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FINAL REPORT

Development of Vocational Skills at Rural Level
Through the Use of Mobile Training Centers

Prepared for USAID/Rabat
by
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EXPERIENCE, INCORPORATED

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EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

RURAL VILLAGE WORKSHOPS

List No 8

Cost F.O.B. U.S. Source

- For tools & equipment 1980/81 price	\$	30,000.00
Plus 10% inflation factor	\$	-
- Demonstration Models of Machinery based on 1980/1981 prices	\$	-
Plus 10% inflation factor	\$	-
- Audio/Visual Aids 19 ⁸⁰ / 81 prices	\$	-
Plus 10% inflation factor	\$	-
Freight & Handling	\$	5,000.00
Total Cost F.O.B. U.S.	\$	30,000.00

TOTAL ESTIMATED COST PER SINGLE
COMPLETE MOUNTING \$ 35,000.00

COST ESTIMATE FOR RURAL VILLAGE WORKSHOPS (X 12)

This estimate represents the maximum possible cost involved in equipping a rural village workshop. Few, if any, rural workshops will be outfitted with all the equipment listed below. Rather, individual workshops will be equipped with skills training equipment which will meet the urgent skills demands of the surrounding communities. As community's needs vary, the makeup of the individual workshops will differ, and it is not anticipated that any (or few) rural villages workshops will be equipped with the entire complement of skills training equipment listed below. Estimates are based, essentially as 50% of the cost of the equipment & tools component utilized in the Mobile Skills Training Unit (MSTU) mounting figures, excluding demonstration models & audio visual equipment as these are not needed in the village workshops.

EQUIPMENT ESTIMATES PER WORKSHOP:

1) Automotive	\$ 5,000.00
2) Small Engine Repair	5,600.00
3) Welding	5,600.00
4) Electricity	2,300.00
* 5) Electronics	2,300.00
6) Carpentry	6,500.00
7) Plumbing	2,700.00
	TOTAL \$ 30,000.00
	Shipping & Handling 5,000.00
	TOTAL 35,000.00

* Represents 100% of MSTU mounting

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Development of Vocational Skills at Rural Level
Through the Use of Mobile Training Centers

I. INTRODUCTION:

This assignment was carried out at the request of AID NE/TECH, from February 21 through March 28, 1980, in accordance with Work Order No. 3, Contract AID/SOD/PDC-C-0185, awarded to Experience, Incorporated. The field work was performed from February 25 through March 24, 1980, under the guidance of Mr. James F. Smith, Human Resources Officer, USAID/Rabat.

Consultations and meetings were held with various USAID/Rabat officials and with the following GOM representatives:

Mr. A. Bishri.....Director of Ministerial Cabinet and
Director General of National Vocational Training Programs

Mr. M. Hantati.....Director, Vocational Training,
Ministry of Labor (MOL), Rabat

Mr. A. Frej.....Co-Director, Vocational Training,
MOL, Rabat

Mr. F. Fihri.....Director General, OFPPT, Casablanca

Mr. M. Alaoui.....Chief Enterprises Services, OFPPT,
Casablanca

Mr. M. Ferkli.....Director, Office of Cooperatives,
(ODECO), Rabat

Mr. A. Haddout.....Director, Legal Services, (ODECO),
Rabat

Mr. A. Morabed.....Vocational Program Officer, Peace
Corps, Rabat

Mr. M. Ouidadi.....Director, El Jadida, OFPPT Center

Mr. B. Shekroui.....Director, Sattat, OFPPT Center

Mr. A. Alaoui.....Director, Fes, OFPPT Center

Mr. I. Ahmed.....Director, Tangier, OFPPT Center

Mr. M. Oumouch.....Director, Marrakech, OFPPT Center

Further meetings were also held with other officials from the Ministry of Labor, OFPPT, Ministry of Agriculture, Ministry of the Interior and previous participants in pilot Mobile Units (M.U.) training programs.

Prior to the commencement of this study, Mr. Daniel Walsh, Vocational Training Specialist, was assigned the task of assisting USAID in developing a Project Identification Document for Social Service training. The completed document is currently under review and consideration by USAID/Rabat, accordingly, a copy is not available for inclusion with this report.

II. GENERAL SCOPE OF STUDY:

The study team was composed of three experts:

Mr. Maurice Samaan, Team Leader, Project design and manpower expert

Mr. Michel Choquette, Socio-economist and cooperative expert

Mr. Daniel Walsh, Vocational training expert

Discussions with USAID officials resulted in revising the original scope of work under E.I. Contract No. 0185, Work Order No. 3. The new scope of work required the team to carry out the following:

1. Research and identify needed skills in the rural areas of Morocco.
2. Evaluate and assess the priority sequence of such needed skills and determine the viability of a "Mobile Units" training concept to fulfill such a demand.
3. Recommend the most appropriate approach to implement such a project within the context of the GOM request (through the Ministry of Labor) to USAID for technical assistance.
4. Determine and, if possible, reconcile various points of view to bring about agreement between USAID and GOM officials on project concept, approach and implementation outline, as proposed by the team.
5. Develop and draft a general outline of the project concept which could be used by USAID as a basis to develop a detailed Project Identification Document and ultimately, a Project Paper.

Based on the above scope, the team initiated and participated in several meetings and discussions with officials from USAID and the GOM. Visits of selected vocational training centers throughout Morocco were performed over a two-week period. The team observed and analyzed the activities of said centers at the OFPPT Headquarters in Casablanca, as well as, regional centers and rural training facilities. Such centers included those of the Ministry of Labor and the Ministry of Agriculture. This effort also encompassed the performance analysis of a Mobile Unit (GOM pilot program) in actual operation at a village center and another being equipped at Casablanca for field training activities. Both units

were prepared for training programs in advanced repair skills in automotive and farm machinery needs.

III. SUMMARY OF FINDINGS:

A. Project Viability and Social Impact:

It is the opinion of the team that the project is viable, provided that it is carried out within the conceptual approach and diversified inputs, as outlined later in this report. The visualized social impact on the Moroccan rural areas will be in line with GOM objectives in the National Development Plan, as it relates to the rural sector. Anticipated results are:

1. Provide a much needed technical services capability at the village level;
2. Increase and generate work/income at the rural level;
3. Stem or drastically reduce manpower migration from rural to urban areas, and
4. Increase national agricultural production.

The team finds that the request for assistance from the MOL to USAID for the development of vocational training programs in the rural areas addresses a vital need of national importance. Such a request has the endorsement and full support of all levels of governmental authorities which the team was able to contact. It also enjoys the same enthusiasm of the people, at the village level, who spoke with team members.

B. Vocational Training Centers:

Visits were made to: the OFPPT training centers at Casablanca, FeS, Sattat, El Dadida, Marrakesh and Tangier; the CRAFA (Ministry of Agriculture Vocational Training Center) rural centers at Sefrou, Khamis Metouh and Sidi Bennour, as well as one active mobile unit at Khamis Metouh and one being equipped at OFPPT center in Casablanca.

The Centers were found to be:

- Excellently equipped with machinery, tools, demonstration models and other training aids, required to carry out a sound training program, particularly, in the development of automotive and farm machinery repair skills.
- Adequately organized in operations, staff and logistical support for training needs. In addition, adequate accommodations were available for providing participants with full board.

- For the most part, running at capacity, catering exclusively to industry (excluding the M.U. at Khamis Metouh, which was providing an advance training course to village mechanics).

The team members made the following observations as to inadequacies and needed revisions:

- Village requests for the services of the Mobile Unit center at El Jadida (the only one in operation) far exceeded the M.U.'s capability to respond to all demands. Consequently, training periods in each rural location were very short.
- The team felt that there is a gap between the private and public sectors, regarding employees' remuneration, work conditions, benefits, etc. Due to the fact that private industrial conditions are more beneficial, they attract the most qualified graduates.
- The caliber of training instructors requires strengthening Instruction approach, methodology and pedagogical skills needs improvement and revision.
- There is a need for a more coordinated effort in identifying priority rural needs and designing training programs to fulfill such demands.
- The team felt a lack of intra- and inter-institution communication which affects sound planning and optimum use of available resources.
- Indicators reflect short-term planning rather than long-term. Centers tend to respond on impulse regarding training needs.

C. Training Needs:

Within the limited time-frame available to the team and based on the limited rural areas visited, the following reflect the priority sequence of needed skills in the rural areas:

1. Proper maintenance and operation (including driving) of automotive vehicles and agricultural farm machinery;
2. Basic simple repairs at the village level, this includes basic automotive electrical repairs;
3. Maintenance and repair of pumps;
4. Major repair facilities within a 50 kilometer radius of any village;
5. Repair/installation of electrical components, repair of bicycles and motorcycles;

6. Welding, carpentry, plumbing, and

7. Electronics - radio and T.V. repairs.

D. Manpower/Staffing:

In the event this project is implemented, there will be a need for technical assistance inputs to assist the GOM to coordinate its efforts at all levels of activity. In addition, close cooperation and participation of the Peace Corps and the Office of Cooperatives (ODECO) are necessary.

The existing teaching staff at the centers carries a full agenda in executing current training programs. However, OFPPT in Casablanca is capable of acquiring new instructors, as needed, from existing participants approaching graduation, who only lack training in pedagogical approaches.

E. Cooperatives:

A general review of the existing legislation and by-laws governing the formation of cooperatives revealed the absence of any legal grounds that would permit the formation of work/service cooperatives under the jurisdiction of the MOL. Through discussions held with representatives of the Office of Cooperatives (ODECO), the team was led to believe that new proposed legislation is currently under consideration by the Parliament, after receiving the approval of the Cabinet. The new legislation, if passed into law, would permit the formation of such cooperatives (work/service) under the jurisdiction of the Ministry of Labor. Such a cooperative legal entity would be in a position to receive GOM financial assistance, subsidies, lines of credit, administrative and logistical support.

Alternately, in the absence of such a new law, existing agricultural cooperatives may act as the vehicle to perform the functions of the work/service cooperative through the creation of a work/service department within the cooperative. The formation of such a cooperative would provide an excellent institutional body to perform the following functions:

1. Identification of needed skills in the immediate rural areas, around the cooperative;
2. Selection of prospective training participants who would undergo basic skills training at the cooperative, prior to enrollment in the Mobile Unit program;
3. Organization of trained manpower to insure the availability of adequate services to the rural community responding to needs on a timely basis;
4. Enhancement and updating of professional skills of its members through advanced M.U. training programs, and
5. Insuring the continuation of incentive programs that would encourage trained manpower to remain in the rural areas.

