

**FOR AN EFFICIENT MANAGEMENT OF WATER DEMANDS:
FARMER TRAINING SERVICE (ÇES) IN THE LSP IN TURKEY**

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ABSTRACT

Agricultural extension services are the major channels for conveying and transmitting up-to-date technologies to farmers. The role of the extension agent in the agricultural development process lies on the top of the list as a major tool in executing the agricultural development plans.

A special agricultural extension unit (ÇES) was set up for farmers in the Lower Seyhan Irrigation Project area (LSP) during the stage I of the project and provided one of the earliest tests of the now widely used Training and Visit system of extension, with the aid of World Bank technical assistance. However, because ÇES was set up in isolation from existing extension services and government administrative structures, it could not be sustained in the long term; following the completion of Stage II of LSP in 1978.

During the development stages I and II of the project, periodic coordination meetings of different agencies involved with irrigation activities (such as State Hydraulic Works, Soil and Water Conservation Service, Agricultural Supply Agencies, Technical Agricultural Office research organisations, and even private sector companies) became a regular feature. As a result of these services, ÇES has contributed greatly to increased production in general. Successes and weaknesses of the ÇES were discussed in this article.

***SU İSTEKLERİNİN YÖNETİLMESİNDE ETKİLİ BİR YÖNTEM : AŞAĞI
SEYHAN PROJESİNDE (LSP) ÇİFTÇİ EĞİTİM SERVİSİ***

ÖZET

Gelişmiş tarım teknolojilerinin çiftçiye iletilmesinde en etkili araç "Tarımsal Yayım" servisleridir. Tarımsal geliştirme projelerinin başarısında çiftçi eğitim servislerinin çok önemli ve etkili rolleri vardır.

Aşağı Seyhan sulama projesinin (LSP) birinci safhasında çiftçiler için özel bir Çiftçi Eğitim Servisi (ÇES) kurulmuştur. Bu servis Dünya Bankasının teknik yardımıyla kurulmuş olup, "Ziyaret et ve Eğit" çiftçi eğitim anlayışının en etkili modellerinden birisini oluşturmuştur. Ancak yeni oluşturulan bu Çiftçi Eğitim Servisi Tarım Bakanlığı bünyesinde bulunan ve halen mevcut olan Tarımsal Yayım Servisinden ayrı olarak kurulduğu için aşağı Seyhan sulamasının ikinci safhasında ömrünü tamamlayıp kapatılmıştır.

Ancak projenin birinci ve ikinci gelişim safhalarında DSİ, Toprak Su, Zirai Donatım, Tarım Bakanlığı araştırma kuruluşları ve hatta özel sektör temsilcileri ile sulama işlemlerine paralel periyodik olarak yapılan toplantılar, projenin bir parçası haline gelmişti. Sonuçta bu servis (ÇES) aşağı Seyhan sulamasında ürün veriminin artırılmasında çok önemli bir rol oynamıştır. Bu makalede Çiftçi Eğitim Servisi (ÇES)'in başarılı ve aksayan yönleri tartışılmıştır.

I. INTRODUCTION

Agricultural extension traditionally has referred to the work of a professional body of agricultural experts, often government employees, teaching improved methods of farming, demonstrating innovations, and helping farmers to organise and solve their problems. Extension has also served as a link between farmers to transfer the "best practices" of one farmer to another, and as a channel to introduce-agricultural policies. The basic functions of agricultural extension have been informally applied throughout human history.

Agricultural extension activities currently encompass a wide range of activities but the exchange of information continues to be the primary focus of extension activities. Private sector involvement in the provision of extension services has been studied little compared to the wealth, of literature and practical knowledge available on public sector extension.

In most countries, except those which are entirely centrally planned and controlled by government, there are extension activities in both the private and public sectors. Significant public funds have been invested in extension services by governments around the world. Public sector extension has also been an increasingly large employer. The number of extension employees in the developing world increased dramatically after independence in many countries. This was largely due to absorption into the extension service of employees of private firms related to agriculture and owned by expatriates which discontinued business after independence.

Overall there are about 600,000 active extension workers in the world. About 90% of these extension workers are employed by Ministry-based extension organisations, 6% employed by public universities, 4% by commodity groups and farmers' organisations. This does not include technical field staff working for marketing / processing firms; salespeople for input suppliers, and private consultants advising on agriculture, or cooperatives (1).

