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FINAL REPORT

Contract No. AID/Afr-291, Tunisia



TEXAS A&M UNIVERSITY SYSTEM

College Station, Texas 77843

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**THE TEXAS A&M UNIVERSITY SYSTEM
INTERNATIONAL PROGRAMS
COLLEGE STATION, TEXAS**

August, 1970

**Final report on the Inter-University Exchange Program between Chott Maria
Agricultural College of Sousse, Tunisia, and The Texas A&M University System,
sponsored by the Agency for International Development, Washington, D. C. and
USAID/Tunisia, Tunis, Tunisia.
Contract No. AID/afr-291, Tunisia**

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History and Background

HISTORY AND BACKGROUND OF THE PROJECT

The Tunisian Government undertook a complete reorganization of its agricultural system soon after gaining her independence in 1956. One of the high priority items in this task was the formation of an agricultural educational system designed to produce technicians who could modernize agricultural production. In seeking outside help on this problem, Tunisian government officials began discussions in the late 1950's with USAID technicians on developing a program of technical assistance in agricultural education.

A study of Tunisian agriculture and agricultural education was made in 1960 by Professor Henry Ross of Texas A&M University. Mr. Gara, Chief of the Division of Agricultural Education and Research, visited the U.S. for first-hand observations of U.S. agricultural education. After studying and observing the teaching, research and extension activities at Texas A&M University, and U.S. agricultural agencies, the Government of Tunisia decided that a similar system, adapted to the situation in Tunisia, was needed for the development of Tunisian agriculture. USAID arranged for a feasibility study by a Texas A&M team consisting of Henry Ross, W. R. Mathews, and Jack D. Gray.

The report of this study prepared in early 1962, formed the basis for the Chott Maria Agricultural School Project. The following quotation from this report set forth the objectives of the project:

"The Texas A&M team is of the opinion that there is an urgent need for a new type of agricultural institution in Tunisia. The Government of Tunisia's long-term development plans strongly emphasize the importance of agricultural development to the general economic development of the country. It is the opinion of the Texas A&M team, however, that present programs have little chance of achieving agricultural development unless some method is found for more closely relating agricultural education, extension and research to the current problems of individual farmers. Almost by definition, agricultural development means change in the methods of production. A program to effect such a change can only succeed if it begins where the farmers now are in their production methods and proceeds to move upward from there."

This "new type of agricultural institution" was to study agricultural conditions in Tunisia and bring about the necessary improvements through a system

of closely relating research to teaching and developing the means for introducing innovations into the agricultural system. The report went on to state:

"This new institution should attempt to maintain all the academic excellence observed in the existing agricultural education system, but it should have a new spirit, a new purpose, new objectives, and students educated and prepared to meet new challenges in working with rural farm people in the development of a more productive agriculture and a more satisfactory way of life."

The Tunisian government accepted the recommendations of this report and with the assistance of the U.S. government established the Chott Maria School by law No. 62-82 of December 31, 1962 (5 Chaabane 1382) and published on the official journal of the Republic of Tunisia, No. 64 of December 31, 1962, calling it "Les Collèges Moyen et Secondaire d'Agriculture de Chott Maria." It was thus established as a moyen-secondary six-level school operated under one administration.

The original contract (No. AID/afr-57), between the United States of America and Texas Agricultural and Mechanical College System, providing for assistance in development and establishment of the Chott Maria Agricultural School, was signed October 26, 1962.

The operational plan of this contract sets forth the objectives and scope of work of the project as follows:

"Contractor, in cooperation with officials of the Secretariat of State of Agriculture of the Cooperating Government and USAID, shall provide technical advice and assistance for the purpose of strengthening the agricultural education, research and extension program by assisting in the development and establishment of a land-grant type agricultural education college at Chott Maria, near Sousse, Tunisia, which will also include research and extension services. The College will provide for combined practical and secondary levels of agricultural training."

The original contract was followed by contract No. AID/afr-291 dated February 9, 1966, and this contract had a total of 11 amendments, ending August 31, 1970.

This operational plan also provided for a regular staff of ten American technicians and stated that

Texas A&M University should perform (but not be limited to) the following services:

1. Advise the Secretariat on the organization and administration of the College which will provide secondary and college levels of study in agriculture.
2. Develop a curriculum and course contents for use in the College and other agricultural schools in the Cooperating Country.
3. Provide classroom, laboratory and field instruction in the several disciplines of agriculture and agricultural sciences.
4. Advise the Director of the College on administration and operation of the College.
5. Develop a training farm for use in instruction, demonstration and experimentation.
6. Assist in the training of faculty members and administrators for the College.
7. Provide participant training in the various technical phases of agriculture on Contractor's campus in the United States.
8. Provide short-term training on Contractor's campus for (1) Contractor's personnel who will be assigned to Tunisia, and (2) Cooperating Government officials for observation and study of the Contractor's college system.
9. Assist the College in developing programs (1) applied research, (2) extension, (3) studies in methods of persuading farmers to adapt innovations, (4) in conducting in-service training for government agricultural workers and short courses for farmers, and (5) in methods of organization and operation of cooperatives.

The following guide lines for the development of Chott Maria Agricultural College were formulated setting forth some of the basic philosophy of the project:

- I. Tunisian Agricultural problems should form the basis of the curriculum. The method of teaching would involve the creation of a series of learning situations whereby the students are guided through the steps of finding the solution to each problem, following a systematic process which is a modification of the scientific method of problem solving.
- II. In order for students to learn by the teaching method described the following conditions need to be present.
 - 1) Emphasis has to be placed upon stimulating students to think for themselves as opposed to the memorization of facts.

- 2) All sources of information have to be made as readily accessible to the students as possible.

III. The teaching methods will be designed to give the students a thorough grounding in the fundamentals of the basic sciences required to diagnose and solve problems they will encounter later as agricultural development workers. This would apply to both physical sciences and social sciences. The fundamentals of chemistry, zoology, botany, math, and physics, as applied to agriculture, and of psychology, sociology, and anthropology, as applied to the task of understanding and influencing the behavior of rural people, would be treated thoroughly and by the most modern teaching methods.

IV. Systematic training should be given in extension methods with the aim of developing skill in teaching farmers new agricultural practices and in bringing about changes in agricultural technology. This training would include both theory and practice.

V. Chott Maria should serve as a center of improved agriculture.

- a) Farmers would be encouraged to visit the school to discuss their problems and to offer suggestions.
- b) Chott Maria should become a center for in-service and short course training for agricultural development staff from the country.

VI. Useful research should be a regular part of the function of the institution. Based upon farmers problems and stated needs, a systematic program of applied research should be carried out by qualified staff of the institution.

VII. Management and operation of the College farm should constitute a demonstration of scientific agricultural production along practical lines of management.

VIII. The student-teacher relationship should be less formal than in the past allowing for more contact and interaction between the two.

IX. A systematic program of leadership training should be adopted for developing in the students leadership and organizational skills. One technique for doing this is to place more responsibility upon the students. Another is to foster student clubs as a method of developing leadership skills and organizational capacity among the students.

X. Student services should be provided, including regular counseling of students, the best possible living

conditions, improvements in health services, diet and sanitation, etc.

XI. An organized recreation and sports program for students is essential. It should develop in them team spirit and team work and develop their bodies in keeping with good health practice.

The basic objective of establishing the agricultural college at Chott Maria was to meet the objectives of training people for agricultural development in Tunisia. It was agreed by the parties involved in its establishment that the Chott Maria Agricultural College should be a project involving four aspects.