IV. RECOMMENDATIONS:

The success of this project greatly depends on the collaborative effort of all concerned to utilize the following guidelines:

- Use of existing institutional infrastructure network of training centers under the jurisdiction of OFPPT.
- Essential need for expatriate technical assistance inputs at MOL, OFPPT and regions. (A major target is the enhancement of instructors' teaching skills and the formation of more effective pedagogical training programs.)
- A combination of static and mobile training centers to perform the actual training of manpower.
- Use of a legal body institution at the rural level such as a work/service cooperative to coordinate project inputs and outputs.
- Initiation of incentive programs to encourage retainment of trained skilled manpower at the village level. A major component in such a program may be for the MOL to provide a fully equipped workshop to each cooperative at the completion of skilled manpower training programs. The value of such a workshop would be considered a loan to the cooperative to be paid back over a ten year period, with a one year grace period. Financial arrangements should be made through the existing banking system to administer said loan.
- Periodic repetition of Mobile Unit visits to established coops, to upgrade available skills through advance programs.
- Possible execution of a binding agreement with prospective long-term trainees to return for work in the rural areas. Such agreements would be similar to existing ones at the OFPPT.
- Periodic seminars held at OFPPT/Casablanca with the participation of representatives from all its training centers to exchange ideas, report on progress and discuss new approaches.
- ODECO participation in cooperative manpower training at the village level.
- Peace Corps participation in assisting instructors to implement training programs at the static and mobile unit centers.
- MOL to conduct a survey aimed at narrowing the employment conditions gap between the public and private sectors.

V. MANPOWER INPUTS:

The following reflects proposed needs:

A. At the Ministry of Labor:

A new division to be formed under the supervision of the Director/ OFPPT/Casablanca and close coordination with MOL/Rabat.

Staffing:

MOL/Rabat Director of Project
Assistant Director of Project
Expatriate counterparts
Supporting staff

Foreign Vocational training, planning and management expert:
Acting as Chief of Party. Coordinate and administer all project inputs and outputs.
Socio-economist and cooperative development expert: Research and analysis of needs, program impact, sound cooperative development and periodic evaluation of output indicators to ensure achievement of objectives. Recommend corrective action, as needed.

(The above, Foreign manpower, are to be stationed at the Project Headquarters.)

B. At OFPPT/Casablanca:

A new division to be formed under the supervision of the Center's Director.

Staffing:

Moroccan Training Director
Assistant Director
Expatriate Counterparts
Supporting Staff

Foreign Training methodology and program design specialist: Primarily responsible for the design, development and revision of training programs to accomplish the formalization of needed skills in the rural areas.
Teacher education specialist: To improve the qualifications of instructors, to design and implement teaching curricula and conduct seminars at regional levels to improve teaching techniques and abilities among regional instructors.
Machine/tool and automotive repairs specialist: Assist in the installation, maintenance and repair of a wide range of industrial/technical equipment used in vocational training centers. Act as field trouble shooter in training centers. Observe instructors' approach and methodology in machines operation and automotive repairs, recommending corrective action, as needed.

C. At Regional Centers and Rural Mobile Units:

A new section under the supervision of the Regional Director.

Staffing:

Moroccan Manager, M.U. Program: Coordinate regional program activities in the region including movement of M.U.'s.
Assistant Manager
Research Analyst: Evaluation of program impact on villages within the region, analysis of rural needs for various skills, and provision of feedback of findings and recommendations to section manager.

Foreign Peace Corps participation, as required by region.

D. Mobile Units Training Centers:

Staffing:

Moroccan One instructor in the pertinent skill, one assistant instructor (groomed for future promotion to instructor status).

Foreign Peace Corps participation, as needed, to assist instructors.

Estimated total cost of technical assistance inputs (excluding Peace Corps) is US\$ 1,500,000 in Phase I and US\$ 1,000,000 in Phase II. Short term consultants as needed, est. \$250,000.

Total technical assistance input, Phase I and II: \$2,750,000

VI. COMMODITY INPUTS:

It is recommended that the project be implemented in two phases. Commodity inputs needed are as follows:

- Phase I -- Eight empty mobile units (MU) shells (non-motorized trailers), similar to the one at OFPPT/Casablanca.
- Eight M.U. mountings of training equipment for simplified automotive repairs and farm machinery repair.
 - Two M.U. mountings of training equipment for each of the skills needed.
 - Sixteen complete rural workshops, as it is assumed that at the conclusion of Phase I, a minimum of sixteen work/service cooperatives will be operative in the four regions covered under that phase.
 - Additional training machinery and equipment at the OFPPT regional centers to expand the centers' capacities to be able to implement required training programs in automotive and farm machinery repairs to a total of ten selected participants.

- Two truck-tractors, to move the M.U. between locations.
- Eight power generating units.
- Audio visual training aids, such as movie/slid projectors.

(NOTE: Specifications on all of the above commodity inputs should be furnished by OFPPT/Casablanca.)

Phase II - Six new empty M.U. shells.

- Two M.U. mountings of training equipment for simplified automocive and farm machinery repairs.
- One M.U. mounting of training equipment for each of the other skills needed.
- Sixteen complete rural workshops.
- Additional needed machinery and training equipment for regional centers.
- Six power generating units.
- Two truck tractors to move units from one location to the next.
- Audio-visual equipment.

(NOTE: Specifications on all of the above commodity inputs should be furnished by OFPPT/Casablanca.)

VII. PARTICIPANT TRAINING IN U.S.:

It is proposed that selected candidates, primarily administrators and instructors, undergo short and medium term training in the U.S. The selection of such candidates would be made by USAID and the MOL.

Total cost estimate (AID input) is \$300,000.

VIII. PROJECT CONCEPT:

The project will be implemented in two phases. Phase I will cover the regions of Casablanca, Fes and Oujda, over a period of three years. Phase II will cover the regions of El Jadida, Agadir, Marrakech, Tangier and Khenifra (later to be relocated to Beni Mellal, when OFPPT center is completed), over a period of two years.

During the last six months of Phase I, a detailed in-depth evaluation must be performed to assess project impact and determine what adjustments and refinements are necessary to be made prior to the implementation of Phase II.

Phase I

The implementation of rural vocational training is based on the concept of utilizing existing static training centers located in the regions, to perform one aspect of the program. Such training will be limited to ten participants at a time, undergoing a comprehensive

ESTIMATED COSTS OF U.S. SOURCE COMMODITY INPUT DELIVERED

IN MOROCCO

PHASE I

<u>No. of Units</u>	<u>Description</u>	<u>Estimated Cost U.S. \$</u>
8	MU shells - at \$30,000 ea.	240,000
8	MU mountings for simplified automotive & farm machinery repair - at \$30,000 ea. (List No. 1)	240,000
2	MU mountings for small engine repairs - at \$ 20,000 ea. (List No. 2)	40,000
2	MU mountings for Welding at \$12,250 ea. (List No. 3)	24,500
2	MU mountings for electricity instal/repair at 8,250 ea. (List No. 4)	16,500
2	MU mountings for electronics repairs at \$ 5,100 ea. (List No. 5)	12,200
2	MU mountings for carpentry at \$16,000 ea. (List No. 6)	32,000
2	MU mounting for plumbing at \$6,000 ea. (List No. 7)	12,000
2	Truck-tractors at \$60,000 ea.	120,000
8	Power generating units at \$10,000 ea.	80,000
10	Overhead projectors with spare bulbs at \$300 ea.	3,000
16	Complete rural workshops equipped for service & repair in all skills est. at \$35,000 ea. (List No. 8)	560,000
various	Additional training machinery and equipment for 4 OFPPT regional centers est. at \$40,000 ea.	160,000
TOTAL PHASE I		<u>\$1,540,200</u> =====

PHASE II

<u>No. of Units</u>	<u>Description</u>	<u>Estimated Cost</u> <u>U.S. \$</u>
6	MU Shells - Estimated procurement cost from U.S. Source inclusive of freight to Morocco + 30% inflation cost \$30,000 each + \$9,000	Total \$ 234,000
2	Equipment fittings MU mountings of training equipment for simplified automatic and farm machinery repairs. Estimated cost per mounting and tools including audio-visual training aids \$30,000 each + inflation cost \$9,000	Total \$ 78,000
1	MU mounting in small engine repairs \$20,000 + inflation costs \$6,000	Total \$ 26,000
1	MU mounting in Welding \$12,250 + inflation cost \$3,675	Total \$ 15,825
1	MU mounting in electricity \$8,250 + inflation costs \$2,475	Total \$ 10,725
1	MU mounting in electronics \$6,100 + inflation cost \$1,830	Total \$ 7,930
1	MU mounting in carpentry \$16,000 + inflation cost \$4,800	Total \$ 20,800
1	MU mounting in plumbing \$6,000 + inflation cost \$1,800	Total \$ 7,800
2	Truck tractors at \$ 60,000 each \$120,000 + inflation cost \$ 36,000	Total \$ 156,000

PHASE II (Cont'd)

<u>No. of Units</u>	<u>Description</u>	<u>Estimated Cost</u> <u>U.S. \$</u>
6	Power generating units at \$10,000 each. \$ 60,000 + inflation cost \$ 18,000	
	Total	\$ 78,000
16	Rural Workshops at \$35,000 each \$560,000 + inflation cost \$160,000	
	Total	\$ 728,000
6	Overhead projectors at \$300 each \$1,800 + inflation cost \$720	
	Total	\$ 2,520
	Additional training equipment and machinery for 5 OFPPT regional centers at \$40,000 each.	
	Total	\$ 200,000
	TOTAL ESTIMATED COST - PHASE II	<u>\$1,565,600</u>
<u>/TOTAL - PHASE I & II</u>		<u>\$3,105,800 /</u>

course in automotive engines and farm machinery repairs. It is estimated that its duration will be for one year. (All other skills will be developed in the rural areas through the media of Mobile Units Training Centers.)

At the conclusion of the first three months' of field training, graduates may form a work/service cooperative, based in their rural areas. Membership will increase by the participation of other skilled manpower as they complete their training in the various needed skills.

At the conclusion of training at the static center, the graduate "mechanics" will be repatriated to the rural center and join the formed cooperative. At this juncture, the cooperative will qualify for receiving from MOL a fully-equipped workshop for major repairs.

Sample of Concept in Operation

Region : FES - Regional OFPPT Vocational Training Center

Target Rural Areas : Tissa and Sefrou

Mobile Units Allocation: Two shells and various equipment mountings to carry out training in various skills.

