reluctant to listen.
- ***Ineffective Interaction and Discarding Farmers & Extension Workers Inputs from the Research Agenda:*** due to the system interrupted links and unclear functions, researchers do not interact effectively with extension workers being the main bi-directional conductors for exposing farmers' problems and needs on one direction and transferring and monitoring technology on the other. This ineffective interaction causes an obvious exclusion of both extension workers and farmers, in most cases, from incorporating their suggestions and ideas as a constituent into the research agenda.

D. On the System Operability Side:

- ***Functioning of The System:***
 - The lack of clear perspective and of a transparent and agreed-upon linkages policy.
 - In many cases the organizational structure with sharp job description and tasks is either not defined clearly or is not functioning properly.
 - Inadequate communication of policy makers with other stakeholders results in inadequate formulation of research projects and priorities setting.
 - Insufficient funds for adaptive research.
 - In many cases, outline procedures and methodology for technology generation, transfer and monitoring are missing.
 - The weak or complete absence of “technology transfer results assessment and evaluation procedure”. Negative results are mostly out of evaluation and in most cases the only measure of positive results could be the increase in yield which in reality might be attributed to any other reason but technology transfer impact. The following examples indicate the absence of such procedure:
 - ☞ Generally, applied techniques at agricultural research stations bring about positive results whether in production or quality. When these techniques are supposed to be applied by farmers they do not bring the same results followed by farmers' abandonment to such techniques. This situation must be investigated and evaluated to identify bottlenecks in technology transfer; communication channels and / or improper adoption by farmers, but because of weak or absence of evaluation procedures, i.e. methodology, reports always take the shortest cut and put all the blame on farmers.
 - ☞ When farmers achieve certain successes applying their own innovative initiatives and such successes are spotted, they will be attributed to the extension system. If the evaluation procedure is actually functioning, these innovations should be exchanged and transferred to other farmers.

- ☞ In Egypt a TV 30-minute weekly "soap opera" "Serr el Ard," or "Secrets of the Land," that extends the latest agricultural technology while presenting popular entertainment has been televised for more than 10 years on main national channels and governorates' local channels. The broadcasting time is excellent and the total number of broadcasts could be between 40 and 50 times per month on different topics. This program is addressed mainly to small holdings and possibly illiterate farmers. For the purpose of this paper and within the time limits given to prepare it, the author has spoken to a random small sample of 15 such farmers. 12 indicated that they regularly watch the program only for the sake of entertainment and to have a laugh or two, while 3 have mentioned that they concentrate on the extension material content. Of course the analytical diagnostic approach was not used in this investigation but the result initially indicates that the drama content of the program overweighs the extension message and indicates further that the evaluation mechanism is not effectively functioning. In spite of this, this program has received an international prize award!
- The one direction reliance of most of the current linkages mechanisms on conveying information from research to farmers through extension. The flow of information from the other direction (feedback from farmers through extension) is either completely lacking or ineffectively performed which negatively influence the process of technologies innovation suiting local conditions and farmers culture / traditions.
- Inappropriate interaction with policy makers due to the lack of adequate representation. In meetings with policy makers which are normally concluded with a rosy picture, extension workers are represented by administrative staff who might have better communication skills irrespective of the message they carry and generally farmers are represented by either one of the following categories:
 - ☞ Previous employees of the system who have been seconded to state organizations which are assumed to be representing farmer's interests.
 - ☞ Rich farmers already using advanced technologies, yet they do not represent the wide base of farmers and are not actually exposed to their problems or needs.
- ***Farmers Involvement Within The System:***
 - Farmers do not have the proper access channels to share in formulating the research agenda.
- ***Extension Involvement Within The System:***
 - Irrelevancy of extension work.
 - In some instances local extension services are over-staffed which reflects on looseness of responsibilities and inefficient performance.
 - Repetition of effort in extension work rather than exploiting new areas.
- ***Research Involvement Within The System:***
 - Is based mainly on perceptive approach and policy makers' decisions.
- ***Education:***
 - University education has not been developed enough to meet the current needs of modern agriculture. The linkage between educational and research institutions is adversely weak and the relation is of a criticism nature in an attempt to prove who is right and who is wrong.