1. An architectural contract to plan layout of site, design and plan buildings and equipment.
2. A construction contract to construct buildings.
3. A contract with Texas A&M University to assist in developing teaching, research, and extension operations for immediate impact on agricultural development.
4. The Government of Tunisia would provide land, site clearing, utilities and staff for carrying instruction.

The Government of Tunisia, the United States Agency for International Development and Texas A&M University all agreed in principle to this four-way approach to the development of the Chott Maria Agricultural College. Program agreements were drawn up and signed which involved the Tunisian and U.S. Governments. The agreement includes a program of assistance from Texas A&M University to the Government of Tunisia in developing the professional phases of teaching, research, and extension in agriculture at Chott Maria near Sousse.

The first four American technicians for the Chott Maria Project entered duty status under the project on February 1, 1963. They were given a two months orientation on the Texas A&M University campus prior to reporting for duty in Tunisia. This orientation included lectures and studies in five areas (1) French, (2) Cultural adjustment, (3) economics of underdeveloped countries, (4) methods of technological change and (5) planning a Tunisian agricultural education program involving teaching, research and extension. Members of technicians families also took part in the first three areas of instruction.

These first four technicians under the direction of Dr. Randall Stelly, as Chief of Party all arrived in Tunisia on April 3, 1963. Two of these original technicians returned to the U.S. during the summer of 1963. An additional three American technicians arrived in Tunisia during October 1963 to make a team of five technicians for the first academic year of the Chott Maria Agricultural College. Instruction was started in five temporary buildings at Chott Maria in October 1963 for two classes totaling 83 students.

Ten Tunisian project participants were already studying towards degrees in various agricultural subject matter fields at Texas A&M University prior to the opening of the instructional programs at the Chott Maria School site. The first group of project participants were selected during the summer of 1962. They were given a four months intensive training program in English language at the Bourguiba Language Institute prior to being sent to the U.S. They all arrived at Texas A&M University on January 2, 1963 and started instructional programs toward Bachelor of Science degrees.

Goals and Objectives

GOALS AND OBJECTIVES

An operational plan, prepared in 1964, for the development of the Chott Maria Agricultural School project lists the following purposes and general methods of approach for accomplishment of these purposes:

Purpose: The purpose of this project is to promote and assist the development of an agricultural College in Tunisia that may serve somewhat the same role in Tunisian agriculture as the Land-Grant Colleges have served in American agriculture. More specifically, the over-all aim is to bring about the development of an institution providing the following elements:

1. A system for training a cadre of professional agriculturists capable of working effectively with farmers in a change program based upon voluntary farmer participation, and a force of agricultural researchers capable of and willing to design and carry out research programs based upon Tunisia's current agricultural problems;
2. A system for discovering, or creating, innovations in agricultural production techniques, closely enough geared to Tunisian agriculture that the innovations discovered will be adoptable by its farmers;
3. A system for extending these innovations to farmers in such a way that will bring about adoption on a large enough scale to be significant in terms of national agricultural productivity; and
4. A method for relating these three systems so that their broad aims are the same and their efforts are well enough coordinated that they constitute an effective communication channel between farmers, research workers, agricultural educators and agricultural policy makers.

General Method of Approach: This aim would be accomplished by developing the new institution in two stages.

1. The first stage would be the development of a seven-year agricultural school beginning at the seventh standard and extending through the thirteenth. Graduates of the college at this stage would be qualified for agricultural extension work and related jobs not requiring the technical qualifications of an agricultural college graduate. The plan is to develop this institution during this stage to an enrollment of 500 students. It is anticipated that this stage will require approximately three years.

The primary reason for beginning the agricultural school at the seventh standard level, instead of

at the college freshman level (thirteenth standard) is that there is a scarcity of students qualified to enter school at the level of the thirteenth standard. Furthermore, most students attending secondary schools in Tunisia are not farmers' sons, and therefore, require additional time for the rural orientation and exposure to agricultural conditions necessary to make them effective professional agriculturists.

2. The second stage of the development of this institution would raise the level by three standards, bringing it up to the level of a degree-granting college of agriculture. It is anticipated that by the time this stage is reached there would be sufficient improvement in the supply of secondary school students that the three standards at the lower level could be eliminated. The institution would then offer agricultural training beginning at the tenth standard and extending through the sixteenth. The enrollment would be increased to 1,000.

The original campus plan and design of buildings will anticipate this expansion of enrollment and raising of the level of instruction, so that the physical plant of the institution can be increased to accommodate the increased enrollment.

Graduates of this institution, after it reaches this level, would be qualified to serve in positions requiring sufficient technical knowledge, and skill to diagnose technical agricultural problems, read and understand agricultural research and pass its results on to the laymen in understandable terms, plan and carry out agricultural development projects, serve as an extension supervisor, and be qualified to do graduate work abroad. It is anticipated that eventually a graduate school would be established.

3. The program of instruction would be based upon the current and foreseeable problems and conditions of Tunisian agriculture. This program would be developed after a careful and intensive study and analysis of Tunisian agricultural conditions and problems had been made.

4. The new institution would engage in applied agricultural research based upon the study indicated above and at a level adjusted to agricultural technology in Tunisia. The teaching staff in appropriate fields would be responsible for conducting such research. The first aim of this research program would be to find solutions to some of the less technologically complex problems of Tunisian farmers and, thereby, establish the role and reputation of the new institution.

5. The institution would develop an extension program in areas accessible to the campus for the following purposes:

(a) To study Tunisian farmers and to provide a laboratory for adapting basic extension educational principles to Tunisian conditions.

(b) To demonstrate the value of agricultural research when applied to farmers' problems.

(c) To train students of the college in the methods of working effectively with farm people.

(d) To provide a medium of communication between rural people and the staff of the agricultural college that would constitute a vehicle for keeping the institution in constant touch with agricultural problems.

6. An advisory council would be created and its membership selected in such a way that it would serve to keep agricultural policy-making officials in touch with, and informed about, the progress and affairs of the institution. This advisory council should provide an opportunity for continuous interaction between policy-making government officials and the faculty of the agricultural college.

7. The new institution would serve as a pilot project to develop the most effective methods of adapting basic educational and technological change principles to Tunisian conditions as well as other countries of the area.

The basic goals and objectives with minor modifications were held to be valid until the early spring of 1968 when numerous changes were made in the secondary agricultural education program for Tunisia. Many of these changes resulted from the change in administration of all Secondary and Moyen schools of Agriculture from the Ministry of Agriculture to the Ministry of Education. As these changes were taking place the Texas A&M advisory group suggested that the following characteristics be incorporated into the program operations of the Chott Maria Agricultural College for the achievement of the envisioned goals and objectives:

1. Coordination between instruction and school farm operation. There should be coordination between the instructional program and the school farm operation by technical agricultural subject matter department. It is essential that instruction and school farm operators be coordinated and the technical agricultural instructors be directly involved in agricultural development and basic research on the college farm and in the surrounding community. The main purpose of a school farm is to strengthen and im-

prove the instructional program which should be the primary consideration in its management and operation.

2. Freedom in curriculum development:

A. Whereby teaching can be done on a problem solving basis and the instructor has freedom to deal with actual farm problems on a current basis.

B. Whereby the technical agriculture instructor has freedom of curriculum design whereby he can start with the practical application of agricultural knowledge and move from there to the more technical theoretical aspects. This is an instructional necessity if we begin where the farmers now are in their production methods and proceed to move upward from there to effect needed changes in agricultural development.