Period of Training in Rural Centers: Based on required skills and level of participants. Initial course is estimated to last about three months.

Stages of Operation:

Stage 1:

Course: Maintenance and operation of automotive vehicles and farm machinery. Simple repairs on location.

Two Mobile Units equipped with demonstration tools, models and training aids are launched to the two selected rural areas.

Each unit will have 15 participant trainees selected from surrounding villages. (Selection will be made by a committee of representatives from OFPPT regional centers and the pertinent rural authorities.)

The participants will undergo a three-month training course. At the completion, the most competent five will be sent to Fes OFPPT center for the one-year comprehensive course. The remaining participants will form the nucleus of the work/service cooperative (or department of the existing agricultural cooperative).

ODECO participation is necessary at this stage to help form the cooperative.

Stage 2:

The Mobile Units would repeat the same process with two other rural centers.

Stage 3:

Mobile Units return to Fes OFPPT Center to be re-equipped with two other types of skill training equipment (example A, repair of injection pumps, water pumps and B, repair/installation of electrical components). The selection of skills will be based on each individual area's priorities.

The M.U. will proceed to the first two locations (Tissa and Sefrou) to perform the training program for new participants. At completion, the graduates may become additional members of the newly-formed cooperative.

Stage 4:

The M.U.'s will move to the second two rural locations, to repeat the process.

Stage 5:

Units return to Center for re-equipment with other skills and repeat Stages 3 and 4.

It is estimated that each OFPPT regional center will be able to develop four to six rural work/service centers. Total estimated number of trained skilled participants is estimated at 110 per rural center. Estimated number of rural centers at end of project is a minimum of 36 and a maximum of 54 centers. Total number of trained manpower is estimated at 4000 to 6000 in the project period.

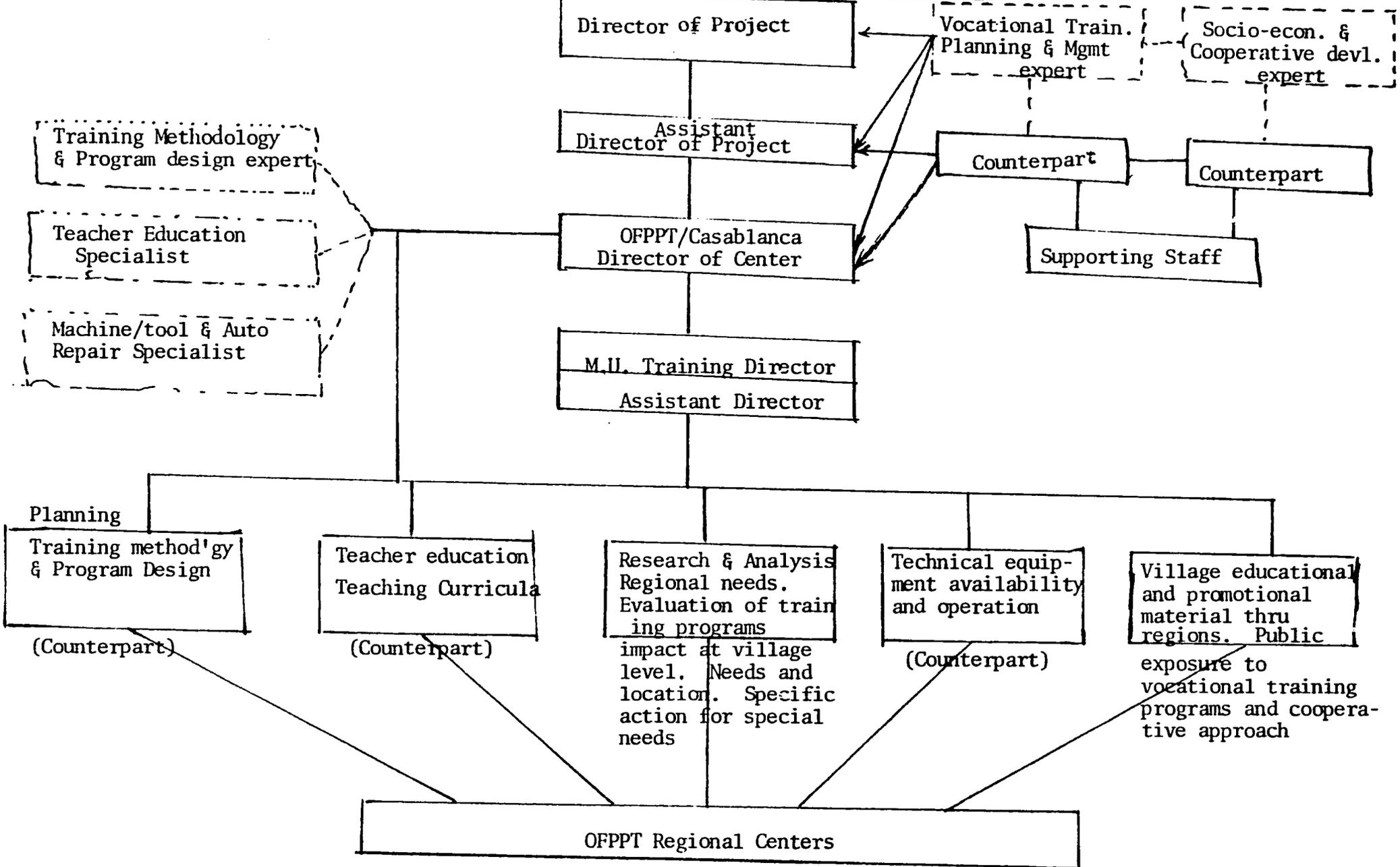
Assuming that each Mobile rural training center will be able to train 15 participants in each of an average of seven identified basic skills, the result will be a total of 105 participants trained in basic skills and 5 receiving comprehensive training in automotive and farm machinery repair.

During the life time of the project, a minimum of 4 rural centers per region will be developed, i.e., 36 rural centers, producing about 4000 trained participants. An envisioned maximum of six rural centers/region is also possible, thus resulting in 54 rural centers equipped with 6000 trained participants.

The development of trained manpower in the rural areas represents the needed tool to fulfill the goal of this project, by providing the farmers and rural communities needed services in a multitude of basic skills within their rural areas.

Project Organizational Chart

Director/Vocational Training/Rabat (MOL)



- Feedback of data to OFPPT/Casablanca
- Coordination of M.U. training centers program
- Village participation coordinator and skills application at village level

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IX. PROJECT DESCRIPTION:

A. Introduction and Summary Description:

The intent of this project is to avail farmers of basic and semi-professional services in needed skills within their communities, and in addition, to extend and diversify employment opportunities in vocational skills in the rural areas of Morocco. The purpose of the project is to provide vocational training in needed basic skills in the rural areas, where no other programs are addressing such a demand. The project envisages the accomplishment of the following:

1. Make available vitally-needed services in multiple vocational skills for the benefit of the rural community;
2. Increase agricultural production and farmers' income by reducing down-time of farm machinery , equipment and implements;
3. Increase job opportunities and generate more income at the village level;
4. Develop skills and semi-skilled manpower in rural areas by training participants who have had either little or no formal education, and
5. Reduce manpower immigration from rural to urban areas.

The GOM considers vocational training a priority objective in its national development plan. In the current plan, great emphasis is placed on developing such skills at the rural level to stimulate village economy by the creation of local small businesses and industries.

The Ministry of Labor (MOL), through its vocational training institutes, OFPPT, conceived the idea of utilizing mobile training centers as a tool to reach out to the villages and bring the training institute capabilities to the people where the demand is overwhelming and where no other organizations (public or private) are responding to such needs.

Over the past two years, the OFPPT conducted an experimental program, with two Mobile Units (M.U.). The pilot program was considered very successful by the MOL and OFPPT. A sample examination of the results of this experiment and discussions with some past and present participants revealed some weaknesses which are rectified in this project outline. Such weaknesses were mainly: the short span of the course in each rural location, and the courses were primarily for upgrading existing capabilities and skills, rather than addressing the development of basic skills.

The project as visualized will utilize the existing OFPPT infrastructure network of regional institutions and training centers to implement and monitor the rural vocational training programs. Currently, OFPPT has 39 training centers. The GOM feels that the M.U.'s

will permit the extension of OFPPT capabilities to reach the Moroccan countryside and villages.

It is recommended that the project be implemented in two phases. Phase I will be for three years and will concentrate in only those regions in which OFPPT has training centers. During the last six months of Phase I, an in-depth evaluation of effort must be performed, to refine and adjust the program prior to commencement of Phase II. The Second Phase will extend to four or five additional regions and will last for a period of two years. Subsequently, the same program could be implemented in other regions, nationwide.

The execution of training programs will be carried out through the use of static centers, i.e., OFPPT regional centers and mobile centers placed in strategic rural areas, surrounded by as many villages as possible. Training courses given at the OFPPT centers will be limited to the comprehensive development of automotive and farm machinery repair skills. Participants, after completing a one-year intensive course, will be encouraged to return to their rural areas, to provide the needed repair services within their own communities. The MOL will initiate such incentive programs that would attract the majority of such graduates to practice their skills at the village level.

Initially, the mobile training centers will concentrate their efforts in the development of basic skills in the most needed services at the village level. After the development of an effective rural skilled manpower force, the M.U.'s would return to enhance such skills and update capabilities.

The intent of the use of the M.U.'s is to provide simplified basic training programs in the most-needed vocational skills in rural Morocco. The following illustrates such skills, in priority order:

1. Proper maintenance and operation (including driving) of automotive vehicles and agricultural farm machinery.
2. Basic simple repairs at the village level.
3. Maintenance and repair of pumps.
4. Repair and installation of electrical components, repair of bicycles and motorcycles.
5. Welding, carpentry and plumbing.
6. Electronics - radio and T.V. repairs.

It is further envisioned that the use of available cooperative structure may prove to provide the needed institute, such as a work/service coop, to organize the trained rural manpower and provide the surrounding village communities with multiple skills and services in great demand. Although the cooperative movement in Morocco is still in its embryonic stage of development, the existing governmental structure for cooperative development is sound and effective. It enjoys total government

support, particularly due to its adaptability to respond to rural demands.

The need for an organized legal body at the village level could not be better met than by a work/service cooperative that can create an economic chain among the rural population to increase productivity and raise the social standard of living.