Public sector extension has gone through numerous transformations of approach and international donor agencies have tended to align themselves with one form of extension or another. FAO's primary extensive support for extension is provided through field projects. "More than 500 such projects, under implementation in 1980-1986 were concerned mainly or partially with extension" (2). From 1975-84 USA had 1,065 projects involving extension and 266 focusing on extension (3).

In order to generate benefits in accordance with a certain objective such as increased production, increased sales, better use of the product, access to a specific type and quality of fruit for export etc., extension must be a channel through which appropriate technology flows.

In summary, the mission of increasing agricultural production to sustain food and fiber requirements of rapidly increasing populations could be facilitated through management of water, land, and human resources.

In order to increase production in irrigated agriculture in the Lower Seyhan Plain, a special Farmer Training Service (named as ÇES) was established in the Lower Seyhan Irrigation Project area in 1966. This service was the first of its kind in Turkey. This farmer's training service has provided services forseen in its establishment goals in close co-operation with the related organisations in areas such as cropping pattern with project, controlled irrigations etc. As a results of these services, Farmer's Training Service have contributed greatly to increased production in general in the area between 1966-1986.

2. ÇES: AS A CASE SYSTEM OF EXTENSION

A special agricultural extension unit (ÇES) was set up for farmers in the project area during the first stage of the project and provided one of the earliest tests of the now widely used "Training and Visit" system of extension, with the aid of World Bank technical assistance (4).

Farmer's training service was established in 1966 by the requirement of the financing organisation (World Bank) for the project in order to disseminate the information modern technology and on the increased production situations to the farmers in the area. Although there were a number of extension organisations in the Lower Seyhan area, this special unit was founded.

The Farmer's Training Service started its services with 4 specialist and 23 foremen in 23 villages on 9.480 ha area. In 1976, the number of personnel of the ÇES consisted of 13 agricultural engineers, specialists, 58 permanent and 7 temporary foremen serving in 86 villages on 1 10.040 ha area.

This extension service was sponsored through financial and personnel aid of the Ministry of Agriculture by the Technical Agricultural Directorate, Regional Plant Protection and Quarantine Headquarter and Soil and Water Conservation Service of Lower Seyhan Planning Regional Directorate in the project area.

During its establishment years, ÇES has put more emphasis on cotton production due to the characteristics of the Lower Seyhan Plain. The reason for emphasising its services on cotton was because cotton was the major crop in the irrigated part of the region with 60-98 % of the area planted with cotton. In the following years, extension services for other crops were provided though cotton dominated the cropping pattern for long time.

In order to provide efficient services at the village level, well-known agricultural extension methods have been modified and adapted to the local conditions by technical specialists of the ÇES. The final form of the information was disseminated to the farmers by the Agricultural Engineers and foremen. The principal means extension service was training local farmers while working on their field. This was accomplished through close co-operation technical personnel and foremen with the farmers in the region.

Maximum or optimum crop production can only be attained by applying the right amount of water at the right time. Deviation from this golden rule inevitably leads

to decreases in crop production. Farmer, through years of observation and learned tradition, developed irrigation practices that are often very close to the actual needs of the crop. However, every time that a farmer tries a new crop, a time-consuming learning process starts, and until the moment when a satisfactory level of skill is reached, a considerable crop production potential may have been wasted. Farmers are aware of this problem and it is one of the reasons why they are often reluctant to crops with which they do not have previous experience. This is a characteristic problem of newly established irrigation schemes, where most of the farmers have little or no experience with irrigated crops. Technical advice can be instrumental in shortening of the “full production” stage of the project.

Once the problems have been properly identified, the corrective measures can be explained to farmers who can be convinced in this respect, extension services could be carried out effectively.

In addition, demonstrations and field days have provided other means for extension services. Slide shows in the village coffee-house, simple brochures on various agricultural issues, radio talks and other written means have been effective training services. However, above mentioned means of extension services should be utilised all together for a rational extension.

2.1. History of Agriculture at Lower Seyhan Area

In the Lower Seyhan, agriculture and farming goes back to ancient times. Farmers believe that they have sufficient knowledge about the irrigated agriculture. For this reason, they do not readily accept new approaches or new technologies easily, therefore they can be considered conservatives. However, farmer’s experience and knowledge are key issues for the extension specialists.

