

## TERMINAL REPORT

by

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Agricultural Information Specialist - January 31, 1956 through May 31, 1957

Agricultural Extension Leader, Tripolitania and Fezzan, June 1, 1957 through April 11, 1958

Section 1 dealing with my work as Agricultural Information Specialist:

### Duties and Assignments

This position was established primarily because it was felt that the Libyan public should be informed of the program of work that was being implemented jointly by the Nazarat of Agriculture and by USOM/Tripoli which will be referred to in this report as Joint Services (JS).

Secondly, there was then and still is need for additional agricultural bulletins for use in schools and in Extension work, and thirdly, there was and still is need for a more productive coordinated program with Audio-visual for the production of movies, film script, posters, and other audio visual material for use in the Agricultural Extension and Educational Programs.

For a period of approximately 4 months I had the services and assistance of a Palestinian assistant. With his ability to speak Arabic and his intimate knowledge of the customs of this section of the world he was very helpful, particularly in the editing of bulletins and in the completion of audio-visual films, film strips, posters, etc.

In addition to the above duties, the Chief of the Agriculture and Water Resources Division assigned several responsibilities to me which I was pleased to accept but which were time consuming and consequently, did not permit me to complete the volume of work in my designated field that I had hoped to perform. Among these responsibilities were:

The Wheelus Field Project - to be discussed later.

To serve as Liaison Officer between the Agricultural and Water Resources Division and the Training Office in selecting Libyans for education outside of Libya and in facilitating the numerous steps necessary to insure their departure.

To assist in the never ending task of getting reports in on time, advise with the technicians on writing informative reports, and in summarizing the monthly reports for the Division.

On several occasions I was designated to serve as Acting Chief of the Division for periods ranging from 3 days to a week. On one occasion I served for a period of one month.

For a period of 3 months I was designated Assistant Acting Provincial Chief. With many of the American personnel on home leave a considerable portion of my time was given to this assignment.

I report that I was happy to accept these additional responsibilities and that I have the conviction my services in these fields were fully, if not more productive for the Mission than my regularly assigned duties.

### Progress

#### With the Press

Radio and television were not in existence at this time. The press of Libya is largely a government press. It was apparent that satisfactory connections with the press could be best reached and maintained through a government official. Accordingly, arrangements were made with the Nazir of Agriculture whereby feature articles dealing with the work of Agriculture, J. S., accompanied by photos, were prepared and submitted to the Nazir for his consideration and forwarding to the press. The Nazir of Agriculture gave splendid cooperation and after a slight delay in getting started, an average of one feature article per month was carried by the press. The following articles were published:

- Sheep and goats are dipped and drenched.
- Sheiks and Mudirs express appreciation of work done by J. S.
- Dipping and spraying camels.
- Libya's first tractor school.
- Water problems in Tripolitania.
- Tripolitania officials (and press) make tour to Ben Ulid.
- Six VATC graduates go to U.S. for training.
- Zavia 4-H Club project.
- Irrigation at VATC.
- Libyan farmers plant and prune trees.
- Libyan trainees learn about tree nurseries.
- Irrigation training course for Extension trainees.

The above feature articles appeared in the Tripolitania press. Four feature articles appeared in the Cyrenaica press:

- Waterspreading in Wadi Gattara.
- Modern wool plant in Benghazi
- Cyrenaican sheep and goats are dipped and drenched.

#### El-Beida Fair

This story was carried in both the Cyrenaican and Tripolitanian press. USIS also carried this story.

### Beni Ulid Tour

The story of the Tripolitania officials making a tour to Ben Ulid is of considerable interest in that it illustrates the work and cooperation of many people.

At Beni Ulid the Romans constructed a series of water spreading dikes that were filling in with silt and washing out. Joint Services repaired many of the dikes and entered into a greatly enlarged construction program of new dikes. In May of 1956 the results of this program were outstanding. Above each dike where the water had collected and settled were grain and forage crops that were utterly magnificent. Accordingly, Joint Services largely through this office, made arrangements for an inspection tour to show the Libyan officials and the press the results that have been achieved. Cooperation of many agencies was freely offered and a party of approximately 50 people, consisting of high Libyan officials, the press, the American Ambassador, USOM/L officials and FAO officials made the long rough trip. At Beni Ulid a plane flew many of the officials over the entire project. The Libyan officials provided a 14 course dinner and it can accurately be said that this tour engendered a closer relationship between the various agencies working in Libya; and a wholesome respect for the work that had been accomplished. The press gave magnificent coverage to the project.