To insure the successful implementation of this project, it is recommended that U.S. technical assistance inputs be made available in the form of a five-person team composed of:

1. Vocational training, planning and management expert:
To coordinate and administer all project inputs and outputs.
2. Socio-economist and cooperative development expert:
To carry out research and analysis of needs, assess program impact, insure sound cooperative development and perform periodic evaluation of output indicators to ensure achievement of objectives. Recommend corrective action, as needed.
3. Training methodology and program design specialist:
To be responsible for the design, development and revision of training programs, to accomplish the formalization of needed skills in the rural areas.
4. Teacher education specialist:
To upgrade the qualifications of instructors, design and implement teaching curricula and conduct seminars at regional level to improve teaching techniques and pedagogical abilities among regional instructors.
5. Machine/tool and automotive repair specialist:
To assist in the installation, maintenance and repair of a wide range of industrial and technical equipment used in vocational training centers. Act as field trouble shooter in training centers. Observe instructors' approach and methodology in machine operation and automotive repairs, recommending corrective action, as needed.

It is further recommended that the following U.S. commodity inputs be made available to the project.

Phase I

- Eight empty mobile unit (MU) shells.
- Eight MU mountings of training equipment for simplified automotive and farm machinery repairs.
- Two MU mountings of training equipment for each of the needed skills, i.e., maintenance and repairs of pumps, repair and installation of electrical components, repair

- of bicycles and motorcycles, welding, carpentry, plumbing, electronic equipment for radio and T.V. repair.
- Sixteen complete rural workshops.
- Two trucks-tractors to move MU's between locations.
- Audio visual training aids.
- Eight power generating units.
- Additional training machinery and equipment at OFPPT regional centers to expand their capacity for long-term training of selected candidates.

Phase II

- Six empty MU shells.
- Two MU mountings of training equipment for simplified automotive and farm machinery repairs.
- One MU mounting of training equipment for each of the other needed skills
- Sixteen complete rural workshops.
- Two truck-tractors to move MU's.
- Six power generating units.
- Additionally needed training equipment at static regional centers.
- Audio visual training aids.

GOM inputs

- Cost of operating available infrastructure networks.
- Expansion of buildings and facilities to accommodate training requirements.
- Securing of training locations and facilities in the rural areas.
- Cost of operating mobile training centers.
- Cost of all participating local manpower.
- Provision of in-country transportation and logistical support at all levels of operation. This includes office space, secretarial services, office equipment, etc.

It is anticipated that the above means and inputs will achieve the project's purpose by accomplishing the following:

1. The development of simplified vocational training programs suitable for implementation in the rural areas, taking into consideration the lower educational level of prospective participants.
2. The development of new pedagogical approaches to strengthen instructors' teaching abilities.
3. Extension of vocational training programs to reach the rural areas by using mobile training centers at the village level to develop basic skills.

4. Development of semi-professional skills in automotive and farm machinery repairs through the use of static training centers at regional level.
5. Initiation of incentive programs to encourage trained manpower to return and work in the rural areas.
6. The establishment of an institutional body (such as a work/service coop) at the village level to act as a legal entity capable of receiving lines of credit and governmental support. In addition, act as a pool of skills and services for the benefit of surrounding villages and farmers.

B. Measurement of Achievements:

At the outset of the project, a survey should be made, at the target rural areas covered under the project, to determine:

1. Approximate income generating jobs within the area and average income level per capita.
2. Available skills/services by category within the area. Determination of average cost of such services and how it compares to similar services in regional centers.
3. Average agricultural production per hectare for each type of commodity.
4. Average machinery and farm equipment down-time within a given period of farmers' use.
5. From available records, amount of migrant manpower, from rural to urban areas, on a quarterly or semi-annual basis.

To measure project impact and achievement of purpose, a similar survey should be carried out after two years of project's start-up date. Process should be repeated every year thereafter. Comparison of results between initial survey at commencement of project and periodic survey results would indicate degree of progress and impact.

C. Project Beneficiaries:

The principal beneficiaries from this project are the small farmers and members of the Moroccan rural communities. It is estimated that about one million people in the rural areas will benefit indirectly from this project. In addition, about 4000 to 6000 unskilled rural manpower will benefit directly from the training programs of this effort.

It is envisioned that this project will have a substantial impact on increased agricultural production by the reduction of down-time of farm machinery and equipment. The impact will also encompass

meaningful economic and social benefits to the rural communities of Morocco.

USAID/Rabat is in the process of collecting pertinent data and analysis, from both the agricultural and social/economic points-of-view, to substantiate the above and to produce additional measures for assessing such an impact.

D. Analysis and Assessment of GOM Implementing Institution (OFPPT):

The Office of Vocational Training and Work Promotion (OFPPT) under the Ministry of Labor is the implementing agency for this project. It was established in 1974. The GOM has always considered vocational training to be a pre-requisite for social and economic development. This was reflected in the GOM development plans for 1973/77 and again, in its plan for 1978/80.

At the outset, OFPPT was established for the main purpose of responding to industrial needs for skilled manpower. Over the years, OFPPT became an essential component in the development of skilled manpower and had a positive impact on the local economy. Gradually, the need evolved for rural skilled manpower. Accordingly, the GOM, in its 1978/80 development plan, gives priority to vocational training programs in the rural sector. The general goals of OFPPT are summarized in the following:

1. Training of qualified people to fulfill industrial needs.
2. Social promotion of the cultural development of workers and their adaptation to new technology evolving in the Moroccan economy.
3. The development of training programs to respond effectively to the national demand for skilled labor.

The OFPPT is governed by a Board of Directors under the chairmanship of the Minister of Labor and composed of 28 members representing the executive branch of the government, workers and prospective industrial employers. It draws its financial need from two sources:

1. GOM National Budget - insures available credit for buildings and equipment, and
2. Contributions by industrial organizations equivalent to one percent of gross salaries paid to its employees. These funds cover OFPPT operational costs.

Training programs offered by OFPPT are in three stages:

Stage 1: Training courses of one year for semi-professional workers.

Stage 2: A two-year course in professional skills. Participants are awarded a qualification certificate.

Stage 3: Participants must have 13 to 14 years of education (university freshman level) prior to enrollment. The course is for a two-year period, resulting in "agent de metrise" certification. (Comparable to a foreman in a given skill.)

In addition, the OFPPT offers training in six general skills aimed at upgrading manpower skills of employed workers. The advanced training courses are summarized as follows:

1. Seminars in specific specialized skills.
2. Seminars in upgrading capabilities of skilled workers in all skill disciplines.
3. Secretarial and accounting courses.
4. Correspondence courses in basic accounting and in written communications.
5. Night courses in all skills.
6. Mobile Units enhancement programs.

The OFPPT has a staff of 646 employees and 39 regional training centers.

Specialized Programs:

1. Basic mechanics.
2. Electricity.
3. Automotive maintenance and repair.
4. Sheet metal and welding.
5. Manufacturing of simple spare parts.
6. Repair of diesel engines.
7. Agricultural machinery repairs.
8. Electrical installation and maintenance.
9. Construction draftsmanship.
10. General mechanics.
11. Steel construction and foundations.
12. Printing machines repair.
13. Photography.
14. Industrial textile machinery repairs.
15. Industrial electronics.
16. Air conditioning and cooling systems.
17. Plastic welding.
18. Tailoring.
19. Grain mills operation.
20. Secretarial and accounting.
21. Construction, masonry, plumbing, carpentry, etc.

Duration of the above courses varies from six months to two years. Candidates must have a high school certificate.

Special
Task Force:

The OFPPT Headquarters has a separate task force to strengthen its regional centers. The main services rendered are:

1. Research and studies.
2. Evaluation of pedagogical approaches.
3. Applied psychology.
4. Editing services.
5. Maintenance and administration of equipment.

Assessment of Strengths
and Weaknesses:

Strengths:

The OFPPT has a comprehensive professional institutional network throughout the major regions of the country. The centers selected for the implementation of this project are excellently-equipped with machinery, tools, demonstration models and other training aids. However, such equipment is currently used to capacity to carry out existing programs aimed at providing industry with skilled manpower. In addition, the selected centers are adequately organized in operations, staff and logistical support for training needs. The above strengths provide the needed infrastructure to implement the project.

Weaknesses:

1. Lack of simplified vocational training programs, addressing basic skills needed in the rural areas;
2. Instructional approach, methodology and pedagogical skills need improvement and revision;
3. Lack of sufficient financial resources to carry out a national vocational training program in basic skills at the village level.

It is expected that the U.S. inputs will greatly assist in eradicating the above weaknesses.

E. Project Concept:

The project is based on using the existing static training center in the regions as a base of operation. The center will relocate the mobile units to pre-selected rural areas, based on their training needs. Participants are selected and enrolled in the program. Selected sites will be strategically located to serve the most densely populated surrounding villages to respond to their needs for multiple skills.

Initial training programs will be directed at developing basic maintenance and repair skills in a multitude of vocations. The most promising

participants will be selected to undergo a one-year comprehensive course at the static center. At completion, they will return to the rural areas to practice their skills and train other apprentices. The long-term training at the static centers will be limited to automotive and farm machinery repairs. The M.U. will make periodic visits to the same rural centers to upgrade trainees' capabilities and enhance their skills.

At completion of training, the participants will form a work/service cooperative offering services and skills in a multitude of vocational disciplines. The cooperative may also have a mini-mobile service corps that frequently visits surrounding villages and farmers, to perform on-the-spot minor repairs and educate farmers in proper maintenance and use of their equipment. (See sample of concept in operation, page 13 of this report.)

F. AID Policy Issues:

It is believed that the GOM can absorb some financial responsibilities of this project. However, the total financial implications of this project may prove to be beyond the existing budgetary capabilities of the GOM. It is proposed that the GOM contributions be limited to absorbing the cost of additional buildings and facilities at the regional static centers and rural mobile centers, as well as the total operational cost of the program, including local manpower, transportation and logistical support, etc.

Existing trained GOM workers are adequately qualified to provide needed administrators and instructors to implement the proposed vocational training program. This project's methodology and approach are designed to suit Moroccan needs, facilities and general modus operandi.