Farmers in general believe and follow the successful neighbor farmers. These practices have provided valuable information for the extension personnel. Extension agents have emphasised close co-operation with these lead farmers in the project area. As a result, successful training has been provided for other farmers.

Although the extension service has provided successful services towards increased production, irrigated agriculture etc., on one issue, which is the cropping pattern, extension service has failed. Because, farmers of the region have not been convinced for changing cropping pattern which was foreseen in the irrigation project. Farmers have continued to grow crops that have suitable and ready markets. For instance, farmers have not quit growing cotton despite numerous production problems, due to ready marketing conditions higher income per unit area with cotton cultivation on their lands. Wheat for this reason has remained in the second place next to the cotton.

Soil and climatic condition in the Lower Seyhan is suitable for obtaining two, even three crops in a year under irrigated conditions. However, these resources have not fully utilised or realised by the farmers at the potential rate. Farmer’s Training Service has started studies on new crops, however, due to lack of the marketing conditions for these crops, farmers have not readily convinced to grow these crops.

For many years, the cropping pattern in the project area continued to be dominated by cotton which accounted for over 80% of irrigated cultivation in most years whereas 35% was initially envisioned as the design objective for this crop. It was

not until 1982 before the percentages of cotton began to decline to the current level of around 40 %. It is likely that declining prices, and worsening pest situation, especially the cotton white fly, also with the introduction of a second (late-season) crop are contributory factors to this shift in cropping pattern. However, second crop cultivation is still only carried out on no more than 10 % of total area in spite of existing very suitable land, water, and climatic conditions. The reason for this low percentage is the lack of markets for these crops.

2.2. Existing Bottlenecks for Such an Extension System

Consequently, public irrigation schemes establish their own applied research or demonstration farms, or they may do it in cooperation with research institutes, where the behaviour of newly irrigated crops can be monitored and the data used to provide essential information to extension service agents.

A more serious problem is the lack of proper technical training in irrigated agriculture. Most of the extension agents have a general training in agriculture, but no special training in irrigation techniques and practices.

The same applies to field formen (assistant) who have only one or two more years of training in general agriculture.

In order to provide proper assistance on irrigated agriculture, a close dialogue is necessary between the farmer and agricultural extensionist: Hence, a considerable number of staff is needed, especially during the initial stages of the irrigation projects.

However, because ÇES was set up in isolation from existing extension services and government administrative structures, it could not be sustained any longer following the completion of stage II of the project in 1978. It went into a period of decline and was finally dissolved in 1986. Its functions are being replaced by ÇEY (Farmer's Education and Information Department) at the provincial level, whose activities will be supported by the expanded Agricultural extension and Applied Research Project of the Ministry of Agriculture and Rural Affairs (MARA). It should be mentioned that during the development of stages I and II of the project, periodic co-ordination meetings of different agencies involved with irrigation activities (such as DSI, TOPRAKSU, ÇES, Teknik Ziraat, Agricultural Bank, research organisations and even private sector companies became a regular feature). However as was the case with ÇES, such a practice also gradually faded away, and was discontinued by around the late 1980's.

2.3. Present Status of Extension Services

The Agricultural Extension Service is under the responsibility of Ministry of Agriculture and Rural Affairs (MARA). Irrigation extension is considered as a part of agricultural extension. Irrigation practices and on-farm management of soil and water resources are critical to the successful operation of irrigation schemes. At present these aspects do not receive particular priority or attention in the extension improvement programs of MARA. Irrigation practices and on-farm water management are not satisfactory in most areas except in some more developed Western provinces.

There had been some attempts to build a viable extension service particularly for irrigation schemes in 1970s and 1980s with the support of World Bank, in particular on Köprüçay, Silifke, Tokat, Seyhan II, Ceyhan-Aslantaş and Çorum-Çankırı projects.

The activities of “regular” Ministry extension personnel, however, were additional to the TOPRAKSU extension service geared specifically to on farm water management and irrigation practices as well as to the specialised services of the Plant Protection Service, particularly in cotton growing areas. But there was a notable lack of coordination between the various field senses.

The reorganisation within the Ministry of Agriculture and Rural Affairs, led to the creation of additional general directorates and to various other reforms at the provincial level, greatly affecting the extension service and agricultural research. A causality of the reforms has been the abolition of what in the past was the rather direct responsibility of specialised organisation, TOPRAKSU, now in GDRS, for irrigation research and on-farm development activities, as well as the training of farmers for better water and irrigation management practices. GDRS now, no longer handle these rather specialised irrigation extension services themselves. They are supposed to be carried out through the Provincial Directorates’ Farmer Training and Extension Sections. It is doubtful whether the unification of extension services had the right effect in the case of irrigation schemes.

