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PAGE 1 OF 20

SUBJECT - Completion of Tour of Duty Report by
Fred W. Barber

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Enclosed is a report on the activities of Fred W. Barber, Agriculture Extension Specialist assigned to Derna, Cyrenaica, Libya, during his second tour of duty in Libya. This covers the period of August 1, 1954 to November 11, 1956.

Mr. Barber's work was typical of the activities of our field extension agents and we believe his report gives a good picture of the program of most of these specialists when assigned to areas outside Tripoli or Benghazi. The town of Derna, where Mr. Barber was assigned, is 200 miles east of Benghazi. Mr. Barber was the only American technician assigned to this location. It is a credit to Mr. Barber and to our other extension specialists that they have developed successful technical assistance programs in their areas while living under remote and often difficult conditions.

There are attached also five sets of photographs on matters relating to Mr. Barber's report.

It should be noted that the material included herein has been cut down somewhat from the report actually submitted by Mr. Barber. The material deleted consists mostly of general historical and descriptive interest. This has been deleted in this submission only in the interest of brevity and wider utilization in ICA/W. The complete report is available for all personnel who may wish to review it in USOM/Libya.

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We regret the considerable delay in submittin this report. Under separate cover we intend sending photographs in connection with this report.

A.I.D.
Reference Center
Room 1656 NS

GORDON

* Note - No photos received Cables Sec. Dept/W.

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Tour of Duty Report with the Agriculture and
Water Resources Division, USOM/Libya.

By Fred W. Barber
Extension Specialist
DERNA, CYRENAICA

INTRODUCTION.

This report covers the period AUGUST 1st, 1954 to NOVEMBER 11th, 1956, making a tour of 27 Months and 10 Days.

It may be a matter of interest that this completes a second tour in LIBYA. As a result of my first tour with Headquarters at BARCE, CYRENAICA, I was already somewhat familiar with the country, people, climate, agriculture, Department of Agriculture, personnel, etc.

Nor was DERNA a new post, because ROBERT F. JONES had served a tour here from October, 1952 to July, 1954. He left an office, a Cyrenaican assistant, plus some equipment and supplies. Because of these circumstances and my previous experience, I was able to get settled and into the Field with less difficulty than a new arrival.

II. PROBLEMS OF AGRICULTURE IN CYRENAICA.

Of course, the number one problem is the lack of moisture, as it is over all LIBYA. Undoubtedly the second is absence of land tenure. There are many other problems, but every agricultural improvement program must reckon with these two major limiting factors. Listed below are some additional problems and difficulties, not necessarily in order of importance, which affect agriculture.

1. Severe soil erosion.
2. Overgrazing of range land.
3. Lack of credit.
4. Primitive cultural equipment used by farmers.
5. Inadequate animal draft power.
6. No sources of supply for insecticides, fertilizer, supplies and equipment.
7. Lack of trained agricultural workers.
8. Constant change of administrative personnel in the Department of Agriculture.

DISSEMINATION

III. ACTIVITIES.

My entire program has been conducted in co-operation with or through the Agriculture Inspector (my counterpart) and his Overseers located in the several communities of the DERNA and TOBRUK Mutassarrifias. The major emphasis has been on extension demonstrations and training agricultural personnel, plus assisting the Department with many of its own projects.

1. LIVESTOCK

A. Control of Internal and External parasites of SHEEP.

a. SITUATION - Here in Cyrenaica livestock production is the most important phase of agriculture. Also livestock and livestock products are the most important exports. (See livestock export data, Appendix A). Sheep outnumber all other livestock with an estimated 750,000 head in the province. Also there are large numbers of goats that are of considerable economic importance - though very destructive.

Obviously the sheep and goats were infested with internal and external parasites, and it appeared that a demonstration dipping and drenching program would show producers the value of controlling parasites. Our livestock Specialist, Jim Ford, was of the same opinion, and he assisted me in planning the project.

b. PROGRAM - My general plan was to conduct a rather extensive demonstration program at GIBBA and GAIGHAB during 1955, dipping and drenching in the early summer and again in the fall. If the program was successful then I hoped to interest the owners in organizing livestock associations. Through their associations owners could pay for the cost of materials used, and in time learn to do the work themselves.

A great deal of time has been spent on this program, but there have been many problems and difficulties too numerous to mention here. However, in some respects the program has gone over very well, and we have drenched and dipped on an extensive scale in four communities. See "Summary Tabulation of Drenching and Dipping Program", Appendix B.