NEGATIVE IMPACTS OF WEAK FARMERS' LINKAGES

- With all its weakness, the linkages chain is severely interrupted between research institutions, extension and farmers on one side, and marketing bodies on the other side. This situation reduces farmer's profitability to marginal levels almost enough for survival.
- Because of improper linkages with extension workers, researchers and research institutions, farmers' problems are not properly highlighted. Sometimes they are imaginary and sometimes they are exaggerated and rarely that they are exposed truly. There is a considerable absence of clear strategy and procedures aiming at farming problems identification.
- As a result of the negative impacts of trade liberalization supplemented by the relative absence of effective extension and research, farmers have been left as a prey for traders, nurserymen and money makers who sold them inappropriate input products and techniques. In many cases farmers have been encouraged by this lobby to grow products for which there is a limited market or where there are no traders who have experience of marketing these products.
- In many regional states, land reclamation has become an attractive investment to the private sector entities during the last two decades especially where under-ground water aquifers exist with long life expectancy. Due to farmers' weak linkages combined with ineffective extension system, the investment in this sector becomes simply a matter of luck subjected to trial and error approach. Many investors have been actually financially liquidated and rather than reclaiming the land they have abandoned it after many years of trials leaving it full of native and nonnative weeds.
- In many instances it has been proved that the poor interface between research and extension and the private sector reflects negatively on identifying the actual needs of farmers, traders and processors.

RESOLVING RECOMMENDATIONS TO STRENGTHEN FARMER' LINKAGES AS AN AFFECTIVE DEVELOPMENT TOOL

- ***Linear or Triangle Farmers' Linkages:*** under the regional prevailing conditions, the triangle approach in linkages can not yet be applied due to the large gap and culture differences between researchers and farmers among many other reasons discussed in this paper. The linear approach would still be appropriate but it must be tailor-suit to the regional and domestic circumstances. In order to function properly' all bottlenecks must be dealt with; with full transparency and effectiveness. While it is recommended to use the linear approach, gradual interaction between farmers and researchers is also foreseen through certain channels which will be discussed later.
- A proposed developed linear linkages and extension system is shown in Diagram 1 on page 11. It is foreseen that there shall be a slight overlap from private entities into extension as shown on the diagram. This type of private extension can be either farmers-to farmers,

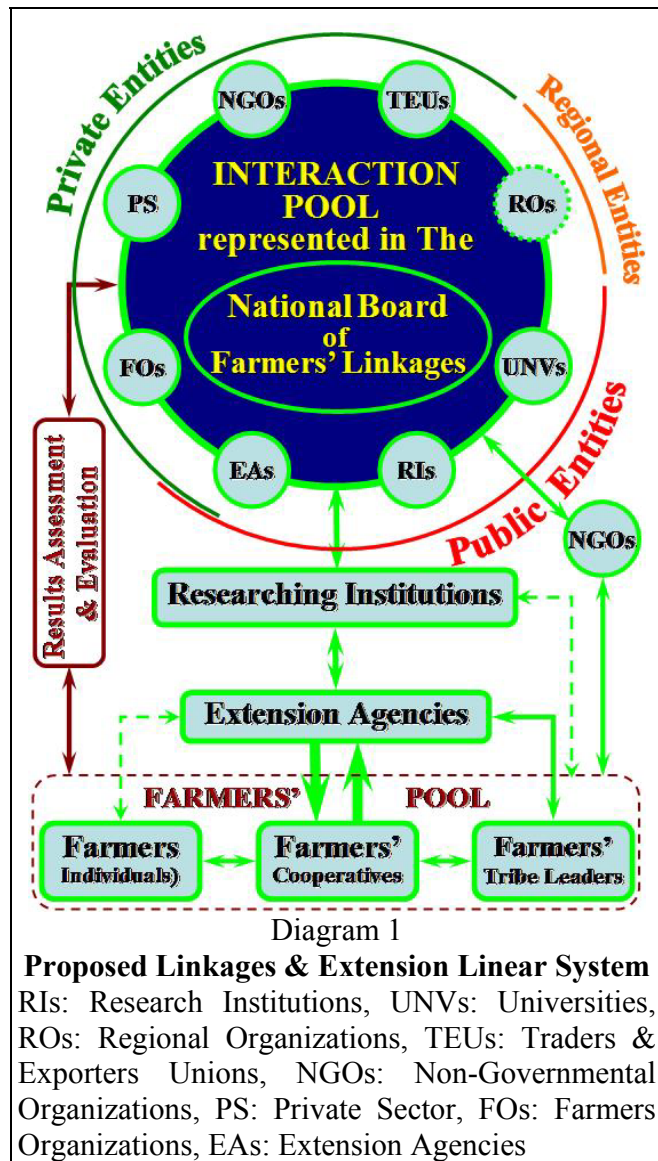
NGOs-to-farmers or private unions of other trades related to the development of the agriculture sector.