3. Development of a program of basic research and demonstration. One of the basic purposes of the project was to study agricultural conditions in Tunisia and bring about necessary improvement through a system closely relating research to teaching and developing the means for introducing innovations into the agricultural system.

4. Development of a program of involvement with the farmers in the area surrounding the school. Instructional personnel from the Chott Maria Agricultural College need to be in contact with farmers in the area whereby:

A. Current farm problems can be used as a basis for teaching technical agricultural subjects.

B. The agricultural area in which the school is located can be developed into an agricultural learning laboratory for faculty and students of the school.

C. Demonstrations are developed and utilized to introduce innovations into the agricultural system.

D. Methods are found for more closely relating agricultural education, extension, and research to the current problems of individual farmers.

5. Utilization of agricultural publications from the United States.

The agricultural instruction and development program at Chott Maria was envisioned and developed from U.S. concepts of coordination of instruction, research and extension for agricultural development. In order to effectively promote these basic

concepts on which the program was organized, it is essential to utilize published information from the U.S. written in the English language. This dictates the necessity of teaching sufficient English to the secondary school students at Chott Maria for them to be able to read and interpret information from these publications. The development of a good library would be a great value to the project. Plans should be formulated for utilization of a well trained librarian who is accorded sufficient status and pay to play a key role in the educational program at Chott Maria.

6. Recognition of basic research, operation of school farm, involvement with farmers in the surrounding area, and adult farmer education as an essential part of the agricultural instructor's job. The paper entitled "Agricultural Education - Chott Maria Project" suggests that formal and legal recognition be given so that 12 hours of teaching agricultural subjects will be regarded as the equivalent of 20 of teaching other subjects. The continued success of the project is dependent on provision being made whereby agricultural instructors at Chott Maria are given an opportunity to engage in these non-teaching activities.

During the 1967-68 school year the Chott Maria Agricultural College along with all the other Secondary and Moyen Agricultural Schools in Tunisia were fully integrated into the National Educational

System of Tunisia. The officials of the Ministry of Education in charge of operation of Agricultural Schools determined that Chott Maria should no longer be considered a model school but that Ministry of Education efforts should be directed towards the improvement of all agricultural schools in Tunisia aimed at a high degree of excellence. At this time many of the previous basic goals and objectives of the Chott Maria project were rejected as no longer consistent with the program envisioned for the Agricultural Schools of Tunisia now operating under the National Educational System.

The development of the Chott Maria Agricultural College to the greatest degree possible as a fully integrated school of the National Educational System which would operate under the same philosophy, objectives, rules and regulations as all other Agricultural Schools in Tunisia became the principal goals and objectives of the G.O.T. Ministry of Education officials for the Chott Maria Agricultural School project. The amount of technical assistance required under the new goals for Chott Maria was reflected by the reduction in the Texas A&M advisory team to two members in the summer of 1968. The central goal of the Chott Maria Agricultural School project has always been and continues to be the development of the best possible school of Agriculture at Chott Maria which will have the greatest positive impact on the future agricultural development of Tunisia.

Development of Physical Facilities

THE DEVELOPMENT OF THE PHYSICAL FACILITIES AT CHOTT MARIA AGRICULTURAL COLLEGE

From a sand dune to a functioning modern school Campus with thirty handsome buildings in seven years is one phrase which can be used to describe the development of the physical facilities at Chott Maria Agricultural College.

In late 1962 the G.O.T. set aside for the Chott Maria Agricultural College 89 hectares of land 8 miles north of Sousse. This land was composed of numerous small farms and was criss crossed with hedgerows of cactus. The land near the beach was a sand dune while the hill land was covered with old olive trees. There were no public utilities such as electricity, water or gas available at the site.

The first step toward the goal as outlined in the project agreement was the construction of some temporary buildings for student use. With the arrival of students in the fall of 1963 work was started on land clearing and tree planting. This work was always hampered by the lack of water. Some potable city water was available after the city water line was extended to the building site but it was very expensive for agricultural use. Arrangement were made to use a neighboring farmers well 3 days per week. This helped some but work on the farm was limited because of this fact. Lack of electric power was also a problem. Gasoline lanterns were used in the classroom the greater part of the first academic year. Farm shop work was severely limited because of no power.

Gradually these problems were solved. A well was dug, more trees were planted and additional temporary buildings were built.

The construction of the permanent buildings were started in the fall of 1966. Original plans were for the construction to be completed within two years. However, because of numerous delays actual construction continued until the fall of 1969, and the installation, testing and repair of heating equipment, boilers, etc., is still being done.

The development of the physical facilities at Chott Maria Agricultural College has been difficult, frustrating and at times appeared almost impossible. This attitude was especially true for those involved in the day to day activities of the College. However, from a long range view it is evident that much progress has been made.

Following is a listing of the events and activities associated with the development of the physical facilities at the Chott Maria Agricultural College.

CHRONOLOGICAL LISTINGS OF EVENTS RELATED TO THE DEVELOPMENT OF THE PHYSICAL FACILITIES AT CHOTT MARIA AGRICULTURAL COLLEGE

- 1962 (Second Quarter)
Study by Jack Gray, Director of International Programs, Henry Ross, Professor of Agricultural Education and W. R. Matthews, Architect, concluded that Chott Maria Agricultural College project should be launched.
- 1963 (Second Quarter)
Construction of temporary buildings started. Included were classrooms, dormitory and dining hall for 78 students as well as living quarters for the Tunisian staff.
- 1963 (Third Quarter)
Some farming equipment and teaching material arrived from the United States. Some land cleared of old trees and cactus.
- 1963 (Fourth Quarter)
Water line and road were constructed to temporary buildings. 10,000 trees planted at farm and around temporary buildings, construction of the 5 temporary buildings completed.
- 1964 (First Quarter)
Government of Tunisia formally requested loan from the United States for the construction of the Chott Maria Agricultural College.
- 1964 (Second Quarter)
Power line to temporary buildings completed and the water line was improved.
- 1964 (Third Quarter)
More land cleared and levelled for irrigation.
- 1964 (Fourth Quarter)
Temporary buildings were expanded in order to accommodate 142 students.
- 1965 (First Quarter)
Development of School farm continued, land prepared and early spring crops planted.
- 1965 (Second Quarter)
Small temporary poultry house and storage shed constructed.
- 1965 (Third Quarter)
Started construction of temporary livestock barn and feed storage room. This project was finished through the trust fund dinar account.
- 1965 (Fourth Quarter)
Started construction of temporary poultry house, office, farm instructional shop and farm