We were unable to drench and dip twice in 1955 as I had planned. In 1956 we did get off to a very good start by dipping and/or drenching 21,495 head of sheep and goats for 53 owners during June and July. In September the livestock specialist assisted me in a two-day survey of sheep that we had treated. All the owners and shepherds that we talked to were enthusiastic about the condition of their flocks as a result of drenching and dipping. They said their sheep had stayed in better condition, were more thrifty and vigorous, with more wool than untreated sheep in nearby flocks. Our own examination of numerous sheep and goats confirmed their reports.

During September we contracted with a local mason at GAIGHAB to enlarge the drenching pen and build a long walled lane down to the drenching pen. This was

done at a cost of £ 125, and the improvement made it easy to handle six flocks per day. See "Before and After " picture attached.

With this favorable situation I planned to dip and drench during the entire month of October, expecting to handle up to 30,000 head. In fact we had completed listing owners and flocks at MARTUBA and CHAIGHAB. Then the rains came exceptionally early in the desert, on September 15th and again on September 30th. With water in the cisterns and the prospect of green grazing, the shepherds took their flocks down into the semi-desert very quickly, with no regard for drenching and dipping schedules! As a result of this situation we have treated only 6,000 head in two communities this fall, which has been a great disappointment. Nor do I know what effect this will have on my plans to organize the program on a self-supporting basis in two communities next spring.

During the 1955 program we spent considerable time co-operating with the A/V department in making a short black and white movie on all phases of dipping and drenching sheep. See attached pictures of drenching and dipping program.

B. Improvement of Livestock Watering Facilities

a. SITUATION

During the dry summer season the majority of the sheep, goats, cattle, horses and donkeys in Cyrenaica are concentrated in the Jebel area, where they can be watered at numerous small springs and shallow wells. In drought years even the canals are moved to the Jebel. The Italians improved some of the larger springs and wells for watering livestock, but all are badly in need of repair. Because of these poor facilities and makeshift troughs of old metal drums and holes in the rocks, livestock is forced to drink dirty contaminated water. Some of the wells and springs are infested with large numbers of leaches which are impossible to control under present conditions. Also the dirty drinking water is contaminated with eggs of internal parasites which serve as another source of infestation. In addition there are no curbs round the wells and spilled water runs back in freely. Watering large numbers of livestock close to the well aggravates the situation. During the winter rains, surface water washes small rocks, soil, and trash into the wells. It is easy to see that all springs and wells in the Jebel are badly in need of cleaning and improving with appropriate curbs, watering trough, etc. Last, but certainly not least is the fact that the Bedouins use these same springs and wells for their domestic water supply.

b. PROGRAM

This situation has been discussed with the Livestock Specialist a number of times, who recognizes the importance of the problem. This year he has included in his work plan a project to improve the springs and wells in the Jebel that are used for the watering of livestock. He has asked for £ 40,000. We have assisted him

further by making a survey of most of the wells and springs in the BERNA District, listing names, location, number of livestock watered, etc. This information has been used in his work plan. Also, recommendations have been made in regard to specifications for curbs, watering troughs, etc. We hope that the Livestock Specialist will be able to implement his well and spring improvement project in the near future.

C. Livestock Breeding Center at Gubba.

The Livestock Specialist has been working on a project since the spring of 1955, to develop the old Italian Mule Breeding Center at Gubba into a modern Livestock Breeding Center. I have worked a number of days assisting him with the plans for repairs and remodeling the existing facilities, plus acquiring the property. The contract for repairs and remodeling was made on September 15, 1956 and the Contractor has started to work. Total cost will be around L 11,000. When in operation there will be good stallions, bulls, rams, etc. available to the Bedouins for breeding service, which will result in a livestock improvement program.

2. HORTICULTURE

A. Vegetable Improvement

a. SITUATION - One item that quickly came to my attention was the poor quality of vegetables in the local markets. Evidently strains and varieties had degenerated considerably since the Italian occupation. Neither were there any seed stores or local sources of supply available to the farmers.

b. PROGRAM - From trials and demonstrations in 1953 and 1954 I knew that the kinds and varieties of vegetables used in the Southeastern United States were adapted to the soil and climate of Cyrenaica. On the basis of this information I developed an extensive vegetable seed distribution program in order to assist farmers in improving the quality and variety of the local vegetables. The seeds were requisitioned from the States in bulk, then packaged in small envelopes and given to the Agricultural Overseers and Mudlars for distribution to the farmers in their communities. This program has been very popular, particularly in areas having irrigation facilities, and the quality of the vegetables produced has been much better than the local varieties. Of course, farmers have been urged to save their own seed from these better varieties.

Outstanding varieties are -

1. Great Lakes Lettuce
2. Imperator carrot
3. Texas Grano onion
4. Golden Cross Bantam sweet corn
5. Kentucky Wonder Pole bean
6. Fort Myers Market eggplant
7. White Globe turnips
8. Golden Acre cabbage

Tabulation of Vegetable Seed Distribution.