### Wheelus Field Project

This project was established because the quality of fruits and vegetables marketed at Wheelus Field was of such a poor quality that a team of Americans had made a survey to determine the advisability of growing vegetables under a hydroponics system.

The initial survey, made by this office, established the fact that during the season for each vegetable crop there is an adequate supply. The long term goal was determined to be one of introducing better varieties, aiding through Extension in better cultural practices and the establishment of a grading and marketing system. Dr. Victor Bowman, a Vegetable and Fruit Marketing Specialist, made a 3 months study of the problem and his findings were in accord with the original survey and recommendations.

Fortunately, we were able to develop competition for the Wheelus Field fruit and vegetable contract and a new contract was let to a rather large importing and exporting company. This company, working in cooperation with this office, imported American and European vegetable seed and provided advice on planting, fertilizing and cultural practices. They also import fruits and vegetables from Europe during the season of shortages in Libya. This, plus better grading, has resulted in a marked

improvement of quality in the produce offered for sale at Wheelus Field. The quality still falls short of American standards but the improvement is a frequent source of comment among American women.

Upon the arrival of a vegetable specialist this project was turned over to him for continued action.

#### Liaison With Training Office

My services as Liaison Officer between the Agriculture and Water Resources Division and the Training Office in selecting Libyans for training abroad and in implementing their departure was time consuming but satisfying in that it constituted a start toward the provision of a basic need of Libya, namely, better trained and educated men who are qualified to serve as leaders in guiding Libya's progress. There was then and still is a critical shortage of Libyans with a college education. It is reported that in 1952 only 13 citizens of Libya had received any college education and that no Libyan had received a college education in Agriculture. This number has not greatly increased by 1956. During the period that I served in this capacity, seven Libyans went to the U. S. on scholarships. Six of them are now on their second year of study. One Libyan went to the U. S. for a 3 month course in Extension Methods, 4 studied Forestry in the Cyprus Forestry School, 2 are enrolled in the Abu Ghraib Agricultural School at Baghdad, Iraq, and 2 received special training in Poultry Husbandry in Lebanon, making a total of 16 who received training and education.

Six are presently being processed for training abroad, 1 in the U. S., 3 in Iraq and 2 in Lebanon.

Responsibility for this work was turned over to the Agricultural Extension Training Officer on June 1, 1957 when I became Agricultural Extension Leader.

#### Cooperation With Audio Visual

Work in the editing of bulletins and in the production of films, film strips, posters, etc. progressed rather slowly. Cooperation of the Audio-Visual Department was excellent. The major responsibility for the unsatisfactory rate of production rests largely with this office and with other J.S. technicians, in that their many duties did not permit the necessary prompt follow-up on each step of production that must be taken if the material is to flow promptly from Audio-Visual.

## Section 2 - Dealing With My Work As Agricultural Extension Leader

### Background of Extension Work in Tripolitania

An Agricultural Extension Advisor was among the first technicians to reach Tripolitania following the establishment of the Mission. The number of Extension Advisors was soon increased to 5 plus an Extension Leader and this staff has remained constant.

In most countries there is a corps of trained Agriculturists who can be used in the establishment of an Extension system, but in Libya there were no trained and educated Agriculturists. Further, Agriculture is not considered to be a desirable occupation and it was necessary to select the trainees to some extent if not largely, from the group of young men who had little prospects of entering other fields of work that are considered to be on a higher social scale.

It, therefore, became the responsibility of the Extension Advisors to select trainees from those willing to work in Agriculture with the knowledge that they had no training in Agriculture or in the processes and goals of Extension. This situation made it necessary and advisable for the Extension Advisor to carry on field demonstrations and county agent work as a means of giving the initial training to their assistants.

This method of training is slow. It also takes time to give student training in foreign countries and the net result is that Extension work has developed slowly in Libya.

Unfortunately, 5 years ago when Extension work was started in Tripolitania, it was not possible to establish adequate liaison with the Nazir of Agriculture and as a result, coordination of the work of the staff of the Nazirate of Agriculture and the staff of Extension, J. S., could have been better. Consequently, a situation arose wherein two separate staffs were working earnestly to advance the Agriculture of Tripolitania without proper recognition of the work being done by the other. This situation has been corrected.