- storage building. Again using dinars from the trust fund.
- 1966 (First Quarter)
Completed arrangements with local authorities to dig irrigation well. Completed construction of livestock barn and feed storage room.
- 1966 (Second Quarter)
Completed temporary farm instructional shop building. Installed locally constructed student work tables and some equipment procured in the United States.
- 1966 (Third Quarter)
Five temporary offices completed and furnished. Started digging second irrigation well. Started construction of temporary administration building.
- 1966 (Fourth Quarter)
Started construction of Chemistry and Physics laboratory.
Construction of permanent Chott Maria Agriculture College buildings started.
- 1967 (First Quarter)
Temporary administration buildings completed and occupied by the school administration. Six Texas A&M technicians moved their offices to Chott Maria from Sousse office.
- 1967 (Second Quarter)
Work continued in permanent buildings. However it appeared that no buildings will be ready for fall school session.
- 1967 (Third Quarter)
Construction of permanent buildings continued. Developed plans to again open school in temporary quarters.
- 1967 (Fourth Quarter)
All Texas A&M technicians transferred to Chott Maria temporary buildings. Chief of Party, Administration Assistant and Secretary continued to utilize Sousse office because of crowded conditions.
- 1968 (First Quarter)
List for equipment purchases with dollars revised.
- 1968 (Second Quarter)
List for Equipment purchases with dollars sent to Washington.
List for local equipment purchased with dinars forwarded to G.O.T. purchasing agency. It appeared unlikely that permanent buildings will be ready for school fall semester.
- 1968 (Third Quarter)
Permanent buildings were not ready. Started fall semester with 320 students in temporary quarters. Very crowded.
- Closed Sousse office the end of September. Moved all Texas A&M operations to temporary quarters at Chott Maria.
- List for locally purchased equipment revised another time because of instructional program changes.
- 1968 (Fourth Quarter)
Permanent classroom building, administration building and one dormitory accepted from contractor in late November. One additional dormitory and the farm shop building accepted in late December.
Administration of school and Texas A&M staff moved to permanent Administration building.
- 1969 (First Quarter)
Students moved to permanent campus. Utilized only 5 buildings. Farm instructional shop building used as temporary dining hall.
- 1969 (Second Quarter)
Three villas and 12 apartments accepted from contractor. Household furniture from Texas A&M warehouse utilized to furnish all apartments and villas.
Director, Econome and professors moved into permanent living quarters.
Final specifications for dinar purchased school furniture developed with manufacturer and G.O.T. purchasing agency.
- 1969 (Third Quarter)
Some dollar purchased equipment arrives from United States for farm shop and visual aids. Farm shop plan developed and equipment installed.
Visual aids room planned and set up.
Only a few beds, desks and tables purchased with dinars delivered.
Twelve additional apartments furnished with furniture from Texas A&M warehouse.
- 1969 (Fourth Quarter)
Part of the Science, Physics and Chemistry equipment arrived from United States. Placed in laboratories.
Contractor continued to work on finishing permanent buildings.
- 1970 (First Quarter)
Contractor started repairs on sewage disposal system.
Additional dinar purchased school equipment delivered.
- 1970 (Second Quarter)
All Physics, Chemistry and Natural Science equipment purchased with dollars delivered and installed.

The Personnel Training Program

PERSONNEL TRAINING PROGRAM

A very significant part of the program of technical support rendered by Texas A&M University was the training in the U.S. of project participants. In the early years of the Chott Maria School all agricultural subject matter courses were taught by American members of the Texas A&M University team. There were no Tunisian professors available to teach at the school at this time with qualifications equivalent to a Bachelor's degree. Plans were developed for Training Tunisians to assume responsibility for the instructional program by selecting the best qualified young men available and sending them to Texas A&M University for four years of study leading to Bachelor of Science degrees in Agriculture and related subject matter areas. These young men were expected to join the teaching staff of the Chott Maria Agricultural School on the completion of their Bachelors degrees and to work directly with the American advisory members of the Texas A&M University team in their subject matter areas for a period of time until they could assume full responsibility for operation of the program.

The first group of ten participants were selected and sent to Texas A&M University to enroll for the second semester of the 1962-63 academic year. The last five participants completed their bachelor's degrees and returned to Tunisia seven years later following their graduation from Texas A&M University at the end of the first semester of the 1969-70 school year.

A total of 44 participants were sent to the United States for study in programs leading to a Bachelor's degree. Thirty-four of this number were awarded Bachelor's degrees: Thirty-three of them from Texas A&M University and one from U.C.L.A. The remaining ten participants dropped out of school for varying reasons including academic failure. However, several of these participants who did not receive University degrees returned to Tunisia and became teachers in the Secondary Agricultural Schools.

Thirty of the thirty-four participants who received university degrees returned to Tunisia and accepted positions with the Tunisian Government. Twenty-nine of them started working in positions for which they were trained as professors in the Secondary Agricultural schools and the remaining one accepted a position in the Ministry of Agriculture.

Nineteen of the participants were assigned to the teaching faculty at Chott Maria on their return

following completion of their university studies. All of the participants returning to Tunisia were not needed to teach courses at Chott Maria under the revised curriculum. A total of ten, who were in excess of the number required on the teaching faculty at Chott Maria, were assigned directly to other Tunisian Secondary Agricultural schools.

Eight of the participants, who returned to Chott Maria and worked as counterparts to the American advisor in their fields of study, were transferred to assignments in other agricultural schools after an average of two years at Chott Maria. Seven of the eight moved to positions of increased responsibility as directors of Agricultural Schools to which they were transferred.

At present there are twenty-five of the participants working in the Secondary Agricultural Schools of Tunisia. Ten of these are professors at the Chott Maria Agricultural school and the remaining fifteen assigned to secondary agricultural schools where five of them are serving as directors.

Three people who had been directly associated with the Chott Maria Agricultural School program were sent to Texas A&M University to study for Master of Education degrees in Agricultural Education. They were sent for this graduate study under the training program of USAID/Tunis for strengthening the agricultural education programs of Tunisia. These three Master's degree participants are: Mr. Mohsen Haddad, who was Director of the Chott Maria Agricultural School for six years and a graduate of Oklahoma State University, Mr. Khemais Dhif, a participant graduate of Texas A&M in the field of Horticulture who taught at Chott Maria for two and one-half years, and Mr. Abdelmajid Yahia who returned to Chott Maria with a degree in Agronomy from Texas A&M University and taught there for one year prior to his transfer to serve as Director of the agricultural school at Bou Salem, where he has served for one and one-half years.

All three of these men are making satisfactory progress towards their Masters of Education degrees and are expected to return to Tunisia to assume positions of leadership in the Secondary Agricultural school programs.

The following table gives information in regard to the 44 participants sent to the United States for study for Bachelor's degrees under the Texas A&M/Chott Maria School project.