Season	No. Communities	No. Varieties	No. Packets
1. FALL 1954	12	7	651
2. SPRING 1955	16	15	1712
3. FALL 1955	16	14	1000
4. SPRING 1956	12	10	1134
TOTAL			6341

Vegetable seeds requisitioned in February 1956 for distribution this fall have never arrived.

B. Demonstration Gardens

a. SITUATION - The farmers are now operating the old Italian Ente farms on the Jebel; they are mostly Bedouins with very little farming background and experience, except with wheat, barley, bread beans, chick peas, etc. Very few of them grow any winter vegetables, when there is plenty of moisture. Nor do they have the European or Western garden concept of planting in rows, with adequate spacing and proper cultivation. Last but not least they need more vegetables to supplement their diet and more food.

b. PROGRAM - I felt that a small demonstration garden project in the GUBBA and LA BRACH Communities would be very worthwhile. We will have our own demonstration garden in each Agrario, plus four co-operating farmers in each community. On September 18th we planted seedbeds of cabbage, lettuce and onions to produce plants at the GUBBA Agrario. When rains start we will use these plants, plus carrots, turnips and radishes in our demonstration gardens, and assist the co-operating farmers to plant and fertilize their gardens properly. My assistants will do the work while I am on home leave.

C. Demonstration Fruit Tree Planting

a. SITUATION - On some of the Ente Farms there are a few figs, apricots, peaches, apples, almonds, etc. In the irrigated gardens there is quite a variety of soft fruits. However, there are no name varieties, and there is no information available on adapted varieties of fruit trees for Cyrenaica.

Because of its relatively high rainfall, the Jebel Area has good potential for producing soft fruits.

b. PROGRAM - The Extension Specialist in Cyrene and I made a joint requisition

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for the best varieties of deciduous trees from a reliable nursery in the United States. The trees arrived in December 1955 and we distributed 179 trees to farmers in six communities. From two to five trees were given to each farmer, of kinds we thought would be most suitable for his location.

Kinds of fruit trees distributed:-

1. Apricot
2. Apple
3. Sweet Cherry
4. Peach
5. Walnut
6. Plum
7. Pear

Eventually we hope that these plantings will give us valuable information on adapted varieties. Such varieties will also provide a source of propagation material.

D. Olive and Almond Orchard Planting Project
(Exceptional Budget)

a. SITUATION - Last year the Department of Agriculture started an ambitious project to plant Olive and Almond Orchards on 1200 farms over a three year period. However the Department did not have the transportation of the equipment to do the work, nor sufficient personnel to supervise the field operation. Therefore, the Director requested the American Extension Specialists for active assistance.

b. PROGRAM - We have worked very closely with the Director, District Inspector and his Overseers assisting them in organizing the program and planning the field work. In the Fall of 1956 I trained my two assistants in selecting orchard sites, measuring and staking for tree planting. In cooperation with the overseers they completed this work in October and November. The Olive and Almond trees arrived from Italy on December 15th and were heeled in. All of us spent the entire month of January in the Field assisting the Department with the big job of hauling trees, planting crews, and supervising the tree planting. On most of the farms we planted one hectare of olives and one hectare of almonds.

The planting data is tabulated below for 1955 - 56 -

COMMUNITY	No. :Farms	No. :Hectares	No. :Olives	No. :Almonds	Total : Trees
1. GUBBA	: 25	: 39	: 1,505	: 2,694	: 4,199
2. LA BRAGH	: 41	: 62	: 2,666	: 3,900	: 6,566
TOTAL	: 66	: 101	: 4,171	: 6,594	: 10,765

We made every effort to do a good job of handling and planting the trees, but in spite of everything we encountered many unseen difficulties, and I was not satisfied with the program. In a few days we will make a tree count on every farm planted last winter, but we already know that the mortality is high.

During the dry season, a tanker truck hauled water to the farms, and the farmers watered the trees every two weeks. During the summer the Department provided posts, barbed wire, and fencing crews to assist the farmers in fencing their orchards to protect them from livestock. Considerable time has been spent during the year assisting the Inspector and his overseers with all of these problems.

Early in the summer the three American Extension Agents met and wrote a long letter to the Director of Agriculture, making a number of suggestions and recommendations for improving all phases of the Olive and Almond Orchard Planting Project. The Director was not entirely in agreement with our views.