G. Estimated Project Cost in U.S. Dollars '000s:

TO AID

Manpower technical assistance.....	\$2,750
Commodity inputs.....	3,106
Participant training in the U.S.....	<u>300</u>
	\$6,156

TO GOM

Buildings and facilities.....	\$2,000
Operational costs:	
Local manpower.....	1,500
Mobile Units.....	<u>750</u>
	\$4,250

Estimated TOTAL Project Cost.....	\$6,156
	+ <u>4,250</u>
	\$10,406

H. Additional Recommended Studies:

The team recommends that prior to the project start-up, the following surveys be made:

1. A detailed comprehensive list of needed commodities be developed with specifications agreed upon by USAID and OFPPT/Casablanca.
2. A detailed comprehensive study of the selected rural centers, to determine conditions prior to project implementation. Details are under Paragraph B above, "Measures of Achievements".

X. DISCUSSIONS OF PROJECT CONCEPT WITH GOM OFFICIALS:

The team, accompanied by Mr. J. Smith, USAID Human Resources Officer, discussed the proposed project concept with Mr. M. Hantati, Director of OFPPT, Ministry of Labor.

Mr. Hantati agreed, in principle, on the project concept and method of implementation. However, he differed in opinion on the following issues:

1. He viewed an expanded scope of services for the Mobile Units Training Centers. He felt that their services in vocational training should encompass farmer education in planting methods, use of fertilizers, farm mechanization, etc. In addition, the M.U. services are to be extended to industrial complexes in the rural areas.

The team felt that such added responsibilities may prove to be counter-productive and overloading the M.U. service capabilities. It might be considered after the implementation period of the project.

2. He objected to the proposed incentives extended to the work/service cooperatives, i.e., furnishing such cooperatives with a workshop to be considered a loan repayable over a ten-year period. He felt that after the completion of training, participants should have the option of opening their own small business, form small service groups or join the cooperative. The Ministry of Labor would assist them in introducing them to banking organizations where they can obtain necessary financing for their needs.

The team feels that it would be very difficult to achieve the project's objectives without the existence of a viable entity, such as a cooperative, that can organize trained manpower to provide a variety of skilled services to small farmers and the rural Moroccan community. In the event that a cooperative is formed but is not equipped with a

"pre-packaged" workshop, it will lose its ability to attract trained manpower. In addition, such rural manpower may very well opt to migrate to urban centers where job opportunities are easier to find, rather than to undertake personal financial commitments of the magnitude needed to offer the required services and meet rural needs.

The above reflects Mr. Hantati's personal opinion. However, he recommended that USAID forward a copy of the findings and recommendations to the Minister for an official reaction.

On March 12, 1980, USAID/Rabat forwarded the summary findings and recommendations, as developed by the team, to the Ministry of Labor for review and comment. (A copy is attached.)

On March 18, 1980, a meeting was held at the Ministry to discuss the team's preliminary report. Participants were:

From GOM

Mr. A. Bishri.....Director of Ministerial Cabinet and Director
General of National Vocational Training Program

Mr. M. Hantati....Director, Vocational Training, MOL/Rabat

Mr. A. Frej.....Co-Director, Vocational Training, MOL/Rabat

Mr. F. Fihri.....Director General, OFPPT/Casablanca

Mr. M. Alaoui.....Chief Enterprises Services, OFPPT/Casablanca

From AID

Mr. H. Fleming....USAID Director

Mr. M.H. Ford.....USAID Agricultural Officer

Mr. M. Samaan.....EI Team Leader

A detailed presentation was made by Mr. Samaan of the findings, recommendations and project concept. Discussions by all participants followed regarding all aspects of the proposed project. The report, as presented, was accepted by all concerned. The MOL requested that participant training in the U.S. for selected instructors and administrators be included in the report. USAID Director concurred and this was added to the report.

APPENDICES

Le 12 Mars 1980

Monsieur le Ministre,

Suite à notre lettre du 21 février, j'ai l'honneur de vous faire parvenir ci-joint le rapport préliminaire concernant le développement de la formation en milieu rural au moyen de "centres mobiles".

Après avoir consulté les autorités intéressées au projet, l'équipe d'experts a effectué une tournée des installations de l'O.F.P.F.T., s'est entretenue avec plusieurs instructeurs, a rencontré diverses personnalités administratives régionales et locales, a interviewé quelques participants ayant bénéficié de l'intervention de l'unité mobile, et enfin a observé celle-ci en activité dans un village. Les résultats de cette enquête sont colligés ici sous forme d'observations et de recommandations générales.

Avant d'entreprendre la phase finale de la rédaction du rapport, nous souhaiterions recueillir quelques commentaires et échanger certaines opinions sur l'opérationnalisation du projet avec les autorités de votre Ministère.

Le départ des experts étant fixé au 21 mars, nous souhaiterions que cette rencontre soit convoquée le plus tôt possible, peut-être en début de semaine afin de nous permettre d'inclure vos vœux dans nos recommandations finales auprès de l'AID/Washington.

Je vous prie d'agréer, Monsieur le Ministre, l'expression de ma très haute considération.

Harold S. Fleming
Directeur

P.J. : 1

Son Excellence Mohamed Arsalane El-Jadidi
Ministre du Travail et de la Formation
Professionnelle
Rabat

Drafted by: MChoquette in fb: 3/12/1980
Clearance: HR: JFSmith

**DEVELOPPEMENT DE LA FORMATION EN MILIEU
RURAL AU MOYEN DE "CENTRES MOBILES"**

Rapport Préliminaire

Mandat Général de l'Etude:

Une équipe de trois experts:

- M. Maurice Samaan, Chef de Mission, expert en préparation de projet et en analyse de main-d'oeuvre
- M. Michel Choquette, socio-économiste et expert en coopérative
- M. Daniel Walsh, expert en formation professionnelle

s'est vue confier la tâche suivante:

1. Recherche et identification des besoins de formation en milieu rural.
2. Etude de la viabilité du projet "Centres Mobiles", évaluation et détermination des priorités de formation en milieu rural.
3. Choix d'une approche conceptuelle visant à la réalisation du projet "Centres Mobiles" selon la requête d'assistance du Ministère du Travail auprès de l'USAID.
4. Préciser et si possible concilier les opinions des autorités du Ministère du Travail du Maroc et de l'USAID sur une proposition de l'équipe d'experts, définissant l'ébauche générale du projet, sa méthodologie et ses concepts de base.
5. Développer et rédiger un synopsis de projet en vue d'une présentation générale: Document de Projet (Project Paper). Ce synopsis servira de base à la rédaction détaillée d'un dossier d'identification de projet: Project Identification Document.

Introduction:

Dans le cadre du mandat général de l'étude, l'équipe a suscité et participé à de nombreuses discussions/interviews avec les autorités

concernées - marocaines/USAID - de tous niveaux. Cette cueillette d'informations a nécessité douze (12) jours de travail.

D'une part l'équipe a observé et analysé les activités de l'O.F.P.P.T. au niveau local, régional et central. D'autre part, elle a visité un centre mobile en activité au village de Khamis Matouh et un centre en cours de création à Casablanca.

L'équipe a observé et analysé des activités de formation professionnelle de centres sous la tutelle du Ministère de l'Agriculture et du Ministère du Travail.

Au niveau régional furent visités les centres de Casablanca, Settat, Fès et El-Jadida; au niveau local les centres C.R.A.F.A. de Sefrou et de Sidi Bennour et enfin le village de Khamis Matouh.

Cette première étape de travail terminée, les informations recueillies et analysées sont résumées ci-dessous sous forme d'observations et recommandations générales:

1. Viabilité et Impact Social:

L'équipe croit que le projet "Centres Mobiles" est réaliste et s'avèrera réalisable si l'on tient compte de l'approche conceptuelle et des contributions humaines et financières nécessaires telles que décrites plus loin dans ce rapport préliminaire.

L'impact social prévu auprès des populations rurales s'accorde avec les objectifs du Plan National de Développement pour le secteur rural. Les résultats anticipés sont:

- a) un service de formation professionnelle dispensé auprès des populations rurales;
- b) la création d'emplois et l'augmentation des revenus au niveau des villages ruraux;

c) un freinage systématique de la migration de la main-d'oeuvre rurale vers les villes;

d) l'augmentation de la production agricole nationale.

Enfin l'équipe croit que la requête d'assistance du Ministère du Travail auprès de l'USAID pour le développement de la formation professionnelle en milieu rural répond à un besoin réel d'urgence nationale. Cette requête reçoit l'appui des autorités gouvernementales et administratives à tous les niveaux contactés ainsi qu'un accueil enthousiaste de la part des populations visitées.

2. Formation

Le réseau et les structures actuelles de formation professionnelle de l'O.F.P.P.T. nous sont apparus adéquats et peuvent servir de support logistique complet à l'implantation d'un programme de "Centres Mobiles" desservant les populations rurales.

Les centres mobiles sont actuellement affectés à des opérations ponctuelles en formation mécanique de base. La demande pour les services des centres dépasse au-delà de toute attente les capacités de ceux-ci. Enfin, l'équipe n'a pu contacter que des personnes ayant suivi un stage de courte durée; aucun stagiaire des programmes de six mois n'ayant pu être rejoint.

Répondant exclusivement à une demande de formation ponctuelle auprès de l'industrie, les centres de formation professionnelle sont très bien équipés d'un matériel moderne et adéquat. Ces centres offrent un service d'internat complet et fonctionnent à pleine capacité. Les instructeurs ont pleine charge du travail et désirent la conserver.

Le Centre de Casablanca est cependant en mesure de préparer, à partir de sa propre clientèle, les instructeurs nécessaires à un projet de "Centres Mobiles" tandis que les centres régionaux pourraient accueillir un groupe supplémentaire (15 personnes en formation moyennant certains compléments de matériel professionnel.

La qualité de l'enseignement peut être améliorée au moyen de méthodes audio-visuelles et l'emploi d'appareils tels que films de démonstration technique, rétro-projecteur, projecteur à diapos, etc.

La compétence des instructeurs peut aussi être améliorée pour des cours de recyclage et de perfectionnement y compris certains stages dans l'industrie marocaine et de brefs séjours dans des pays à économie plus développée.

Le calibre général de la formation pourrait être stimulé:

- par une meilleure identification des besoins en formation et la préparation de programmes plus adaptés à la demande;
- par une plus grande communication intra et inter-institutionnelle afin d'obtenir une meilleure planification des ressources disponibles;
- par la parité du niveau général des revenus et avantages sociaux des instructeurs avec ceux de l'entreprise privée concurrente.

3. Encadrement:

Advenant l'exécution du projet "Centres Mobiles", l'équipe croit que les structures administratives et professionnelles de la Formation Professionnelle doivent être renforcées par l'apport d'experts étrangers à tous les niveaux d'exécution soit au niveau du Ministère du Travail, de l'O.F.P.P.T. et au niveau des centres régionaux.