TEXAS A&M UNIVERSITY PARTICIPANTS

N A M E	Major	Date entered		Assignments after returning
		Texas A&M Univ.	Date of return	
Ayachi, Saleh	Animal Husbandry	Feb. 1963	Oct. 1967	Chott Maria and then Director Gamouda School
Ben Amara, Ezzedine	Ag. Economics	Feb. 1963	Jan. 1966	Did not graduate
Ben Fredj, Mouldi	Dairy Science	Feb. 1963	Nov. 1967	Chott Maria and then Director Bou Salem School
Charfi, Ridha	Sociology	Feb. 1963	Feb. 1968	Chott Maria and then Director Sfax School
Dhif, Khemais	Horticulture	Feb. 1963	Aug. 1966	Chott Maria
Majdoub, Aÿdesselem	Poultry	Feb. 1963	Oct. 1967	Chott Maria and then Director Kasserine School
M'Hiri, Hassen	Soil Science	Feb. 1963	June 1967	Chott Maria and then Director Le Kef School
Rouis, El Mongi	Horticulture	Feb. 1963	Jan. 1967	Chott Maria and then Director Gamouda School
Yahia, Abdelmajid	Agronomy	Feb. 1963	Sept. 1966	Chott Maria and then Director Bou Salem School
Ouali, Abdelwahab	Agriculture	Feb. 1963	July 1963	Did not graduate
Ben Cheikh, Salem	Agronomy	Feb. 1964	Aug. 1968	Chott Maria
Brahem, El Hedi	Entomology	Feb. 1964	July 1966	Did not graduate but returned to Chott Maria then transferred to Kasserine School.
Ghanem, Baddredine	Poultry	Feb. 1964	Dec. 1967	Chott Maria then transferred to Sfax School
Miladi, Dahmani	Ag. Engineering	Feb. 1964		Did not graduate but returned to Tunisia and worked as instructor at Secondary Agricultural School at Gamouda.
Mouelhi, Abdellatif	Rural Sociology	Feb. 1964		Graduated from Texas A&M but did not return to Tunisia
Slimane, Hedi	Economics	Feb. 1964		Graduated from Texas A&M but did not return to Tunisia
Abdelkefi, Mohamed	Animal Husbandry	Feb. 1965	Feb. 1969	Chott Maria
Ben Abdallah, Nourredine	Ag. Engineering	Feb. 1965		Graduated from Texas A&M but did not return to Tunisia
Ben Jemaa, Mohamed	Ag. Engineering	Feb. 1965	Jan. 1970	Mateur
Bouchoucha, Mohamed	Ag. Engineering	Feb. 1965	July 1966	Did not graduate
Ben Arab, Mohsen	Ag. Engineering	Feb. 1965	Feb. 1969	Gamouda
Chouchane, Boubal er	Agronomy	Feb. 1965	Feb. 1969	Ministry of Agriculture
Chih, Abdelkrim	Chemistry	Feb. 1965	Feb. 1969	Chott Maria
El Fekih, Mohamed	Ag. Engineering	Feb. 1965	Aug. 1969	Sfax
Ghaffari, Mohamed	Ag. Engineering	Feb. 1965	Feb. 1969	Chott Maria
Najar, Abdelhamid	Agronomy	Feb. 1965	Oct. 1969	Sidi Thabet, Kairouan
Thabet, Abdelmajid	Ag. Engineering	Feb. 1965	July 1966	Did not graduate
Zaag, Mansour	Chemistry	Feb. 1965	Feb. 1969	Did not graduate
Labidi, Ridha	Economics	July 1965	Aug. 1969	Chott Maria
Zadden, Mohamed	English	July 1965	Feb. 1969	Did not graduate
Ben Dhiaf, Mohamed Kastali	Ag. Education	Jan. 1966	Feb. 1970	Moghrane
Chouikh, Abdelkader	Ag. Education	Jan. 1966	Mar. 1970	Sfax
Dakhlaoui, Mohamed	Plant Pathology	Jan. 1966		Did not graduate
Dridi, Mohamed	Ag. Education	Feb. 1966	Mar. 1970	Gamouda
Ghanemi, El Mouldi	Ag. Education	Jan. 1966	Oct. 1969	Chott Maria
Fakhfakh, Abdelkrim	Ag. Education	Feb. 1966	Aug. 1969	Chott Maria
Ferdjani, Youssef	Ag. Education	Jan. 1966	Aug. 1969	Sidi Thabet
Guellouz, Mustapha	Ag. Education	Jan. 1966	July 1969	Chott Maria
Kraoua, Mohamed	Ag. Education	Jan. 1966	Sept. 1969	Chot Maria
Marzouki, Jemaeddine	Ag. Education	Jan. 1966		Graduated from Texas A&M but did not return to Tunisia
Mlaouah, Mohamed	Ag. Education	Jan. 1966	Mar. 1970	Moghrane
Zid, Abdelhamid	Chemistry	Feb. 1966	Jan. 1970	Bou Cherk
U.C.L.A.				
Ouerghemmi, Mohamed El				
Moncef	English	Jan. 1966		Did not graduate
Lazghab, Salem	English	Jan. 1966	Sept. 1969	Chott Maria

Non-degree training was given to eleven young Tunisians as a part of the development plan for the Chott Maria Agricultural School project. These eleven young men were selected and sent to Texas A&M University for a period of approximately nine months. They were given training and practical work experience in the various fields of agriculture. On completion of their training programs all eleven returned to the Chott Maria Agricultural School where they worked as "Instructeurs Techniques". Their principal job was the giving of instruction to students in the classroom, laboratory and on the farm and the development of instructional materials under the supervision of a professor.

After varying periods of time following their return to Tunisia in 1966 and 1967 nine of these short-term participants have been transferred from Chott Maria to other Tunisian Secondary Agricultural schools for strengthening the agricultural instructional programs in these locations. A very significant contribution to students practical knowledge and understanding of the Agricultural sciences has been made as a result of the practical training and education received by them at Texas A&M University.

A table of information in regard to these non-degree project participants is presented on the following page.

SHORT TERM PARTICIPANTS

(9 month non-degree training)

N A M E	Area of Study	Date started training	Date returned to Tunisia	Assignments	
				First	Present
Zidi, Amara	Poultry Science	Feb. 1966	Nov. 1966	Chott Maria	Chott Maria
Khalifa, Ben Salah	Soil & Crop Sci.	Feb. 1966	Sept. 1966	Chott Maria	Mateur
Blel, Mustapha	Dairy Science	Feb. 1966	Nov. 1966	Chott Maria	Korba
Trabelsi, Amor	Soil & Crop Sci.	Feb. 1966	Nov. 1966	Chott Maria	Medjez El Bab.
Ajmi, Hachemi	Animal Husbandry	July 1966	April 1967	Chott Maria	Sfax
Memmi, Brahim	Horticulture	July 1966	April 1967	Chott Maria	Zaghouan
Hadj M'Barek, Achour	Agronomy	July 1966	April 1967	Chott Maria	Sidi Thabet
Bedoui, Mohamed	Ag. Engineering	July 1966	April 1967	Chott Maria	
Ben Saad, Moncef	Ag. Engineering	July 1966	April 1967	Chott Maria	Kalaa El Andalous
Ben Hamouda, Ahmoud	Ag. Engineering	July 1966	April 1967	Chott Maria	Chott Maria
Ben Cheikh, Mohamed	Ag. Extension	July 1966	April 1967	Chott Maria	

American Personnel

AMERICAN PERSONNEL

American personnel from Texas A&M University have rendered technical assistance to the Chott Maria Agricultural College continually for the past seven years. The first Americans arrived in Tunisia on April 3, 1963 and the last departed on July 1, 1970.

The job of the American technicians during this period of assistance has evolved from one of teaching courses and being actively involved in the administration and development of the School to a gradual shifting of responsibility to the Tunisian personnel. The Chott Maria Agricultural College has become completely integrated into the national system of Education of Tunisia. The trained Tunisian faculty

has now developed to where the total responsibility is being left with them for continued operation of the School.

A total of twenty American technicians have spent a total of 434 months which is the equivalent of 37 man years working in support of the development of the Chott Maria Agricultural College in Tunisia.

The following page lists the American personnel assigned to work in Tunisia under the project with their positions and dates of their tours of duty within Tunisia.