The second season of this orchard project has already started. One of my assistants with the Land Rover Station wagon has been busy all of October hauling two crews and supervising the work of selecting orchard sites and setting trees stakes on 50 farms in the GUBBA Community. This season only 3 hectare each of olives and almonds will be planted per farm. In addition to planting these farms in November and December my two assistants will also assist in replacing the dead trees on the 66 farms planted last winter. See pictures of the activity attached.

E. Importation of Citrus and Sub-Tropical Planting Stock

a. SITUATION - The Department of Agriculture realizes that there is considerable possibility for growing citrus and certain sub-tropical fruits in limited areas. However, it has no information on adapted varieties, and importation of planting stock for trial purposes has been a difficult matter.

b. PROGRAM - The FAO Horticulturalist assisting the Department requested my cooperation in this matter. I placed a requisition ordering the principal varieties of citrus on trifoliata and sour orange stock, plus a number of sub-tropical fruits from a reliable nursery in Florida. Only four trees were ordered of each variety, but

this will be sufficient for trial purposes. Whatever varieties prove to be successful will also serve as a source of propagation material. This order should arrive in November or December, 1956.

3. AGRONOMY

a. SITUATION - The Department of Agriculture has been doing research in field crops and legumes at ZORDA Experimental Station through the work of FAO Agronomists on loan since 1951. Most of the old Italian records have been lost. Therefore there is very little reliable agricultural information available in Cyrenaica.

b. PROGRAM - In an effort to help with this problem I cooperated with the FAO AGRONOMIST in planting wheat and barley varieties plots at the MESSA, BALANCE, SAF SAF, LA BRAGH and GUBBA Agrarier the winter of 1954 - 55. These plots were 1/100 hectare replicated once. In addition I planted small observation plots of legumes: blue and yellow lupins, crimson clover, Californian burr clover, Austrian winter peas, sweet clover, etc. with seed from the States. It was necessary to harvest the grain plots by hand and haul to Zorda Station (60 to 100 miles) for threshing. This was not a satisfactory arrangement, although the FAO Agronomist did get the yields. To my disappointment none of my legume plots produced satisfactory growth, which I thought might be due to the plantings being made very late.

Again in 1955-56 I cooperated with the FAO Agronomist in planting grain variety plots at LA BRAGH and GUBBA Agrarier. For myself I planted a wheat spacing trial at each Agrario and observation plots of legumes. This time it was necessary to haul the grain for threshing to SAF SAF only 20 miles away. And again I was disappointed that my legume plots made very little growth.

Each season we have had farmers cooperate with us in planting large trial plots of wheat and barley. However we have found it very difficult to get this work done properly and almost impossible to follow up.

I have come to the conclusion that small plots of field crops are too difficult to handle under present circumstances.

4. TRAINING

a. SITUATION - It is true that the Department of Agriculture has a Headquarters Staff, four District Inspectors and Agricultural Overseers located in some 35 farm communities. However, this personnel has little academic education (in fact several overseers are illiterate), and minimum of agricultural background and experience. The lack of trained and qualified personnel is a terrific handicap on every phase of the Department's program to improve the agriculture in Cyrenaica. Trained agriculturalists just are not available in the country. This is a basic and fundamental problem recognized by all concerned.

b. PROGRAM - This problem has been the subject of many meetings and given considerable thought. As a result the following training programs have been implemented.

1. Funds have been found to send a few promising young Cyrenaians out of the country for special courses and advanced training. The difficulty has been to find applicants with sufficient educational qualifications.

2. Each American Agricultural technician has had assigned to him one or two young Libyans who served as assistants and received practical experience and training in the field. When I came to DERNA I inherited Saleh Bucubala from my predecessor Bob Jones. Although lacking educational qualifications Saleh has proved to be a very energetic and dependable assistant, with much above the average common sense and intelligence. During the past two years he has indeed been my right hand, and has absorbed information and training very efficiently in all phases of our work. His ability and training were recognized by the Director, who on October 15th designated him as Manager of the Livestock Breeding Centre and GUBBA, now in the process of being remodeled, repaired and stocked.

On July 9th 1955 the Director assigned M'Soud Shakloul, one of the first graduates from the EL AWALIA Agricultural School, to me as a trainee assistant. He too has absorbed considerable training and experience during the past year. However, he is now only 19 years old and a little more training and seasoning will be very beneficial.

During the Summer of 1955 one of the EL AWALIA undergraduates, Mohammed Mogassabi, was assigned to me for training during the summer vacation. He was very useful in our work and I feel sure acquired some worthwhile experiences. Unfortunately he was killed in a truck accident this past spring.