L'équipe croit que cet appui étoffera considérablement les compétences des responsables actuels à démarrer le projet "Centres Mobiles", à en coordonner le développement et l'administration et à en assurer le suivi nécessaire.

4. Besoins

Compte tenu du temps imparti à la cueillette d'informations, l'équipe a identifié les besoins suivants en matière de formation professionnelle. Par ordre de priorité ce sont:

- entretien mécanique automobile et machinerie agricole et cours de conduite et de manœuvres;
- notions de base: motorisme à essence et diesel, électricité automobile (réparations mineures sur place);
- formation motorisme diesel et à essence;
- entretien et réparations de pompes;
- installation électrique et réparation mineure;
- réparation outils agricoles et aratoires;
- notion de base en soudure, plomberie (réparations mineures sur place);
- notion de base - entretien et réparations cycles et motocycles;
- réparation de radio et télévision.

5. Coopératives:

Une revue générale de la législation et de la réglementation coopérative démontre l'absence de cadres légaux favorables à la création de coopératives autonomes de travail/service sous la tutelle du Ministère du Travail. Cette situation sera corrigée lors de la promulgation de la loi

sur le statut des coopératives présentement à l'étude devant le Parlement et ayant déjà obtenu l'approbation du Conseil des Ministres.

Sous la nouvelle loi, de telles coopératives de travail/service, sous la tutelle du Ministère du Travail ayant personnalité juridique et morale, pourront non seulement recevoir des aides financières et des prêts du gouvernement mais aussi assurer un service de réparation professionnelle à des coûts raisonnables aux populations rurales environnantes et aux membres participants de la coopérative.

Cependant dans certaines régions, l'infrastructure des coopératives agricoles actuelles permet d'envisager comme alternative la création d'un atelier de réparation et services généraux intégré à la coopérative mais ayant la même fonction et offrant les mêmes services que les coopératives de travail/service.

L'équipe est d'avis que ces coopératives dûment gérées et encadrées, constitueront un excellent support institutionnel pour l'identification des besoins locaux de formation professionnelle, la sélection des candidats à une formation plus poussée et leur réinsertion sociale dans leur milieu d'origine.

Fournissant ainsi un encadrement global qu'aucune autre institution (organisme marocain ou étranger) n'est en mesure d'offrir, la coopérative assure des débouchés et la stabilisation en milieu rural d'une population compétente en matière technique.

4. Recommandations

Le succès de ce projet repose sur la collaboration de tous les intéressés dans le cadre de travail suivant:

- le réseau et les structures actuelles de l'O.F.P.P.T. doivent servir de base pour l'implantation du projet;

- nous recommandons une assistance technique d'experts étrangers au niveau du Ministère du Travail, de l'O.F.P.T.T. et des régions. L'objectif principal de cette intervention est l'amélioration de la qualité de l'enseignement de programmes et d'approches pédagogiques plus adaptés;

- nous recommandons la combinaison centre fixe et centres mobiles pour dispenser le programme actuel de formation professionnelle de l'O.F.P.P.T.;

- nous recommandons la création de coopératives autonomes de travail/service au niveau villageois afin de canaliser les "input" et les "output" du projet;

- nous recommandons la mise en place d'un programme d'incitation afin de favoriser la stabilisation de main-d'oeuvre qualifiée au niveau villageois. L'atout majeur de ce programme serait l'accès des participants du projet à un atelier de réparation fourni par le Ministère du Travail. Cet atelier remis à la coopérative doit être considéré comme un prêt, et serait remboursable sur une période de 10 ans avec un an de grâce. L'administration du dossier financier de ce prêt serait confié à un organisme de crédit national;

- nous recommandons que les centres mobiles assurent le suivi régulier des coopératives afin d'améliorer la qualité de la formation par des programmes ponctuels de recyclage et de perfectionnement;

- nous recommandons que chaque participant ayant bénéficié d'une formation avancée dans un centre fixe soit, si possible, lié par un contrat stipulant l'obligation de travailler à la coopérative pendant une période déterminée;

- nous recommandons que l'O.F.P.P.T./Casablanca anime périodiquement des séminaires où seraient traités avec la participation de tous les délégués des centres régionaux, des sujets relatifs au projet (rapport d'étape, discussion de nouvelles approches, expériences vécues, etc...);

- nous recommandons la prise en charge par l'ODECO de l'encadrement et formation coopérative de la main-d'oeuvre villageoise;

- nous recommandons que le Ministère du Travail effectue une enquête ayant pour objectif la diminution de l'écart des revenus/avantages sociaux entre les instructeurs de l'O.F.P.P.T. et leurs homologues du secteur privé.

5. Input en Main-d'Oeuvre:

A. Niveau Ministère du Travail

La création d'une cellule "Projet centres mobiles" sous la responsabilité du directeur O.F.P.P.T./Rabat

Personnel marocain:

Directeur de Projet

Assistant-Directeur

Homologues experts étrangers

Personnel de soutien

. Experts étrangers:

- Expert en formation professionnelle, planning & management

Coordination et administration de toutes les
composantes input et output du projet

Chef de projet pour les experts étrangers

- Socio-économiste et expert en développement coopératif

Recherche et analyse de besoins et impacts du projet

Evaluation périodique. Correctif et recommandation

par rapport aux objectifs poursuivis

B. O.F.P.F.T./Casablanca

Création d'une section "Centres Mobiles"

. Personnel marocain:

Directeur

Assistant

Homologues des experts

Personnel de soutien

. Experts étrangers:

- Expert en formation professionnelle, méthodologie et
conception de programmes.

Sera responsable de la conception, développement
et révision des contenus de programmes axés sur une
formation professionnelle en milieu rural

- Spécialiste en formation des maîtres, enseignement technique

Conception et développement de nouvelles méthodes
d'enseignement, animation de séminaires au niveau
régional afin de perfectionner les méthodes et
techniques d'enseignement des instructeurs.

- Spécialiste en mécanique générale, motorisme diesel et à essence, supervise l'installation, l'entretien et la réparation des équipements industriels et techniques utilisés par les centres. Intervention ponctuelle auprès des centres mobiles et fixes. Observation du maniement des appareils et formation d'appoint si nécessaire.

C. Centres Régionaux Fixes:

Une section "centre mobile" sera créée.

. Personnel marocain:

- Coordinateur du programme de centres mobiles; planifie et administre le soutien logistique des centres
- Coordinateur-adjoint
- Analyste - évaluation du programme, impact auprès des populations, détermination des besoins ruraux, information et renseignements requis par la direction.

. Personnel étranger:

Participation de volontaires du Corps de la Paix (Peace Corps). Assiste les instructeurs lorsque requis.

D. Centres Mobiles:

. Personnel marocain:

- Instructeur
- Assistant

. Personnel étranger:

Participation de volontaires du Corps de la Paix. Assiste les instructeurs lorsque requis.

6. Équipement

Nous recommandons que le projet soit actualisé en deux phases distinctes:

Phase I

- Six (6) unités mobiles non armées
- Deux (2) camions tracteurs
- Quatre (4) équipements d'unités pour l'enseignement du motorisme de base et réparation de machinerie agricole
- Deux (2) équipements d'unités pour chacune des spécialités de formation requises par le programme.

La Phase I terminée, quatre (4) coopératives de travail/service seront opérationnelles dans chacune des trois régions sélectionnées.

- Douze (12) ateliers de réparation complets seront requis

Afin d'augmenter la capacité d'accueil de certains centres, ceux-ci se verront fournir l'équipement nécessaire à la formation de participants (10) en mécanique générale et machinerie agricole.

Note: des équipements ci-dessus mentionnés devraient être fournis sous couvert de l'O.F.P.P.T./Casablanca.

Phase II

- Quatre (4) unités mobiles non armées
- Deux (2) équipements d'unités pour l'enseignement du motorisme de base et réparation de machinerie agricole
- Une (1) équipement d'unité pour chacune des spécialités de formation requise par le programme
- Seize (16) ateliers de réparation complets seront requis

Equipement technique et de démonstration additionnel pour

- 12 -

certains centres.

Note: **des équipements ci-dessus mentionnés devraient être fournis
sous couvert de l'O.F.P.P.T./Casablanca**

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EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

AUTOMOTIVE

List No. 1

Cost F.O.B. U.S. Source

- For tools & equipment 1978/79 price	\$	7,766.00
Plus 30% inflation factor	\$	2,330.00
- Demonstration Models of Machinery based on <u>1980/1981</u> prices	\$	10,712.00
Plus 10% inflation factor	\$	1,071.00
- Audio/Visual Aids 1980/ <u>81</u> prices	\$	1,006.00
Plus 10% inflation factor	\$	100.00
Freight & Handling	\$	7,015.00
Total Cost F.O.B. U.S.	\$	22,985.00
TOTAL ESTIMATED COST PER SINGLE COMPLETE MOUNTING	\$	<u>30,000.00</u>

A. AUTO MECHANIC EQUIPMENTSOURCE: ITEMS FROM SEARS INDUSTRIAL
PRODUCTS CATALOG, 1978-79.

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
12	Drill Presa W/1/2 H.P. Motor	9GT 2452N2	1	379.95	1,808	379.95
13	General Purpose Vise	9GT 2757	1	19.85	65.6	19.85
37	Bench Grinder	9GT 1936L	1	141.55	160	141.55
38	Wire Brush 5/8 - 16 mm	9GT 64814	10	7.20	19	72.00
38	Grinding Attachment for Drill Bits	9GT 6677	1	9.90	3	9.90
45	Magnetic Pickyp Tool	9GT 4132	1	2.85	1	2.85
45	Pickup Tool	9GT 41322	1	2.35	1	2.85
45	File Assortment	9GT 31289	5	6.20	1	31.00
45	Flush-Cutting Saw	9GT 3559	5	6.15	1	30.75
46	Pipe Wrench	9GT 55675	1	5.50	1	5.50
46	Pipe Wrench	9GT 55677	1	9.95	4	9.95
46	Pipe Wrench	9GT 55679	1	20.30	10	20.30
57	Flexible Mask Goggle	9GT 1859	5	2.10	1	10.50
58	Twist Drill Set (Metric)	9GT 67115	1	161.50	9	161.50
63	Drill - 1/4 Single Speed	9GT 1140	1	7.05	3	7.05