- **Flexible Extension Strategy and Adoption of “Bottom Up Policy” and Reinforced Perspectives:** the strategy should be changed to annalistic extension / research with clear perspectives based on farmers' needs and abilities rather than the existing perceptive approach in many regional states. This will facilitate the effective handling, without generalization, of the specific national and regional problems outlined earlier in this paper. The system strategies should be dynamic enough so that necessary changes can be made whenever needed to deal with continuing changes in farmers' needs or varying impacts from other sectors.

The current “top down policy” should be revolutionary changed to a “bottom up policy”. Farmers' ideas, indigenous knowledge and practices should be respected, refined and revalidated rather than being rejected and farmers' participation in setting farming procedures and techniques should be focused upon as a first step in developing the sector. Their involvement will enhance the process of technology transfer and farmers will handle extended innovations and new techniques as their own. Such a strategy will narrow the gap of rejection in the farmers / researchers relationship. Further it must be made clear for all stakeholders that development and improvement should also start from the bottom and therefore farmers should participate in the choice of criteria for research.

The strategy should have an ultimate objective of improving the livelihood of small farmers.

- **New Extension Agenda:** since the foreseeable improved farmers' linkages system is based on wider spectrum participation of increased number of stakeholders with varying responsibilities, extension should be broaden to cover areas not exploited by the existing system such as:
 - Crop diversification,
 - Organic farming and IPM,



- Human resources development including illiteracy eradication,
- Promotion of small scale farmers through value addition,
- Marketing and market information,
- Natural resources management,
- Socio-economic impacts
- Integrating environmental considerations into the development equation,
- Training farmers to improve their technical abilities.

Further, extension should adapt a major task of advising farmers with accurate estimates of the resources cost required to implement new technologies with a comparison of the benefits that farmers might receive from applying such technologies. It must be made clear that regional farmers do not have surplus funds to invest in additional possible risks.

- ***Regional Conditions Necessitate Widening the Base of Stakeholders in Farmers' Linkages:*** there is a great need to start a process of shifting the role of public sector extension from the sole participation and functioning of state institutions to multi player scenario. NGOs, private sector and farmers organizations, corporate sector, universities and Regional and Inter-Regional organizations should participate and play a complementary role to one another in farming extension.
- ***Evaluating the Existing Extension System:*** on the national level, the current linkages system including extension must be subjected to evaluation studies by outside consultants to perform the following tasks:
 - Identify particular bottlenecks within the system to come up with practical solutions to improve effectiveness.
 - Engage inputs from all stakeholders and their visions on how best to interact with one another so that the ensuing recommended strategies are relevant to domestic conditions and needs.
 - investigate resources and facilities at all levels such as but not necessarily limited to personnel capabilities, research institutions and stations, training, extension and transportation means to implement either one of the following realistic strategies:
 - ☞ Relate linkages objectives and methodologies to available capabilities, resources and facilities.
 - ☞ Set budgets to improve existing capabilities, resources and facilities to serve more ambitious objectives and more efficient linkages.
- ***Improvements to the Existing Extension System:*** the following measures should be activated for system effectiveness:
 - Impacts of extension materials should be evaluated by follow-up studies to pre-set methodologies.
 - The extension system must feed researchers with information about the constraints farmers have experienced in adopting research recommendations.
 - On-farm research programs should be activated and should not be segregated from on-station researches but rather complement them. This should be one of the very effective means to include farmers' perspectives in technology generation and will enable farmers to be partners rather than applicators. The resulting adaptive work content will be thus incrementally increased and respected by farmers having shared in the evolution of new techniques.
 - Evaluate the effectiveness of media extension programs and reform as needed.