### Progress - June 1, 1957 Through April 11, 1958

#### Coordination of Programs

Pleasing progress has been made in coordinating the activities and program of the work of the staff of the Nazirate of Agriculture and the staff of Agricultural Extension, J.S. The Nazir assigned the Deputy Director of Agriculture who speaks English fluently to work with me in setting up a joint program of work.

The first step was in joint conference to formulate an overall program of Extension work for Tripolitania. The proposed program was studied and approved in writing by the Nazir.

The second step was to hold district meetings wherein the Nazirate's representatives of that area and the Agricultural Extension, J.S. staff drew up a program of Agricultural work for that area on which both staffs could work as a unit. Programs of work and goals were spelled out carefully and in detail.

It is still too early to measure the results from this coordination of program but it appears certain that this is a major forward step. The Nazirate of Agriculture has many competent men on his staff whose cooperation will be helpful to the joint program and in turn, the advice and counsel of J. S. trained Extension Advisors will enable the Nazir's staff to improve the quality of their work.

#### TRAINING

The project rated number 1. in importance in Agricultural Extension work is the training of Libyan men to carry on the program of work so that the Americans may be phased out at the earliest possible opportunity with Libyan technicians qualified to carry on the work. Training is being given both informally and formally.

The informal training is being given by the Extension Advisors and technicians in a manner that appears to be bringing striking results in the development of the trainee. Training starts with an office conference at which the seasonable program of work is discussed and determination is made of the projects to be fostered, and the Extension approach that will be used. Each trainee is then assigned a specific demonstration or other piece of work that is to be his sole responsibility. After full discussion with the Extension Advisor the trainee approaches the farmer, sets up the demonstration and carries through with it to its completion. The Extension Advisor visits the demonstration only when special problems arise and occasionally, to ascertain that it is being done properly. Trainees are responding well to the confidence placed in them.

A 6 weeks training course was held to round out the formal training. Two weeks were devoted to Extension approaches and methods and 4 weeks to the teaching of simple Agricultural practices that the trainees could, in turn, teach to the farmer. The course was a joint venture of the Nazirate of Agriculture, and J.S with 20 trainees enrolled from the staff of the Nazirate of Agriculture, 16 from J.S. Tripolitania and 10 from J.S. Fezzan.

The trainees attending the course varied in educational background from those who had never had the opportunity to secure any education to high-school graduates. This, plus the fact that they came from 3 separate and distinct employing agencies, tended to create a feeling of restraint at the beginning of the school. Under the guidance of a remarkably competent teacher (Arabic), it was pleasing to note how they responded and how quickly they became one group interested in the welfare of the Agriculture of Libya.

#### Self-Help

Project rated number 2 in importance is termed the "Self-Help" Program.

Until the advent of the present Libyan Government farmers were not encouraged to perform the services for themselves that the American farmer considers his responsibility. If a cistern needed repair, a dike had a small break, an olive tree needed pruning the farmer requested the government to do this for him. When as frequently happened the government was unable to perform this service it generally went undone for the farmer lacked both tools and know how. The present Libyan Government is doing good work both in doing these services for the farmer and in the self-help program, but the requests and needs are many. Joint Services has established and Agricultural Extension is aiding in the promotion of a rapidly advancing self-help program. If a farmer wants to repair his cistern or build a dike we provide first, the technical assistance, secondly, the hand tools, on a loan basis, and thirdly, a small amount of cement. The cost to J.S. is nominal, the impact on the farmer is extremely worthwhile and a new convert to Extension methods has been made.

#### Other Projects

The training and self-help projects are as noted given top priority in every Extension office. The other projects listed below are included in the overall program of Extension for Tripolitania but because of the impossibility of any office carrying on all projects and the difference in needs and opportunities between the offices, only a part of the listed projects are developed in each office.

#### Livestock

Dipping and spraying for control of external and internal parasites.  
Breeding program - distribution of rams and selection of ewes.  
Sheep shearing program.

Range improvement.

Production of forage to prevent losses during the hot dry period of drought.

### Water

Proper construction of irrigation systems and canals.

Proper drainage to accompany irrigation.

Use of row irrigation rather than the Jadula.

Construction of small dikes on a self-help basis.

Aid in installation of pumps and training in maintenance.

### Agronomy

Seed exchange program. Approved varieties of grain are exchanged with the farmer for his grain.

Seed variety tests as supporting evidence for the tests being conducted by FAO.