3. In the fall of 1954 a program was developed to give Department employees additional agricultural background and training. Each American technician was requested to write a series of 15 lessons on basic information in his particular field. These were translated into Arabic and mimeographed. Then each American Agent assisted his District Inspector to organize and schedule classes for their overseers, using the above-mentioned translations for lesson material. In my case we held one class for six Overseers each week in DERNA and one for twelve Overseers each week in MESSA. My assistant Saleh took two days to bring the Overseers into the class, present the lessons, and then take them back home. This took the Land Rover and four days of his time each week which left only two days for helping me with our work. Nevertheless the classes were held pretty much on schedule from November 22nd, 1954 through the first week in March, 1955. At this time Saleh went to EGYPT to attend a five week training course in Water Spreading and Range Management. After this the classes were not resumed because we could not spare the time, and the Department felt that the Overseers should not be absent from their responsibilities two days each week. Nevertheless, over a period of three months our 18 Overseers did receive good basic

instruction in Livestock management, Forestry, Horticulture, Agronomy, and Soil Conservation.

4. In September 1955, I was designated leader of the LARC Extension Training Project (LARC A 7.C - 15) which I had assisted our extension group in drafting the previous April. During the winter I had several meetings with the Director of Agriculture and our American Extension Agents. They all agreed that Short Courses for the Overseers should be given at EL AWALIA Agriculture School during the summer of 1956. In response to this recommendation I spent considerable time with Larry Coyne, School Director, making all the arrangements for two 5-week short courses, the first to start on July 13 and the second on August 10. However due to a last minute misunderstanding with the Department of Education, it was necessary to shorten the Short Courses to 3-week periods starting on July 30. The regular school teachers taught 9 class periods each day in Agronomy, Horticulture, Livestock and Farm machinery. Also there were field demonstrations and practical work in the afternoons. There were several illiterate overseers who were given a practical course in reading and writing Arabic for field use.

The first Short Course was attended by 20 Overseers and the second by 12 Overseers. Each Overseer was given a framed 8 x 10 picture of his group, which he seemed to appreciate very much. From conversations some of the Overseers had with my assistants I am sure the Overseers received some valuable training and that the Short Courses were very much worthwhile. Total cost of the two Short Courses was L1 713.060. See pictures of two groups attached.

Another phase of the LARC project was the employment of 27 EL AWALIA undergraduates and 5 University students during a part of their summer vacation. These boys were assigned to the various Americans and Departmental Personnel and I am sure they received valuable field experiences. Total cost of their salaries amounted to L1 564.300.

5. FARM MACHINERY AND EQUIPMENT

A. PLOWS

a. SITUATION - The Arab farmers use a locally made one-handle affair known as a "Nail Plow". It has a broad sheet metal point. There are several sizes for donkeys up to camels. The plow does not turn the soil but makes a furrow three or four inches deep lifting the soil up and pushing it to each side. Ordinarily they are used only when there is moisture in the soil. There are a few old Italian steel plows in use and the Arabs recognize the superiority of a steel turning plow. At present, however, there is no source of steel plows in Cyrenaica. Many farmers had asked me to help them secure steel plows but they emphasized the need for Light plows

b. PROGRAM - in the fall of 1954, 129 light two-handled steel plows were brought in from TRIPOLI and loaned to Farmers through the agriculture Overseers. Unfortunately these plows proved much too light and not strong enough for use with camels in the hard, tough, rocky soil of the Gebel. Neither did the farmers like the two handles. This experience showed me that we needed a much better plow. While in Tripoli in September, 1955 I visited the Italian plow making shop and arranged for much stronger and heavier plows. During November and December 1955, 49 of these plows were received. Of this number I gave 10 to LEN OTTO in CYRINE and the other 39 were again loaned to farmers through the Overseers. These plows proved to be much better, but still were not satisfactory. The manufacturer in Tripoli was requested to make the points much stronger and extend the slide further under the point to give more strength when striking rocks, etc. This was done and 9 plows of the improved model were received late in December 1955. This model finally proved satisfactory under our extreme conditions in the Gebel. It cost LL 5, which the Arabs say they are willing to pay. As a result of this work with plows I am now in a position to assist farmers in obtaining strong serviceable plows.

B. TRACTOR OPERATION

a. SITUATION - My predecessor had received a John Deere Model 50 farm tractor with all the equipment. When I arrived everything was practically new, in fact several implements had not been uncrated.

b. PROGRAM - The Department of Agriculture has provided petrol, oil, grease and a driver whenever it was necessary to use the tractor. Each fall and winter it has been used to plow and disc the land at the GURRA, LA BRAGH, SAF SAF, BALANCE, and MESSA agraries. The Forestry Section has used it at Cyrone. The FAO Agronomist has used it to seed plots at SAF SAF. From February through June 1955 the tractor was on loan to EL AMALIA School. Because the above-mentioned places are a considerable distance from each other an implement trailer is needed very badly. As yet I have been unable to procure one. Because of unreliable drivers, distances involved, lack of repair parts, etc., it has been a difficult and time consuming job operating the tractor and equipment. Nor is the equipment heavy enough for the difficult soil conditions in the Gebel.