- ***Train Extension Workers Intensively on Lacking Skills:*** these include adequate reporting, effective means of communication with farmers and technology transfer and monitoring, proper procedure of problems diagnostic analysis, proper procedure of evaluating and assessing results and the use of IT technologies.
- ***Train Farmers to Become Semi-Extension Workers:*** Until such time when farmers' organization are properly formulated to facilitate the effective performance of the extension system and even later, the attempt to collect 100 farmers for a one day training course should be replaced by training 10 open minded leader farmers for 10 days to relay the extension message efficiently and then turn these 10 farmers to become semi-extension workers themselves. By nature farmers have more faith in their fellow farmers especially if they are from the locality.

The author has gone through multiple experiences of the same nature which has proven to be extremely successful. Together with researchers, he has held seminars sponsored by the World Bank in one of the remote Egyptian oasis for farmers and community members on quality olive oil and how to produce it on small on-farm processing units. It was extremely obvious that farmers have responded more positively to the author than to researchers. Not only that they have applied the techniques presented but they even changed their own diet and rejected low quality olive oil which they, for decades, never recognized that it was of low quality.

In another incident he trained 16 olive farmers on an extension program sponsored by CARE on modern cultural practices in olive growing on the premises of his own grove and the results were again extremely positive

- ***Efficiency Evaluation:*** the effectiveness of the extension system should be evaluated regularly not necessarily through achievement of physical targets but also in terms of the changes brought about in the knowledge, skills, attitudes and adoption behavior of the system customers; "the farmers" and the improvement of their livelihood. The final measure should be: "A satisfied customer is the best advertisement".
- ***Combat Regional Farmers Tendency towards Individualism or Mistrust in Cooperatives:*** farmers should be initially approached through pre-existing groups bound together by tribal links or family links, where these groups have already proposed collective activity.
- ***Encourage the Creation of Farmers' Organizations and Activate Existing Ones:*** state governments should encourage farmers to form these organizations with their own initiatives through the following measures as examples without limitations:
 - Exempt members from either property taxation or income taxation or fiscal stamps for a set period of years. Some of these taxation schemes are actually very low but farmers gain will not be in the value of money savings but rather in moral elevations as they will feel governments are treating them as partners rather than a source for continuing depletion.
 - Exempt members from custom duties or any other form of duties under different naming on imported or local farming machinery.
 - Members should have concession rates on their electricity consumption.
 - Members should be granted easier accessibility to credits and should be offered grant periods and concession rates of interest even as low as 0.1% less than the prevailing bank rates. This should bring investment into small holdings for much-needed development. In

this process, banks should remove all bureaucratic policies related to land ownership as collateral.