Demonstrations of improved varieties of grain.

Advantages of row planting. Up to now row planting has produced a greater increase in yield than the use of fertilizers (on dry land farming).

Proper application of commercial fertilizers and the determination of increased yields.

Control of insects and pests.

### Horticulture and Gardening

An extensive pruning program.

Proper planting of fruit trees.

Introduction of improved varieties of vegetable seed.

Proper and improved planting procedures for gardens.

Improved cultural practices for gardens.

Row planting in gardens.

Proper fertilization of gardens.

Row irrigation for gardens.

Control of insects and pests.

### Forestry

The Forestry Department provides forest trees at a nominal price to the Extension offices. The Extension workers sell the trees to the individual farmers and give them advice on proper planting, watering, etc. Five-hundred-thousand trees were planted in Tripolitania during the 1957-1958 planting season under this program. Many contacts are made in this way that are induced to accept other improved practices.

### Other Projects

A small 4-H Club Program at Zavia.

Cooperation with Audio-Visual in showing Agricultural movies throughout Tripolitania.

Limited training in the use of small tools.

### Progress

Progress is difficult to measure in Extension. Probably the most reliable measuring stick would be that of determining what percentage of the farmers have adopted a practice introduced and promoted by Extension. At best only an estimate can be made.

The number of office calls, demonstrations held, services rendered, etc. are straws in the wind that give indication of the rate of progress but no one knows how many farmers adopt an improved practice because they see it on a farm where it was introduced through Extension.

The Extension Advisor at Homs estimates that after 5 years of Extension work, 10% of the farmers in his area have adopted one or more improved practices that were introduced through Extension. This appears to be the best estimate that can be made for Tripolitania as a whole.

### Statistics That Indicate Scope Of Activities, 1957

Two-hundred-forty-one field demonstrations were held throughout Tripolitania with attendance varying from 5 to 70. The demonstrations covered a wide field of activity, from improved cultural practices, row irrigation, improved grain varieties, insect and pest control, both on plants and animals, and tree planting.

Sixty tons of improved and proven varieties of grain, largely barley and wheat were distributed to the farmers with the farmers returning their local variety on a pound for pound basis.

Five-hundred-thousand trees were distributed to farmers through the Extension offices. A modest sum was charged for each tree and the farmers were shown how to plant and care for the tree. More than 500 farmers cooperated in this program and many of them will adopt other recommended Extension practices as a result of this contact.

Approximately 500 farmers were provided small packages of improved varieties of garden seed. This practice has been carried on for 4 years and housewives report better quality vegetables on the market as a result of this program.

Approximately 1,500 farm visits were made by the Extension staff. Many of these were made at the request of the Libyan farmers.

Approximately 4,000 farmers visited the Extension offices to request assistance. Four years ago office calls by farmers were largely for the purpose of requesting a gift such as a plow or tractor. Few requests of this type are now received, and the office visits are for technical assistance.

Inquiry and incomplete records indicate that during the 5 years of Extension work, approximately 500,000 sheep, goats and camels have been dipped, sprayed and drenched in Libya.

#### Staff

The present staff consists of:

The Agricultural Extension Leader.

Two Libyan counterparts termed Extension agents at large.

Four American Extension Advisors.

Two Palestinian Extension workers.

Ten graduates of the Vocational Agricultural Training School.

Two who attended VATC but failed to pass the English requirements.

Four trainees who have no formal training.

Total staff - 26.

During 1957, 8 trainees who graduated from VATC in 1956 and had received one year of training in Extension work under J.S. were transferred to the payroll of the Nazarate of Agriculture. Under the Nazarate they are assigned some duties other than Extension but they contribute materially to the overall Extension Program.

Comment on Agricultural Extension work in Tripolitania which illustrates the possibility of Extension work and that some success has been achieved. Quoted from Stanley High's article in the January 1958 issue of the Readers Digest - page 107:

"In Libya's still appealingly backward situation all this adds up to no more than a start toward a profitable Agriculture. But how significant it may be can be seen from an account of what has happened to Ali Selim Ghenidi, whom I met on his small farm about 100 miles east of Tripoli."