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A. AUTO MECHANIC EQUIPMENT (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
63	Drill - 3/4 HP	9GT 1139	1	53.70	9	53.70
72G	Remote Starter Switch	28RY 2108	1	5.40	1	5.40
72G	Compression Gauge (Metric)	28RY 2149	1	17.15	1	17.15
72G	Vacuum Gauge (Metric)	28RY 21141	1	7.75	2	7.75
72L	Battery Charger	28RY 7189L	1	137.75	56	137.75
72G	Auto Analyzer	28RY 2182	3	108.25	3	324.75
72L	Cables	28RY 7101	2	19.40	9	38.80
72L	Battery Terminal Brush	28RY 7078	2	1.60	1	3.20
72L	Hydrometer	28RY 71004	2	1.95	1	3.90
72B	Volt-Ohm AC/DC Tester	F34RY 5178	1	66.30	3	66.30
72B	Megohm Insulation Tester	F34RY 5175	1	177.60	6	177.60
72J	DC-Timing Light	25RY 2178	1	27.00	2	27.00
72N	Jack Stands	28RY 1279	8	12.35	72	98.80
72N	Oil Can	28RY 4633	5	11.75	2	58.75
72N	Oil Fitter Wrench	28RY 4613	2	1.70	1	3.40

A. AUTO MECHANIC EQUIPMENT (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
72N	Can Tapper	28RY 4748	2	.90	1	1.80
83	Micrometer	9GT 38721	2	20.30	1	40.60
83	Micrometer	9GT 38722	2	26.60	1	43.20
83	Micrometer	9GT 38723	2	30.25	1	60.50
83	Micrometer	9GT 38724	2	33.85	1	67.70
83	Depth Micrometer	9GT 38645	2	58.65	2	117.30
84	Metric Vernier Caliper, 2 1/4 "	9GT 40231	2	162.45	4	324.90
84	Metric Vernier Caliper, 6 "	9GT 40182	2	28.40	1	56.80
84	Machinist's Combination Square 12"	9GT 38643	2	40.60	6	81.20
84	Double Point Scriber	9GT 4014	5	1.95	1	9.75
85	Dial Indicator	9GT 38683	5	29.35	5	293.50
85	Magnetic Indicator Holder	9GT 38908	1	26.60	4	26.60
85	Inspection Mirror	9GT 4098	1	3.10	1	3.10
85	Inspection Mirror	9GT 4070	1	3.10	1	3.10
89	Soldering Iron	9GT 53832	5	14.00	5	20.00

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A - AUTO MECHANIC EQUIPMENT (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
88	Stripper-Cutter	34GT 6098	2	5.85	1	11.70
89	Trouble Light	34GT 5917	3	4.40	6	13.20
96	Air Compressor	30GT 17335N	1	995.00	66	995.00
100	Air Hose	30GT 16223	2	14.85	2	29.70
100	Blow Gun	30GT 16232	2	3.15	1	6.30
100	Quick Connector, M.F.	30GT 16244	10	3.60	1	36.00
104	Impact Wrench	9GT 18942	1	111.90	10	111.90
107	Floor Jack, 1.5 ton	F28GT 1254N	1	304.00	120	304.00
107	Hydraulic Press	F28GT 12001N	1	218.50	140	218.50
107	Small Bearing Puller	F28GT 12003	1	40.85	6	40.85
107	Large Bearing Puller	F28GT 12005	1	123.50	20	123.50
107	Medium Bearing Puller	F28GT 12006	1	85.50	13	85.50
107	Safety Shield	F28GT 12004	1	6.65	2	6.65
107	Small V-Blocks	F28GT 12008	1	17.10	7	17.10
107	Large V-Blocks	F28GT 12007	1	37.95	46	37.95
107	Arbor Plates	F28GT 12009	1	18.95	19	18.95
107	Oil Pump, Rotary Hand	28GT 4596	1	12.35	5	12.35

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A - AUTO MECHANIC EQUIPMENT (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
107	Chassis Lubricator	28GT 4997C	1	35.20	14	35.20
108	Bench-Top Brawer Unit	F9GT 10201H	1	82.65	64	82.65
109	Machinist's Vise	9GT 5197L	1	109.45	702	109.45
109	Vise Swivelbase Kit	9GT 5198	1	17.50	140	17.50
110	Lock-Ring Pliers	9GT 4735	2	4.05	1	8.10
110	Metric Gauge	9GT 40807	5	2.00	1	10.00
110	Spring Pliers	9GT 47395	2	6.45	2	12.90
110	Hub Puller	9GT 46642	1	30.65	9	30.65
110	Slide Hammer	9GT 4696	1	10.35	5	10.35
110	Valve Spring Compressor	9GT 47622	3	18.00	21	54.00
111	Punch, Line Up & Chisel Set	9GT 43033	5	23.70	30	118.50
111	Universal Nut Cracker	9GT 4772	5	9.45	5	47.25
111	Hand Impact Driver	9GT 47634	2	12.60	4	25.20
113	Pump Oiler	9GT 5582	2	2.70	1	5.40
113	Snap-Ring Pliers	9GT 45358	2	6.75	1	13.50
113	Replacement Tips For Pliers	9GT 4535	3	1.50	3	4.50

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A - AUTO MECHANIC EQUIPMENT (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
113	Round Needle-Nose	9GT 4505	1	6.60	1	6.60
113	Duck-Bill Hat	9GT 4509	1	6.05	1	6.05
113	Straight-Cut Snips	9GT 45432	1	4.30	1	4.30
113	Duck-Bill Snips	9GT 45461	1	5.69	1	5.69
114	30-pc. Screwdriver Set	9GT 41081	2	45.10	12	90.20
118	3-pc. Adjustable wrenches Set	9GT 44607	2	16.20	4	32.40
133	Metric Tool Set and Chest	9GT 46402N	1	1,804.05	611	1,804.05
134	Torgue Wrench (metric)	9GT 44443	1	45.00	3	45.00
135	Hip-Roof Tool Box	9GT 6520	3	12.65	140	37.95

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B - AUTOMOTIVE/MECHANICAL DEMONSTRATION MODELSSOURCE:

1980/81 CATALOG OF BRODHEAD GARRETT

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
446	Demonstration Model 2215 - Ignition System	362360	1	324.50	5	324.50
447	Demonstration Model (Diesel) - AMD 2001	362393	1	6,645.10	330 Kg.	6,645.10
447	Demonstration Model (Gasoline) - AMG - 2001	362382	1	3,609.10	300 Kg.	3,609.10
446	Demonstration Carburetor 2220	362350	1	132.00	5	132.00

C - AUDIO VISUAL TRAINING AIDS

948	Group B - Micrometer -Vernier Gages		1	90.11		90.11
956	Small Gasoline Engine Complete Set of 18 Transparencies	345936	1	62.50		62.50
957	Understanding the Automobile Complete Set	342401	1	71.00		71.00
958	Automotive Mechanics Complete series	495958	1	377.50		377.50
959	Diesel Engine Principals Complete Set	363922	1	227.50		227.50

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EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

SMALL ENGINE/POWER MECHANICS

List No. 2

Cost F.O.B. U.S. Source

- For tools & equipment 1980 / 81 price	\$	8,669.90
Plus 10% inflation factor	\$	870.00
- Demonstration Models of Machinery based on 1980/1981 prices	\$	5,639.00
Plus 10% inflation factor	\$	554.00
- Audio/Visual Aids 1980 / 81 prices	\$	491.00
Plus 10% inflation factor	\$	46.00
Freight & Handling	\$	3,730.00
Total Cost F.O.B. U.S.	\$	16,270.00

TOTAL ESTIMATED COST PER SINGLE

COMPLETE MOUNTING \$ 20,000.00

SMALL ENGINE/POWER MECHANICS COURSE

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
909	Utility Bench Vise - Columbian	54-2250	3	28.00	36	84.00
909	Bench Anvil - Columbian	54-2260	3	16.50	27	49.50
160	Super Metric Tap and Die Set	14-2020	1	56.40	5	56.40
15	Compression Tester - Model 701	18-4862	3	14.25	1.5	42.75
15	Battery Tester - Model 215	18-4836	2	71.50	1	143.00
55	Nut Splitter	18-8158	3	11.25	6	33.75
53	Wiss Duckbill Combination Snips 10"	44-2274	3	7.65	1.5	22.95
06	Disston Hacksaw Frames	10-4470	10	8.25	20	82.50
07	Hacksaw Blade - Starrett 12" x 1/2" x .025"	10-6286	300	28.90 per 100	7	86.70
16	Tungsten Point File	10-2880	15	1.20	8	18.00
16	6 Piece File Set - Nicholson	10-2830	5	23.00	15	115.00
29	Vise Grip Wrench 7" Curved Jaw	10-6954	5	5.20	2.5	16.00
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BRODHEAD-GARRETT CATALOG 80-81						
112	Small Tractor Dynamometer	58-5420	1	4,679.00	N/A	4,679.00
112	Small Tractor Repair Ramps	58-5430	2	1,289.00	N/A	1,289.00
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29	Vice Grip Wrench 7" Straight Jaw	10-6952	5	5.10	3	25.50
27	Rib-Joint Utility Pliers - 10"	10-4782	5	7.20	3	36.00
46	Lufkin Tape Measure - 3 meter	10-6258	5	6.00	3	30.00
	Metric Torque Wrench		3	50.00 approx.	9	150.00
	Metric Feeler and Spark Plug Gap Gauge					

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SMALL ENGINE/POWER MECHANICS COURSE

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
787	Drill Press - Rockwell 6" Stroke, 15" Single Spindle variable Speed- 1/2" Key Chuck	15-471 (Rockwell No.)	1	616.00	200	616.00
789	Drill Chuck W/Key 1/2" - 3 Jaw	15-830 (Rockwell No.)	2	40.10	3	80.20
798	Rockwell 6" Bench Grinder 1/3 HP - 115 V Motor	23-612 (Rockwell No.)	1	136.00	44	136.00
798	Edge Tool Grinding Attachment for 6" Bench Grinder	23-845 (Rockwell No.)	1	46.95	6	46.95
798	Aluminum Oxide Wheel 1/2" x 6" - 54G. Grade K, 1/2" hole	23-828 (Rockwell No.)	3	11.95	6	35.85
798	Diamond Pointed Wheel Dresser	23-312 (Rockwell No.)	1	46.90	1	46.90
801	Wire Brush for 6" Bench Grinder - 1/2" Hole, Fine	23-114 (Rockwell No.)	3	17.75	3	53.25
935	Wire Scratch Brush - 14" x 1"	42-2316	5	1.40	5	7.00
114	Saw Files (Triangular) Nicholson 7" Regular Taper	mP-2458	3	2.25	1.5	6.75
114	6" Extra Slim	10-2474	3	1.75	1.5	5.25
114	5" Double Extra Slim	10-2482	3	1.60	1.5	4.80
191	2 Variable Speed Electric Drill 3/8" (Black and Decker)	16-2524	5	99.75	19	498.75
459	Protecto Shield 6" Visor	34-2180	10	1.95	10	19.50
459	Headgear for Visor	34-2190	10	5.25	10	52.50
163	High Speed Drill Set - Metric Imm. - 13 mm.	14-6644	2	33.75	10	67.50
166	Masonry Drill Set 1/4"	14-4368	2	16.10	1	32.20