LIST OF AMERICAN TECHNICIANS ASSIGNED TO THE TEXAS A&M TUNISIAN PROJECT

NAME	TITLE	Date entered on duty in Tunisia	Departed from Tunisia	Number months in Tunisia
Dr. Stelly, Randall	Chief of Party	April 3, 1963	Jan. 18, 1965	22
Dartez, Gabriel	An. Husbandry advisor	April 3, 1963	June 17, 1963	2
Huval, Oray	Horticulture advisor	April 3, 1963	June 24, 1963	3
McSwain, Arlan	Farm Management advisor	April 3, 1963	June 21, 1967	51
Abshire, Allison	Agr. Educationist	Oct. 18, 1963		
	Chief of Party	Jan. 19, 1965	Oct. 28, 1967	48
Quinn, Major	English teacher	Oct. 19, 1963	July 3, 1967	41
Quebedeaux, Bruno	Horticulture advisor	Oct. 30, 1963	Aug. 20, 1965	22
Hall, Patrick	Agr. Cooperatives advisor	Feb. 24, 1964	Jan. 6, 1966	22
Morvant, Clifton	Agr. Engineering advisor	Aug. 24, 1964	July 30, 1968	17
Dr. Repp, Ward	An. Husbandry	Jan. 30, 1965	July 1, 1966	17
Wingfield, Roland	Sociologist	Aug. 23, 1965	April 14, 1966	8
Smith, Robert	Horticulture advisor	Dec. 18, 1965	June 21, 1967	18
Crouch, Marshall	Agr. Extension	Feb. 7, 1966	June 30, 1970	53
Lemmons, Joe	Agronomy advisor	April 6, 1966	Aug. 26, 1968	29
Courtin, Patrick	Agr. Cooperatives advisor	June 15, 1966	June 18, 1968	24
Theriot, Jackie	Admin. Assistant	Sept. 28, 1966	July 17, 1968	22
McGinnis, William	Livestock Poultry advisor	March 8, 1967	Sept. 23, 1968	19
Dr. Sims, E. E.	Senior Agr. Educationist	Aug. 28, 1967	July 22, 1968	11
Williams, Thomas	English Teacher	Sept. 3, 1967	Aug. 3, 1968	11
Dr. Judge, Homer	Chief of Party	Dec. 6, 1967	June 30, 1970	31

In addition to the twenty American technicians listed in the preceding table Texas A&M University supplied three short term consultants to the Chott Maria Agricultural School project as enumerated below:

1) Dr. Earl H. Knebel, Head of Department of Agricultural Education, Texas A&M University.

Dr. Knebel spent the period of January 15 through February 12, 1967 making a study and suggestions concerning Agricultural Education in Tunisia and the operation of the Texas A&M/Chott Maria

Agricultural School project. As a result of this short term consultant assignment to Tunisia Dr. Knebel published a report entitled "Observations and Suggestions Relative to Agricultural Education in Tunisia."

2) Dr. O. M. Holt, Associate Professor, Department of Agricultural Education, Texas A&M University.

Dr. Holt spent the period of August 2 through September 4, 1967 in Tunisia as a short-term consultant to the Chott Maria Agricultural School project in the area of curriculum development. He made

a study of the Chott Maria Agricultural School program and developed recommendations designed to improve the curriculum which was published in the report entitled "Curriculum Study Report Chott Maria Agricultural College Sousse, Tunisia."

- 3) Mr. Clifton J. Morvant, Assistant Professor, Department of Agriculture, Tarleton State College, Stephenville, Texas.

Mr. Morvant spent the period of July 27 through September 1, 1969 in Tunisia as a short-term consultant to the Chott Maria Agricultural School in the field of Agricultural Engineering. During this period both the new agricultural engineering instructional building and the farm operations repair shop were

set up and placed in operational condition. Mr. Morvant worked with Mr. Marshall Crouch of the Texas A&M advisory team and instructional personnel at the Chott Maria School in Agricultural Engineering and was instrumental in (1) Planning the arrangement of the shop buildings, (2) uncrating and inventorying orders of tools and equipment, (3) arranging proper storage facilities for tools, and (4) getting both the instructional shop and the farm operations repair shop set up and ready for operation.

Mr. Henry Ross was the first Campus Coordinator of the project. Mr. E. Paul Creech was appointed Campus Coordinator when Mr. Ross retired in the summer of 1965.

Development of the Instructional Program

DEVELOPMENT OF THE INSTRUCTIONAL PROGRAM

The following objectives of the Chott Maria Project relate to the development of the instructional program:

- a. Maintain and expand its role as a new type of agricultural institution in Tunisia.
- b. Maintain and improve programs designed to improve agricultural conditions in Tunisia.
- c. Conduct applied research and relate its findings to on-campus instruction and develop programs for introducing innovations into Tunisian agriculture.
- d. Train students at both the moyen and secondary levels for responsible positions in Tunisian agriculture immediately upon graduation from either level or after further training in a more specialized area.

With these objectives in mind the Director of Tunisian Agricultural Education, Mr. Abdelmajid Gara, gave his full support for the development of a

unique and different type of instructional program at Chott Maria.

The Texas A&M team began in 1963 to develop a program of instruction for the Chott Maria Agricultural College at both the Secondary and Moyen levels. These program suggestions were presented to Mr. Gara for his suggestions and approval.

An underlying principle associated with these early programs was that they were not final but that they would serve as a point of departure for change and improvement. With the approval of Mr. Gara and the cooperation of the school director the Texas A&M technicians were free to experiment with the development of the instructional program. Many changes were made in course content. Some courses were added and others were eliminated or combined with existing courses.

The following chart illustrates the type of Agriculture courses developed for Chott Maria.

(Summary of Courses)

Moyen level – 1964

Subject or Major Problem Areas	1st Semester (Hours per week)				2nd Semester (Hours per week)			
	Lec.	Lab.	Tot.		Subject or Major Problem Areas	Lec.	Lab.	Tot.
1st Year								
General Agriculture	2	1	3		General Arboriculture	3	1	4
Rural Engineering (General)	2	0	2		Poultry Husbandry (Types & breeds)	3	1	4
	<u>4</u>	<u>1</u>	<u>5</u>			<u>6</u>	<u>2</u>	<u>8</u>
2nd Year								
Rural Engineering (General)	2	2	4		General Arboriculture	2	2	4
Vegetable Production	2	1	3		Vegetable Production	2	1	3
Improving fruit production	2	2	4		Improving Poultry production	3	1	4
	<u>6</u>	<u>5</u>	<u>11</u>			<u>7</u>	<u>4</u>	<u>11</u>
3rd Year								
Improving Vegetable production	3	1	4		Improving Fruit production	2	2	4
Improving Crop production	3	1	4		Poultry diseases and parasites	3	1	4
	<u>6</u>	<u>2</u>	<u>8</u>			<u>5</u>	<u>3</u>	<u>8</u>

(Summary of Courses)

Secondaire level – 1965

Subject or Major Problem Areas	1st Semester (Hours per week)				Subject or Major Problem Areas	2nd Semester (Hours per week)		
	Lec.	Lab.	Tot.			Lec.	Lab.	Tot.
1st Year								
Fertilizers and Fertilization	3	0	3		Control of insects and diseases of plants	2	2	4
Rural Eng. (Farm machinery care and upkeep)	1	2	3		Soil and water conservation	2	2	4
Animal Husbandry	3	0	3		Animal Husbandry	3	0	3
Agricultural Economics (Farm problems, and accounting)	2	0	2					
	<u>9</u>	<u>2</u>	<u>11</u>			<u>7</u>	<u>4</u>	<u>11</u>
	=====	=====	=====			=====	=====	=====
2nd Year								
Control of insects and diseases of plants	2	2	5		Soil and water conservation	2	2	4
Fertilizers and Fertilization	3	0	3		Agricultural Economics (Farm problems and accounting)	2	0	2
Agric. Engineering (Farm shop)	0	2	2		Agricultural Engineering	1	2	3
Animal Husbandry (Livestock diseases)	2	1	3		Animal husbandry (Livestock diseases)	2	1	3
	<u>8</u>	<u>5</u>	<u>13</u>			<u>7</u>	<u>5</u>	<u>12</u>
	=====	=====	=====			=====	=====	=====
3rd Year								
Farm Management organization and Institutions	3	0	3		Agric. Cooperatives and farm credit	3	0	3
Technology and Marketing of Agr. prod.	3	0	3		Rural Engineering (Surveying)	0	2	2
Water, Irrigation and drainage	2	1	3		Farm shop	0	2	2
	<u>8</u>	<u>1</u>	<u>9</u>		Agric. Extension methods	2	0	2
	=====	=====	=====			<u>5</u>	<u>4</u>	<u>9</u>
	=====	=====	=====			=====	=====	=====