- Members should be covered by health insurance system against low membership fees. Small farmers representing the majority are generally not covered by any health schemes and suffer financially when they need health treatments to the level that they might even not attempt to receive such treatments.
 - Members' offspring graduates from agriculture high schools or faculties should be offered employment priorities in research stations and extension positions. This should reflect on reducing the land-abandoning phenomenon.
 - Governments should not enforce the employment of governments representatives in farmers' organizations as per the current bylaws of some states and should withdraw those representatives from existing organizations to secure their freedom of movement and save them from the salaries they are paying.
 - Provide administrative and political assistance for strengthening members' visits exchange with other farmers of regional states.
- **Objectives of Farmers' Cooperative Organizations:** to suit national conditions within the region, these organizations in addition to the general cooperatives objectives should have specific objectives such as:
- Through farmers' collective activities and single cropping modules, move the small holdings to "semi economics of scale". At the early stages of implementation, cooperatives produce shall be bulked-up and transported to larger markets where better prices are offered. At later stages, self-driven development will reach further stages of sorting, grading, storage and packing of a homogeneous product for added value, the acquisition of vehicles for transport and the establishment of credit unions. Later on export markets can be exploited.
 - The forgoing policy will eliminate the current major role of middlemen and increase farmers' net profit.
 - Reduce production cost through:
 - ☞ Purchasing farmers inputs in bulk thereby decreasing the risk of price fluctuations and lowering transaction costs,
 - ☞ IPM on larger scale,
 - ☞ Better water usage efficiency and other inputs.
 - Promote the role of farmers as developers of technology through involvement in informal research.
 - Facilitate farmer to farmer interaction meetings and workshops in which they can exchange information on good practices of low cost technologies.
 - Strengthen interface for bi-lateral information exchange between farmers and extension workers to facilitate appropriate application of acquired knowledge.
 - Arrange for collective farmers visits to fairs, exhibitions and research stations to interact with wider public and gain self confidence.
 - Arrange workshops where all stakeholders can be present to melt the ice between farmers and highly intellectual persons.
- **Correct Extension Workers Physical Isolation:** this can be achieved in part through the provision of utilizing the advanced IT techniques. In Egypt for example there is a leading project sponsored by FAO which is the (VERCON) "Virtual Extension and Research

Communication Network” project aiming at harnessing the potential of the Internet and applying it to strengthening and enabling linkages among the research and extension components of the national agricultural knowledge and information system. For further information visit:

http://www.vercon.sci.eg/Vercon_en/vercon.asp

<http://waicent.fao.org/tour/tour/Demos/vercon/briefing/briefing.htm>

- **Create Personnel Motivations:** through an incentive and rewarding financing systems for researchers and extension workers which should be linked to properly measured achievements at end users side being the farmers.
- **The Important Role of Universities in Strengthening Farmers’ Linkages:** these institutions must contribute more to communities welfare and become a major player in the research-extension-farmers-marketing circuit for the following reasons:
 - Provide interaction between students and different stakeholders to gain earlier communication skills. Interaction between students and farmers will enrich their knowledge and thinking pool, so as young generations with fresh undisturbed minds they can come up with new researches idea born out in the field.
 - Redirect some of the researching work for more applied sciences which can directly reflect on development and community welfare.
 - Adjust teaching courses to the actual needs of the agriculture sector with its relevant product marketing.
 - Support with their resources such as human, laboratories and experimental farms those of research institutions to reduce resources duplication and thus redirect investments for joint research work.
- **The Important Role of NGOs in Strengthening Farmers’ Linkages:** those with interests in agricultural technology systems and rural development must gradually become an active partner in extension work as they can very effectively supplement or complement some of the objectives in some areas. They can specifically perform some of the following activities:
 - Help in eradicating farmers’ illiteracy as they have much better understanding of communities’ traditions and culture and thus have better effective means to approach these communities than state agencies.
 - Encourage farmers of capitalizing on farming byproducts rather than leaving them to turn into environment pollutants and allocate markets for such products to elevate farmers’ income.
 - Organise fairs / exhibitions of farmer’s products and achievements of innovative farmers.
 - Organize farmers training events.
 - Establish strong liaison with public research institutions to express the community concerns in matters related to sustainable farming and resources development, possible pollution and treatment of farming by-products and impact of research on developing rural communities. Through such relations, NGOs will become aware of available technologies within these institutions and will pick what can be effectively adopted by their farming communities.
 - Develop communication and information systems within rural communities and assist with their facilities extension workers to be exposed to IT technologies through the internet.
 - Assist farmers’ organizations in the following activities:

- ☞ Advice on forming democratic and effective decision-making structures.
 - ☞ Training on bookkeeping and financial control.
 - ☞ Training on usage of computers and telecommunication systems.
 - ☞ Help small farmers to cooperatively re-establish farm gate markets which have vanished for decades now in most regional rural communities. This will guide farmers on how to collectively work together and will improve their marketing skills through on-hand experiences.
 - ☞ Explore domestic and export markets and advice detailed analysis findings in respect of commodities that can be produced, their prices, and demands range, quality and packing requirements.
- **NGOs Interaction with Farmers' Linkages:** when NGOs achieve some of the forgoing objectives, their interaction with farmers' organization, research institutions and extension will be automatically reinforced.
 - **The Important Role of Regional & Inter-regional Specialized Networks in Strengthening Farmers' Linkages:** based on the author's personal experience as the Egyptian Focal Point in the **Regional Olive Network** of **AARINENA** (Association of Agriculture Research Institutions in the Near East and North Africa), it has been recognized that Regional as well as Inter-regional networking can tremendously strengthen farmers' linkages due to the following reasons:
 - The bylaws of these organizations is much flexible than those on the national level so that the representation of all stakeholders becomes much easier or even a requisite of these organizations in any collaborative work.
 - This AARINENA Regional Olive Network was formulated during an olive expert consultation meeting in Tunisia in February, 2004. Different states were represented in the meeting by one or two members from different stakeholders at all levels; farmers, private sectors, cooperatives, researchers and extension workers. The meeting in itself was an excellent chance in exchanging information with counter fellows from the North ESCORENA Olive Network member states.
 - Within the organization of the network, national focal points who are members of the network coordinating board as well as working groups' members are also representatives of all stake holders. For Example Egypt Focal Point is the author (a farmer) who overlooks the activities of the Production and Protection Working Group which include members from research institutions, universities and farmers' organization. This situation has enabled the author to have a major role in preparing the mission statement and working plan of the group to ensure that at the end both will serve farmers ambitious objectives of improving their working environment, cultural practices and their income.
 - When formulating the research projects of the group with the participation of farmers' representatives, all selected subjects were directly related to development and farmer needs.
 - Regional cooperative projects between multiple states triggers national pride especially when joint work is related to development. Scientific achievements which do not have measurable positive impacts on development do not attract the regional community attention and therefore joint projects tend to be of applied nature. Further the feeling of national pride elevates the efficient utilization of interstate resources.

- Exchange and dissemination of local experiences and information through the holding of network sub-regional or Inter-regional workshops is a very efficient tool.

**EXPECTATIONS OF S-N MEDITERRANEAN REGION FARMERS
FROM INTERNATIONAL ORGANIZATIONS
(FAO, GFAR, ICARDA) & REGIONAL FOR A (AARINENA)
TO HELP STRENGTHENING LINKAGES**

- ***Identify Actual Farmers' Needs*** through establishing direct contact channels with Farmers' Representatives (FOs) and NGOs involved with improving the livelihood of rural communities and illiteracy eradication.
- ***Ensure Meeting Farmers' Needs*** through linking all funded research projects with farmers' participation.
- ***Improve Farmers' Understanding of Export Markets' Needs*** through training courses and organizing visits to importing markets to expose regional Farmers to the food health requirements and packaging standards of these markets.
- ***Encourage Farmers to form Collaborative Unions and Organizations*** through exposure programs to show how such collaboratives perform in developed countries and the benefits they have gained for their members.
- ***Improve Farmers Understanding of the Importance of Sustainability, Environmentally Friendly Practices and Green and Clean Concepts*** through organizing training courses, workshops and seminars.
- ***Regain Farmers Trust in Extension;*** initially through supporting simple research/extension projects which can be easily implemented by farmers' leaders and can bring about quick positive results.
- ***Expose Farmers to the Gains of Applying New Agricultural Technologies in Developed Countries*** through video tapes displayed at extension stations and farmers centers.
- ***Increase Farmers' Income*** through supporting with funds and/or information the sort of programs aiming at value adding and marketing at farm gate.
- ***Assist in Training Extension Workers on Lacking Skills*** such as reporting, communication, IT applications, diagnostic analysis and results evaluation through training courses, seminars, workshops and exchange programs.
- ***Help Extension Workers to Regain Self Confidence*** through ensuring their adequate representation in funded national or international seminars, workshops or training courses.
- ***Encourage Collaboration between Research Institutions and Universities*** through linking some funded research projects with universities participation.
- ***Improve Agriculture Students Exposure to New Technologies as well as their Communication Skills*** through financially supporting domestic and international field training courses.

- ***Motivate Researchers to Switch the Majority of their Research to Adaptive Work*** through establishing an annual prize rewarding system for best adaptive research in each regional state.