C. HASSADI WELL

a. SITUATION - Just before leaving, my predecessor had assisted a group of Derna farmers in cleaning and deepening a local well. The Department and Point IV cooperated in buying and installing a 3 horse electric centrifugal pump. However, the well had not been used and just before I arrived the pump was stolen. Shortly after I arrived the police recovered the pump.

b. PROGRAM - I called a meeting of the farmers in an effort to get the well into operation. They needed the water for irrigating their crops, but were unwilling to assume responsibility because there was no information as to costs,

amount of water available, etc. Therefore, I agreed to operate the well for two months and give them the water, during which time I would secure the necessary information. During the dry season the pump emptied the well in 30 minutes and at least 1 hour was required for recharge. With normal operation over a 12 hour day we were able to fill the 25,000 gallon reservoir five times per week. This was sufficient to irrigate 1 hectare. Cost of electricity was 3 piastres per hour. On November 17th 1954 I called the farmers together again, explained in detail the information secured on operating the well, and suggested the users organize a simple cooperative association. This they were unwilling to do, saying they would operate the well as needed. With some misgivings I turned the well over to them with entire responsibility for its operation. By keeping a record of the meter reading, I know that they have used the well but very little during the past two years, until two months ago. This project was a great disappointment, but I did acquire some valuable experience!

6. DIRECT ASSISTANCE TO THE DEPARTMENT OF AGRICULTURE

A. BEIDA AGRICULTURE FAIR - The Department held its second agricultural fair at BEIDA on April 6, 1956. It was an outstanding event in the province and a great success. Government officials and farmers were quite impressed with the exhibits, demonstrations and activities.

In preparation for the fair the Deputy Director of Agriculture held a series of meetings and all Department Personnel and Americans were assigned specific responsibilities. I was designated Chairman of the Entertainment Committee and took responsibility for the Nasir's Buffet Luncheon. This required several days work making arrangements, borrowing table ware and other equipment from the British Army in Derna, supervising the luncheon and returning the borrowed items after the fair. Approximately 400 people were served at the luncheon.

B. EXCEPTIONAL BUDGET PROJECTS

1. Well and Cistern Repair. - In the Spring of 1955 a considerable amount of money became available to the Cyrenaican Government through the Exceptional Budget. Each department was requested to submit a number of projects in order to use this money. In May, the Director of Agriculture, knowing of my interest in the cisterns, wells and springs of Cyrenaica, requested me to draft a Well and Cistern Repair Project with a budget of LL75,000 anticipated. I wrote up a complete and detailed project for organizing the project and doing all the field work. The Director accepted my draft proposal. It took almost a year to implement the project. Starting in April 1956 I had the satisfaction of going with the District Inspector on several trips to locate and inspect cisterns recommended for repair in the Lerna and Tobruk Districts. Repair work has been going on all summer. To date 15 cisterns have been repaired in each district. The additional supply of water made available thru the rehabilitation of these old Greek cisterns will certainly be of great benefit to the desert Bedouins and their livestock.

2. Terracing Project for Ente Farms - When the Director asked me to draft the Well and Cistern repair project, he also asked me to prepare another project for the Construction of Terraces on the Ente Farms on the Gebel. He anticipated a budget of L120,000 for the project. This project was prepared in complete detail and accepted by the Director. However I have never heard further of the project and assume that it was not accepted by the Government.

3. Small Tools and Equipment - Funds were also available through the Exceptional Budget for the purchase of Hand Tools and Animal Draft equipment to be loaned to farmers. I assisted the District Inspector in preparing a long list of tools and equipment for the Derna and Beida districts. We have heard no more of this project either.

V. ADMINISTRATIVE INFORMATION

1. Description of Area - Originally my territory extended East from Derna to the EGYPTIAN Border, a distance of 200 miles; and westward to the WADI KUF for 75 miles, or a total distance of 275 miles. This included the entire TOBRUK, DERNA, and BEIDA Mutassarrifias. Also the area down into the semi-desert, 100 miles or more from the seacoast.

The Area west of Derna consists of the Gebel or low mountain country with an altitude of about 2,000 feet near the coast, which gradually flattens out to the south, 50 to 75 miles from the coast, into gentle rolling semi-desert. East and South of Derna it gradually slopes down to nearly sea level and the gently rolling dry steppe or grazing country. The whole area is thinly populated, especially East of Derna, where the annual rainfall drops down to about 6 inches. Derna is the second largest town in Cyrenaica with a population of 16,000. With the exception of Tobruk, the other places are really only very small villages.