Irrigated areas in general benefitted from the World Bank assisted research-extension programmes, Agricultural Extension and Applied Research Project (AEARP I) which was carried out almost in half of the country’s provinces from 1984 to 1991. The aim of this programme was to strengthen research extension links and the extension service available to farmers.

Although feedback to the extension service personnel from the research institutes of Ministry and GDRS was quite successful, particularly in the period of 1988-1989, the development of its planned extension infrastructure (village extension centres, field staff accommodation, meeting halls, etc.) has fallen behind schedule. At present, over a hundred village Group Technician Centres have been vacant for more than a year. One problem is to get good technicians on government payroll to actually relocate to village level and live and work there.

AEARP II (at USS 154.4 million) is to run for the period 1990-1997. It further attempts to overcome the problems encountered with AEARP I. Considerable investment in the expansion of extension infrastructure and equipment will be made.

In August 1991, another reorganisation of the former General Directorate of Planning and Implementation (GDPI) was abolished. Instead, two new main service directorates were created. General Directorate of Agricultural Planning and Development (GDAPD) assumed wide-ranging responsibilities for the preparation of rural agricultural development projects, including the rehabilitation and reclamation of land and water resources with agricultural production potential. General Directorate of Agricultural Research (GDAR), a directorate abolished in 1981, has been reinstated to assume overall responsibility for all agricultural research activities of 5 agricultural research institutes, 9 plant protection research institutes, 30 veterinary institutes and laboratories, 6 foodstuff and food processing and preservation research institutes. GDRS remains in charge of its 11 soil and water research institutes.

The research institutes of Agricultural Extension and Applied research Program located in the region took active part in the Agricultural Extension and Applied Research Projects (AEARP) programs to foster improved research extension links.

It is the task of General Directorate of Agricultural Research (GDRS) to carry out on-farm development and this requires effective extension and demonstration work with the farming communities. It is recommended to strengthen the country subject Matter Specialist (SMS) team with a qualified and motivated irrigation specialist / engineer to be stationed for one to maximum two seasons in newly commissioned irrigation schemes. Duties of the irrigation specialist would be especially to provide direct advice to contact farmers and farmers groups and plan and lay out demonstrations. The same officer could play a vital role in supporting on-farm development.

Another approach could be re-organisation of the existing Water Users' Groups (WUG) as Water Users' Association (WUA) in one or two pilot areas (such as Gediz River Basin and Çukurova Lower Seyhan Plain Irrigation projects) and providing them with legal power such as collecting water charges and hiring their own Irrigation Specialists etc. Similar organisation in the Western World and Far East can serve as examples. But for the success of these associations, it is necessary for them to get the financial support of the government for a certain period of time.

The advantages of active participation may be summarised as follows:

- It reduces the cost of operation and maintenance to the government and therefore to the public.
- It improves day-to-day water distribution planning and implementation particularly during the peak seasons.
- It improves the management of conflicts over water and enhances users responsibility toward the system.

3. CONCLUSIONS

In the public sector, there are two types of obstacles to the provision of optimal extension services; those inherent to the nature of government and bureaucracy and practical problems which could be overcome through changes in policy.

In general, the inability of public extension services to effectively work toward accomplishing the objectives set is primarily due to a combination of (1) a lack of funds; (2) bureaucratic inefficiency; (3) an inappropriate extension strategy; and (4) the lack of a meaningful relationship between extension implementers and clientele e.g. accountability.

So, it is becoming increasingly recognized that poor performance is not only a consequence of technical deficiencies (though this is also sometimes an important factor), but that many of the problems stem from weaknesses in the organization and management of the scheme.

Only a comprehensive analysis of all the factors that may be contributing to poor performance at the lower levels of the system can indicate the correct mixture of remedies required, in the correct sequence. In other words, organisation and management at the project level needs to be fully reviewed, as well as constraints at the farmers' level.

There is an urgent need for an effective agricultural extension service in the initial phase of projects in which farmers are unfamiliar with irrigated agriculture, and these services should be an integral part of the water management organisations.

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