Because of the lack of adequate classroom space in the temporary school buildings and because of the use of part time teachers the experimentation with scheduling was limited. This was also affected by the lack of trained Tunisian teachers in the field of Agriculture. Other than the school director no Tunisian with a B.S. degree or its equivalent was assigned to the school until the fall of 1965. At that time two Tunisian graduates from the American University at Beirut were assigned to the school on a full time basis. In the fall of 1966 the first two Tunisian participants trained at Texas A&M returned to the Chott Maria Agriculture College.

By the fall of 1967 other Texas A&M Tunisian participants had returned to Chott Maria making a total of five professors plus the Director with a United States B.S. degree. In an effort to coordinate the farm activities with the classroom program and to further carry out the educational objectives a type of departmentalization was started. Texas A&M tech-

nicians were given the responsibility of working directly with the returned participants in their field. Departmental offices were set up at Chott Maria in order to facilitate the planning and coordination of the various programs such as Animal Science, Crop Science, Horticulture and Agricultural Engineering.

In the fall of 1967 the Educational System in Tunisia underwent a dramatic change. All agricultural schools were removed from the Department of Agriculture and were put under the direction of the Department of National Education.

The Secondary Agricultural Schools of Tunisia, including Chott Maria, have been required to follow a rather inflexible national curriculum since the integration of these schools into the National Educational System. The Chott Maria school can therefore make no determination of subjects taught and has very little control of course content and teaching procedures. The new secondary program of agricultural education which began in October 1968 has

a one-year common program for all students with the intent of a division into two tracks starting with the 5th year. These tracks were designated "Techniques Agricoles" and "Sciences Agricoles". The curriculum has since been changed whereby both the 4th and 5th years are a common trunk with students then going into either "Technique Agricole" or "Sciences Agricoles." The students for the "Sciences Agricoles" sections are to be selected on the basis of superior academic ability.

However this change to the National Education system did enable the Chott Maria College to become

integrated into the mainstream of the Tunisian Educational System. Professors for courses other than Agriculture have been assigned to Chott Maria on a full time basis and there is also evidence that the academic ability of entering students has improved.

Chott Maria Agriculture College has had a steady increase in student enrollment since it was started. This growth was limited at first because of the lack of dormitory and classroom space.

The following chart illustrates the enrollment at Chott Maria, from the 1962-63 school year until the 1969-70 school year.

STUDENT ENROLLMENT CHOTT MARIA AGRICULTURE COLLEGE

		Under Direction of Agriculture Department					Under direction of National Education				
		62-63	63-64	64-65	65-66	66-67	67-68	68-69	69-70		
Year											
Moyen	1	43	56	51	43	69	70	81		1	
	2		27	48	42	33	35	69	82	2	Secondary Professional
	3			22***	47***	40***	26***	30***	55***	3	
								40	Extra year for Sec. Prof. Students who did not receive a diploma		
Secondary	1			23*	15	29	30	18	25	1	
	2				23	14	18	26	14	2	Secondary
	3					22**	11**	19**	14**	3	
								81*	158*	4	Secondary
								78		5	(Cycle Long) 4 yr. Program
Totals		43	83	144	170	207	190	324	466		

Under Direction of Agriculture Department

Students moved from Moyen to Secondary levels

Used program developed at

Under direction of National Education

Started Secondary (Cycle Long)
No entry at Secondary professional level

All new students enter at 4th years Secondary (Cycle Long) from other schools
Use National program

- *Students entered from Lycées
- **Introduction of Secondary
- ***Received a Moyen or Sec. Prof. diploma

Accomplishments

ACCOMPLISHMENTS

Probably the most important accomplishment, made by the Texas A&M/Chott Maria project personnel, for the future development of Agricultural Education in Tunisia, has been the extent to which they have been instrumental in helping to develop a change in attitudes and philosophies among Tunisian personnel involved with the agricultural education schools of Tunisia. The amount and value of such an accomplishment is virtually impossible to measure with any degree of accuracy, particularly at this time. The influence from the project and from personnel who have gained experience, understanding and attitudes from working with the project is favorably influencing the agricultural education program not only at the Chott Maria Agricultural School but throughout Tunisia. This positive influence should continue to increase in the years to come.

Some of the positive accomplishments which are somewhat easier to measure might be enumerated in the following categories:

1) An operating Secondary Agricultural School established.

The school has developed to an enrollment during the 1969-70 school year of 466 students. The school is fully integrated into the National Educational system of Tunisia. All courses are being taught by full time teachers assigned to the school by the Ministry of Education. The same standards of excellence as at non-agricultural secondary agricultural schools are being established.

2) Training of Personnel

Thirty-four Tunisians received Bachelors degrees from American universities under the project participant training program. Twenty-five of these people are now working in the Secondary Agricultural Education programs of Tunisia. Ten of them are presently assigned to the Chott Maria Agricultural School where eight of them form the agricultural subject matter teaching faculty with the other two teaching in the subject matter areas of English and Chemistry. The other fifteen are working in ten other secondary agricultural schools where five of them hold the positions of school directors.

Eleven additional participants were trained at Texas A&M University for a period of approximately nine months. This group of participants has made a very positive contribution to learning

by students at Chott Maria and other agricultural schools throughout Tunisia.

Three people who have directly associated with the project are now studying for Master of Education degrees in Agricultural Education at Texas A&M University as USAID participants. They are all expected to return to Tunisia during the coming year to assume leadership roles in the development of agricultural education in Tunisia.

3) Development of the School Plant

A school plant has been developed with a capacity of at least 700 students. New buildings have been completed with adequate classroom, laboratory, library and dining room space for the 512 students for which the four new dormitories were designed. The new buildings also include 27 faculty housing units as well as livestock and farm buildings. The frame buildings, constructed under the project for temporary utilization until the new buildings were completed, are still being utilized and have a capacity to adequately house and instruct approximately 200 students.

4) School Farm Developed

The school farm has been developed for a learning laboratory for students. Dairy, sheep and poultry programs are in operation. Numerous varieties of fruit trees have been set out and various farm and vegetable crops are grown. Irrigation water is now available to the school farm from the Oued Nebana irrigation project.

5) School farm adequately equipped

Adequate farm machinery and equipment has been provided through the project for farm operations. A farm maintenance shop has been set up and equipped for the maintenance and repair of farm tractors, machinery and equipment.

6) Agricultural Engineering Instructional facilities provided.

The new agricultural engineering building includes a classroom, a large shop area adequate for instruction in the various areas of agricultural engineering and farm mechanics, office space and tool storage rooms. This agricultural engineering shop has been equipped with a wide variety of power and hand tools. This is a high quality instructional facility for the area of agricultural engineering.

7) Audio visual center developed and equipped.