On July 5, 1955 MR LEONARD OTTO, another American Expansion Specialist, arrived in CYRENE and took over the BEIDA Mutassarrifia area. This cut off 30 miles from the Western part of my area, to which MR OTTO was most welcome!

West of Derna the GUBBA Community has 94 of the old Italian Ente Colonization farms and the LA BEACH Community has 150 farms.

2. Office Facilities - When I arrived in Derna the office was located in the old Mutassarrifia. However we have always been handicapped by lack of storage space. In March, 1956 all the Mutassarrifia offices, including mine, were moved to the old British Military Hospital on the western edge of the town. This was quite an unsatisfactory arrangement for us. Also it was my desire and the department's that I should have an office in the Agrario, where the District Inspector had his office and Headquarters. This was finally arranged and on September 27th, 1956 we moved into two comfortable offices in the Agrario, where our small storeroom is also located. This will certainly make it easier to work with the Department Staff and coordinate our activities.

3. PERSONNEL - When I arrived in DERNIA one Cyrenaican Assistant, Saleh Bahubel, was on hand who had been with Bob Jones since September, 1953. He had proved to be a good worker, intelligent, loyal and very dependable. I have been able to give him more and more responsibility during this two year period of training. Then on July 9th, 1955, the Director assigned M'Soud Shaklouf, an EL AWAILA graduate, as an assistant trainee. Although younger than Saleh, M'Soud is developing into a good assistant. Mohammed Mogassabi was also assigned to me for the summer of 1955. During August 1956 Mohammed Soudghi Zohni, a third year University of Alexandria student, worked with us for field experience.

5. Relationship with Department of Agriculture Staff - When I arrived in Derna, Fathi Semussi was the District Inspector responsible for Administration of the Department's activities in the entire area East of the WADI KUF to the I Egyptian Border. On September 1st, 1954, Fathi Semussi was replaced by Muftah Shulmani who spoke English very well. Muftah Shulmani was very cooperative and our relationship was excellent. On December 15th, 1955, Muftah Shulmani resigned to become a member of the Libyan Parliament. Mubarak El Mahjub, an agriculture graduate from the University of Cairo, was designated to take his place, but in charge of the Derna District only. Mr. Mahjub is a young man and this is his first job in the Department, so he needs a good deal of seasoning. However, generally speaking, our relationship has been very good.

All of our Field Work has been conducted in cooperation with Agriculture Overseers in the various Communities. They have been very cooperative, and I feel that our relationship with them is excellent.

One tremendous handicap to the overall agriculture progress, as well as Point IV activities, has been the lack of continuity of top administration in the Department. This must be experienced to be fully appreciated. Appendix C gives a list of Directors and Nazirs of Agriculture during the past five years.

APPENDIX ATabulation of Livestock Exported through Borna during 1955

Month	Sheep	Goats	Cattle	Camels	Total
1. January	200	100	-	20	320
2. February	1008	97	35	216	1356
3. March	15118	1369	274	251	17462
4. April	25378	4103	268	100	29849
5. May	12587	5670	2129	80	20457
6. June	7638	2133	330	428	11029
7. July	4327	181	125	308	5141
8. August	1247	260	46	628	2181
9. September	755	20	-	1031	1806
10. October	200	-	142	277	619
11. November	1608	12	15	173	1813
12. December	5220	366	-	328	5954
Totals	75,207	14,811	3,814	4,265	98,287

* Includes Lambs

APPENDIX ATabulation of Livestock Exported through Berne during 1956

Month	Sheep [*]	Goats	Cattle	Camels	Total	Total for 1955
1. January	7159	2320	177	589	10245	120
2. February	15358	8561	200	333	24452	1356
3. March	5835	2542	91	448	8916	17462
4. April	12022	349	20	59	12450	29349
5. May	13436	2176	506	-	17118	30457
6. June	13937	1646	1032	103	16779	11029
7. July	1752	200	1472	218	3642	5441
8. August	2155	40	519	287	3101	2181
9. September	140	160	10	415	725	1806
10. October	-	-	-	-	-	619
11. November	-	-	-	-	-	1813
12. December	-	-	-	-	-	5954
Total to date	71,774	19,354	4,017	2,552	97,697	95,327

*

Includes Lambs

APPENDIX BSUMMARY TABULATION OF DRENCHING AND DIPPING PROGRAMSOctober 6th 19541. Head of Sheep Transferred for 3 ownersDrenching and Dipping Program - August and September, 1955