Four years ago our Agricultural people (Extension) persuaded Ali Selim Ghenidi to use his few acres to prove what would result from the concentrated application of improved farm methods. With loans he bought a steel plow and improved seed. He planted in rows. Instead of only

barley, he began to grow peanuts, potatoes, tomatoes, corn. He learned furrow irrigation and the use of fertilizer. He cleaned out an old cistern, dug new wells, built a reservoir. He pruned his fruit trees. To protect his crops from the desert wind he planted a hedge of fast growing seedlings.

Ali Selim Ghenidi's annual income which before had averaged between \$ 40.00 and \$ 60.00 has risen to more than \$ 500.00. Farmers from many kilometers away come to his farm to see and hear how he has done it. Some of them at least go home and begin to do likewise."

Stanley High's story is accurate but he did not tell all of the story. He did not mention that Ali Selim Ghenidi has recently completed building a fine new home, that he has acquired additional livestock in the form of camels and sheep which he cares for in an excellent manner, and that he is a missionary for Extension work throughout a large area. On occasion he travels with the Extension workers to tell other Libyans what they can do if they will follow Extension recommendations.

There are few Libyan farmers who have done as well as Ali Selim Ghenidi through following Extension practices but there are a heartening number of Libyan farmers who are well on their way toward duplicating this success.

#### Agricultural Extension, Fezzan Province

An organized Extension Program of work is just getting under way in the Fezzan. In December 1957 the Chief of the Agriculture and Water Resources Division, the Fezzan Nazir of Agriculture, the Mission Director's representative in the Fezzan and the Agricultural Extension Leader met and formulated a program for immediate implementation.

The projects will vary within oasis but will be within this broad program:

The provision of small tools on a loan or rented basis. (Self-help Program.)

The establishment of a nursery for fruit trees with demonstrations on pruning and grafting. The distribution of improved varieties of vegetable seed with demonstrations on improved cultural practices.

The establishment of a rice growing project.

Distribution of improved varieties of grain with demonstrations on use of fertilizer, row planting, and row irrigation.

Demonstrations on spraying and dusting for the control of insects and parasites on fruits and vegetables.

Introduction of forage crops with demonstrations on their proper culture.

The provision of planting stock with demonstrations on planting shelterbelts and windbreaks.

Improvement of irrigation, including demonstrations on ditch lining and row irrigation.

A marketing project (cooperative) on agricultural produce.

Establishment of a livestock farm, with training on a breeding program, dipping and drenching of sheep and goats, spraying of camels and the introduction of improved poultry.

#### Staff

The staff consists of:

The Director's representative in the Fezzan who serves as project leader.

Two assistants - 1 Palestinian and 1 from Holland.

Ten Libyan trainees placed as follows: Sebha 2, Brak 2, Hun 2, Murzuk 1, Traghen 1, Ubari 1 and Ghat 1.

Total staff of 13.

#### Time table of integration of the staffs of the Nazarate of Agriculture and the Joint Services, and the phasing out of American Extension Advisors.

Eight VATC graduates have received one year of training under an American Extension Advisor and have been accepted by the Nazarate of Agriculture as a part of their staff. From time to time, additional VATC graduates now on the payroll of the J.S. will be transferred to the staff of the Nazarate of Agriculture. It is estimated that at the end of fiscal year 1960 approximately 20 will have been transferred.

With a portion of the staff of the Nazarate and all of the J. S., Extension, working as a unit on Extension programs, 20 or more American trained Extension workers on the Nazir's staff, and a well qualified Extension leader on the staff of the Nazir, integration will be an accomplished fact. This program is well under way and promises to be completed not later than 1960.

The present phasing out schedule calls for an immediate reduction in staff of American Extension Advisors from 5 to 3. With training of Libyans the major objective, no further reduction should be planned in American staff until late 1959 or 1960. At that time an Extension Leader and one roving or county agent at large, should meet the leadership and training requirements for additional Libyan trainees will be qualified to serve as Extension Advisors by that date.

Program that may be expected in the Extension Program in Tripolitania and Fezzan.

There are now 2 Libyans qualified to take over the administration of an Extension office and to train other Libyans. There are 3 other Libyan trainees, one attending school at Abu Ghraib, one stationed at Homs and scheduled for a year's training at Abu Ghraib, and the third stationed at Garian who are well on their way toward being able to assume charge of an Extension office and effectively carry on the training program. With the splendid support and cooperation of the Nazir of Agriculture and with the sound and effective guidance of the Chief of the Agriculture and Water Resources Division and the Provincial Chief, who have an abiding faith in Extension, we may confidently look forward to commendable progress during the next two years.