An audio-visual teaching aids center has been established. Audio visual teaching aids have been provided and personnel of the school have been instructed and gained experience not only in utilization of these materials available at the audio visual center but also in the development of additional learning aids for student learning.

8) Laboratories equipped.

The new laboratory building contains one Chemistry, one Physics and two natural science laboratories. These have all been supplied with equipment from the United States. These well equipped laboratories could well serve as models to be emulated by the other secondary agricultural schools of Tunisia.

Outlook for the Future and Recommendations

OUTLOOK FOR THE FUTURE AND RECOMMENDATIONS

The outlook for the future of the Chott Maria Agricultural School and the influence from the Texas A&M project in Tunisia looks very favorable when viewed from the standpoint of the potential for Agricultural Education developed. It is assumed that the officials in charge of the Agricultural Education programs for the youth of Tunisia will make every effort to maximize the influence of their agricultural education programs to further the development of the nations agriculture.

As a result of the Texas A&M/Chott Maria project operated in cooperation with the USAID/Tunis and the Tunisian Government the following assets have been developed:

- 1) An operating secondary school established at Chott Maria

The school has shown steady growth since its inception in 1963.

Four Hundred Forty Six students were enrolled during the 1969-70 school year. The school now has a capacity for future enrollment of 700 students.

- 2) School plant developed

A complete new campus and buildings have been constructed. A beautiful set of 30 new buildings are completed and in operation including classrooms, laboratories, library, administration buildings, kitchen, dining hall, dormitories, faculty housing and farm buildings. The temporary buildings previously constructed are still usable with a capability of housing 200 students.

- 3) Trained Personnel

There are now 25 former project participants with Bachelors degrees from the United States working in Tunisian Secondary Agricultural schools. Eleven "Instructeurs Techniques" have been given 9 months practical work experience training programs in the United States. Three people who have been directly associated with the Chott Maria Agricultural School project are studying for Masters degrees in Agricultural Education at Texas A&M University. All of the people mentioned above have now had experience in Tunisians agricultural schools with seven of them having obtained administrative experience as Directors of Secondary Agricultural Schools.

- 4) Philosophy of Agricultural Education

The philosophy of agricultural education whereby the student becomes actively engaged in the learning process, is given an opportunity to learn to do by doing, and instruction is related to the actuality of the situation and based on problems to be solved have been demonstrated.

- 5) School farm established

The school farm has been established and is adequately equipped to serve as a learning laboratory for students in the various phases of the agricultural sciences.

- 6) Equipment and Materials for teaching

Spacious well equipped science laboratories are available, the best equipped instructional farm shop of any secondary agricultural school in Tunisia is at Chott Maria, and audio-visual equipment, materials and teaching aids are available.

The utilization of these assets developed by the Chott Maria Agricultural School project should be a positive force for the future education in agriculture of the youth and make a significant contribution to increased production and development of agriculture in Tunisia.

The following recommendations and suggestions are made:

- 1) That the personnel trained under the project be recognized for their ability to perform. They need to be given an opportunity to demonstrate the value of their education, training and educational philosophy.
- 2) Relate the curriculum of the agricultural schools as closely as possible to the actual problems of the farmer. The problem solving approach to teaching has been demonstrated to be effective.
- 3) That the buildings and equipment be utilized to their full capacity.

A beautiful set of buildings have been provided and well equipped for the school. To obtain full value from this school plant it will be necessary to:

- A — Provide adequate budget and secure well trained maintenance personnel

for the operation, maintenance, upkeep and repair of these buildings and equipment.

B – That programs of study and enrollments be planned for maximum utilization of facilities.

- 4) That every effort be made to develop the school grounds consistent with the quality of the new buildings constructed.

Landscaping of the school grounds still needs to be completed, an athletic field needs to be developed near the new school campus and every effort should be expended to keep buildings, grounds and facilities neat, orderly and attractive.

- 5) Develop instructional programs to utilize as fully as possible the facilities available at Chott Maria Agricultural School.

Consideration needs to be given to placing those agricultural education programs with the highest concentration of technical agricultural courses at Chott Maria to take advantage of the good farm and teaching facilities available. It is recommended that the GOT seriously consider utilizing the facilities and personnel available to train agricultural workers at the post secondary level. Dr. Homer V. Judge, Chief-of-Party, of the Texas A&M advisory group in Tunisia developed and submitted to the school administration and Ministry officials a proposal for such post secondary training in the spring of 1970.

- 6) Develop a close coordination between the instructional program and school farm operation.

Professors and students should be encouraged to take an interest in and become involved in farm operation procedures and contribute to the solution of problems and the making of decisions.

- 7) Provide opportunity for instructional personnel of the agricultural schools to continue their professional growth and development.

The agricultural professors who prove themselves to be dedicated and highly competent should be given an opportunity to acquire advanced university degrees.

- 8) Strengthen the leadership and program administration.

The secondary educational programs of Tunisia need leadership of the highest quality personnel and a program of closer supervision and coordination of programs at the schools with emphasis on improvement of the quality of the instructional programs.

- 9) Recognize and educate agricultural students in methods and procedures of working with farm people.

The ability of the agricultural school graduate to work with rural people, perform the extension function, and become a change-agent for increasing agricultural production and improving the living conditions of farm families is vitally important. Much can be done to enhance this ability and to develop the proper attitudes and understandings through instructional work experience programs at the secondary school level.

- 10) Demonstrate at the Chott Maria Agricultural School the utilization of classrooms by subject matter areas.

This suggestion would make the basic change of assigning classrooms to subject matter areas rather than to particular classes of students. The adoption of such a plan would be a major step in the development of a modern agricultural education program at the Chott Maria Agricultural school. In the past each classroom has been assigned and used exclusively by one particular section of students. The students thereby attended all of their classes in the same room and the professors moved from one room to another. The suggested method would provide for movement of students from one room to another with each professor teaching as many classes as possible in the same room. The designation of rooms to subject matter areas of instruction would permit the development, installation, storing and utilization of various teaching equipment and aids in the instructional area. This would encourage teachers to make more extensive use of teaching aids and materials for a more effective instructional program and would be less monotonous and more conducive to learning by students.

Project Pictures

PROJECT PICTURES

PROJECT PICTURES

CHOTT MARIA AGRICULTURAL SCHOOL PROJECT – SOUSSE, TUNISIA

- 1) *The Classroom building, Library and Administration building*
- 2) *The Library*
- 3) *Classroom building*
- 4) *Science Laboratory building*
- 5) *Faculty Apartments*
- 6) *A view of the new campus*
- 7) *Library in foreground – faculty apartments in background*
- 8) *Dining hall and Dormitories*
- 9) *Farm Machinery storage area*
- 10) *Students working at chalkboard in natural science laboratory*
- 11) *Students returning from work experience program on school farm*
- 12) *Judge, Freeman and Helaoui inspecting farm machinery and equipment*
- 13) *Farm machinery storage area*
- 14) *The Science laboratories and Library*
- 15) *The three villas for administrative personnel*
- 16) *A faculty apartment building*
- 17) *Two of the “Instructeurs Techniques” who received practical work experience training at Texas A&M*
- 18) *Students in Agricultural Engineering field study*
- 19) *Students learning to debeak poultry*
- 20) *Girl students learn about dairy cattle*
- 21) *Students in Animal Science laboratory*
- 22) *Students harvesting tomatoes on the school farm*
- 23) *Former Texas A&M participants at informal get together*
- 24) *Former Texas A&M participants at informal get together*