Community	No. of Owners	No. of Flocks	Sheep	Lambs	Goats	Kids	Total
1. GURBA	14	11	2027	223	1313	439	4707
2. GAIGHAB	2	2	208	20	358	56	642
3. MANTUBA	3	3	245	-	20	-	265
4. JOLHA	7	7	-	-	886	-	886
Total	26	23	2480	243	2282	495	6500

Drenching and Dipping Program - June and July, 1956 - First Phase

Community	No. of Owners	No. of Flocks	Sheep	Lambs	Goats	Kids	Total
1. GURBA	19	23	4932	1332	1395	218	7877
2. GAIGHAB	21	32	5855	1173	1329	456	9213
3. BHT TAMER	10	10	1794	78	781	98	2751
4. MANTUBA	3	3	501	167	218	63	754
Total	53	78	13082	2850	4723	840	21,495

Drenching and Dipping Program - October, 1956 - Second Phase

Community	No. of Owners	No. of Flocks	Sheep	Lambs	Goats	Kids	Total
1. GAIGHAB	6	10	2022	229	546	108	2905
2. MANTUBA	13	14	1013	257	1112	326	2708
3. GHASSE	2	2	306	10	50	20	386
Total	21	26	3341	496	1708	454	5999

UNCLASSIFIED

APPENDIX CRecord of Office Tenure in Department of AgricultureDIRECTORS OF AGRICULTURE

<u>Name</u>	<u>Period of Service</u>
1. Mr. R. Watson.....	October, 1950 to December 31, 1952
2. Mr. F. Murray Parker (Acting)	Jan 1, 1953 to December 31, 1953
3. Mr. E Mackinnon.....	Sep. 23, 1953 to March 31, 1954
4. Mr. H.N. Earle Wilks (Acting).....	April 1, 1954 to February 2, 1955
5. Mr. F. Murray Parker.....	February 3, 1955 to date

NAZIRS OF AGRICULTURE

1. Abdul Gader Alam.....	to May 1952
2. Rashid El Kekhia.....	May, 1952 to August 10, 1953
3. Unis El Gadafi (Nazir of Educ. and acting... only)	August 11, 1953 to Dec. 26, 1953
4. Buseif Yassin.....	Dec. 27, 1953 to April 26, 1954
5. Hamid El Abidi (Nazir of Health and acting... only)	April 27, 1954 to June 19, 1954
6. Hussein Taher.....	June 20, 1954 to November 6, 1954
7. Umar Yacoub	Nov 7, 1954 to Nov 9, 1955
8. Ali Saleh Jaouda.....	Nov 10, 1955 to March 26, 1956
9. Buseif Yassin (Nazir of Int. and acting... only)	March 27, 1956 to date

APPENDIX D

Rainfall in Cyrenaica for the 1954 - 1955 Season

WEATHER STATIONS

Month	EL ADHM	DERNA	GURBA	CYBENE	BARCE	BENHAZI
1. October	19.1	151.1	362.4	372.2	157.2	55.1
2. November	8.4	40.3	17.7	95.1	32.8	57.6
3. December	21.6	22.7	75.6	107.2	102.9	61.8
4. January	0.2	5.2	4.0	26.2	20.5	7.4
5. February	0.1	0.1	1.5	16.2	5.6	3.5
6. March	7.9	28.7	70.5	87.2	50.2	16.2
7. April	0.1	0.0	25.0	16.0	6.1	12.9
TOTALS (MM)	57.5	186.1	563.7	710.0	415.9	214.5
"NORMAL"		285.2		592.4	281.8	265.8

"NORMAL" Figures from old Italian Weather Records

Rainfall in Cyrenaica for the 1955 - 1956 Season

WEATHER STATIONS

Month	EL ADHM	DERNA	GURBA	LA BRIGH	SAF SAF	CYBENE	BARCE	BENHAZI
1. October	--	9.2	27.4	10.5	16.0	24.7	19.8	--
2. November	3.7	27.5	3.7	21.5	42.4	82.5	27.9	9.8
3. December	18.0	73.7	90.1	83.3	102.4	85.1	50.6	75.2
4. January	5.6	21.5	39.7	74.0	44.2	64.2	61.0	28.3
5. February	19.7	30.7	62.7	96.5	113.8	129.0	102.5	51.0
6. March	15.5	40.8	91.6	82.0	71.9	68.2	74.3	15.7
7. April	--	--	3.0	2.5	7.0	10.5	6.6	--
8. May	2.1	3.5	3.5	-	2.1	11.5	6.1	3.9
TOTALS (MM)	62.6	211.9	351.7	360.3	415.8	485.7	317.7	199.9
"NORMAL"		285.2				592.4	281.8	265.8

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