DEMONSTRATION MODELS/TRAINING AIDS
 SMALL ENGINE/POWER MECHANICS COURSE

ITEMS FROM BRODHEAD-GARRETT
 CATALOG 1980-81

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
1013	Small Engine Repair Individualized Student Learning Equipment - Model SER1	58-5419	1	2,733.00		2,733.00
423	Power Mechanics - Complete Unit	47-1111 PM1BB	1	2,321.00		2,321.00
428	Visi Port Engine	47-4254 VPE	1	585.00		585.00

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AUDIO VISUAL TRAINING AIDS

ITEMS FROM BRODHEAD-GARRETT
CATALOG 1980-81

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
956	Complete Set Instructional Transparences	34-3400	1	73.50		73.50
956	Complete Set Instructional Transparences	34-5936	1	67.50		67.50

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EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

WELDING

List No. 3

Cost F.O.B. U.S. Source

- For tools & equipment 1980/81 price	\$	10,436.80
Plus 30% inflation factor	\$	1,043.68
- Demonstration Models of Machinery based on 1980/1981 prices	\$	N/A
Plus 10% inflation factor	\$	N/A
- Audio/Visual Aids 1980/81 prices	\$	449.50
Plus 10% inflation factor	\$	50.00
Freight & Handling	\$	1,814.00
Total Cost F.O.B. U.S.	\$	10,436.00

TOTAL ESTIMATED COST PER SINGLE

COMPLETE MOUNTING \$ 12,250.00

WELDING COURSE

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
54	Tool Locker for Metal Working - Complete with tools. Metric system where possible	TL-84MT	1	3,019.00	600	3,019.00
9	4 Station Work Bench	4D-31D	1	534.00	100	534.00
31	2 Station Arc Welding Booth	15-950	1	495.00	100	495.00
31	2 Station Gas Welding Booth	16-0902	1	395.00	100	395.00
31	Fire Brick Set - 24 Bricks/Set	58-2912	2	58.50	100	117.00
449	Lincoln 225 AMP Arc Welder Model AC - 225-5	24-2134	1	180.00	100	180.00
449	Undercarriage for Welder	24-2140	1	9.95	50	9.95
443	Oxy - Acetylene Outfits (Marquette) Medium Duty	21_002	1	255.00	50	255.00
450	Bas Welders Goggles Welsh/Norton No. 5 Filter	24-2484	15	3.75	10	56.25
459	Welding Helmets, Sellstrom Fiberglass, with lift front	24-2536	15	14.75	15	221.25
459	Replacement Filter Plates, Shade No. 10 2" x 4 1/2"	24-2512	30	1.00	15	30.00
459	Replacement Cover Plate 2" x 4 1/4", Plastic Clear	24-2524	30	.40	15	12.00
460	Bib Aprons, Leather 24" W x 42" Long	24-2052	15	17.95	8	269.25
461	Welding Glove (Pair) Greyline	24-2066	15	6.25	8	93.75
909	Utility Bench Vise, Columbian	54-2250	5	28.00	65	140.00
473	Blacksmith Anvil 15 1/8"	26-2228	1	173.00	56	173.00
750	Beverly Cutting Shears, Model B-2	44-2312	5	266.00	10	1,330.00
751	Form-Bend Metal Jig	44-2396	3	19.70	2	59.10

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WELDING COURSE (Cont'd)

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
106	Disston Hacksaw Frames	10-4470	15	8.25	15	123.75
107	Hacksaw Blade - Starrett 24 teeth/inch, 12" x 1/2" x .025"	10-6286	300	28.90 per 100	303	86.70
124	Engineers Hammer, Size 1, Stanley	10-0402	5	12.00	10	60.00
753	Vise Grip Sheet Metal Tool	44-2124	5	6.85	5	34.25
123	Ball Pein Hammer 14 1/2"	10-0364	15	7.25	15	108.75
116	6 Piece File Set (Nicholson) 10"	10-2830	3	23.00	9	69.00
137	Scratch Awl	10-8330	5	4.20	10	21.00
117	File Handle	10-2970	3 per Dozen	3.85 per Dozen	2	11.55
753	80 ^Z . Can Dykem Steel Blue, DX-700	56-6000	5	2.45	3	12.25
117	File Handles for 10" to 12" Files	10-2970	2 Dozen	3.85 per dozen	1	7.70
147	Lufkin Steel Rules, 300 mm	10-6140	15	6.50	8	97.50
147	Lufkin Steel Rules, 1 meter	10-6148	3	19.75	1.1	59.25
142	Combination Squares, English & Metric, Stanley	10-0688	5	9.95	5	49.75
160	Metric Tap and Die Set (Super)	14-2020	1	56.40	1	56.40
197	Heavy Duty Sander Grinder, Milwaukee	16-4532	1	182.85	20	182.85
904	Sanding Discs 7" Closed Coat, Aluminum Oxide					
	80 Grit	52-2790	10	.66	4	6.60
	36 Grit	52-2796	10	.79	5	7.90
	24 Grit	52-2798	10	.81	5	8.10
	16 Grit	52-3800	10	1.04	5	10.40
787	Drill Press, Rockwell, 6" Stroke, 15" Single Spindle, Variable Speed, 1/2" Key Chuck	D/W	1	616.00	200	616.00

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WELDING COURSE (Cont'd)

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
106	Disston Hacksaw Frames	10-4470	15	8.25	15	123.75
107	Hacksaw Blade - Starrett 24 teeth/inch., 12" x 1/2" x .025"	10-6286	300	28.90 per 100	303	86.70
124	Engineers Hammer, Size 1, Stanley	10-0402	5	12.00	10	60.00
753	Vise Grip Sheet Metal Tool	44-2124	5	6.85	5	34.25
123	Ball Pein Hammer 14 1/2"	10-0364	15	7.25	15	108.75
116	6 Piece File Set (Nicholson) 10"	10-2830	3	23.00	9	69.00
137	Scratch Awl	10-8330	5	4.20	10	21.00
117	File Handle	10-2970	3	3.85 per	2	11.55
753	80 ^Z Can Dykem Steel Elue, DX-700	56-6000	Dozen	Dozen 2.45	3	12.25
117	File Handles for 10" to 12" Files	10-2970	2 Dozen	3.85 per Dozen	1	7.70
147	Lufkin Steel Rules, 300 mm	10-6140	15	6.50	8	97.50
147	Lufkin Steel Rules, 1 meter	10-6148	3	19.75	1.5	59.25
142	Combination Squares, English & Metric, Stanley	10-0688	5	9.95	5	49.75
160	Metric Tap and Die Set (Super)	14-2020	1	56.40	1	56.40
197	Heavy Duty Sander Grinder, Milwaukee	16-4532	1	182.85	20	182.85
904	Sandling Discs 7" Closed Coat, Aluminum Oxide					
	80 Grit	52-2790	10	.66	4	6.60
	36 Grit	52-2796	10	.79	5	7.90
	24 Grit	52-2798	10	.81	5	8.10
	16 Grit	52-3800	10	1.04	5	10.40

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WELDING COURSE (Cont'd)

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
787	Drill Press, Rockwell, 6" Stroke, 15" Single Spindle, Variable Speed, 1/2" Key Chuck	D/S	1	616.00	200	616.00
787	Drill Press Motor & Control 3 Phase, 1/2 hp motor 24 V Push Button, Magnetic Starter & 3 Leg Overload protection 200 V Motor	D.S	1	377.00	44	377.00
789	Drill Chuck W/Key 1/2" 3 Jaw, Rockwell	48-2200	2	40.10	5	80.20
798	Rockwell, 6" Bench Grinder, 1/3 hp, 115 V Motor	23-612	1	136.00	44	136.00
798	Edge Tool Grinding Attachment for 6" Bench Grinder	48-2432	1	46.95	6	46.95
798	Alumum Oxide Wheel 1/2" x 6", 54G Grade K, 1/2" hole	48-2426	2	11.95	4	23.90
798	Diamond Pointed Wheel Dresser	48-2382	1	46.90	1	46.90
801	Wire Brush for 6" Bench Grinder, 1/2 Hole, Fine	48-2372	2	17.75	2	35.50
935	Wire Scratch Brush 14" x 1"	42-2316	5	1.40	5	7.00
163	High Speed Drill Set, Metric 1 mm - 13 mm	14-6644	3	33.75	15	101.25
166	Masonry Drill Set 1/4" Shank, 4 Drills	14-4368	3	16.10	1.5	144.90
114	Saw Files (Triangular) 7" Reg.	10-2458	2	2.25	6	4.50
	Taper 6" Extra Slim	10-2474	2	1.75	6	3.50
	5" Double Extra Slim	10-2482	2	1.60	6	3.20
191	Variable Speed Electric Drill 3/8" (Black and Decker)	16-2524	3	99.75	12	299.25

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WELDING COURSE (Cont'd)

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
459	Protecto Shield - 6" Visor	34-2180	15	1.95	15	29.25
459	Headgear for Visor	34-2190	15	5.25	15	28.25

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AUDIO VISUAL TRAINING AIDS

ITEMS FROM BRODHEAD-GARRETT
CATALOG 1980-81

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
959	Complete Series Arc Welding Instructional Transparences	34-6475	1	149.50		149.50

N.B.: Plus \$300.00 for additional A/V transparences as needed.

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EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

ELECTRICITY COURSE

List No.4

Cost F.O.B. U.S. Source

- For tools & equipment 1980/81 price	\$	3,562.00
Plus 30% inflation factor	\$	353.00
- Demonstration Models of Machinery based on <u>1980/1981</u> prices	\$	1,895.00
Plus 10% inflation factor	\$	190.00
- Audio/Visual Aids 1980/81 prices	\$	750.00
Plus 10% inflation factor	\$	75.00
Freight & Handling	\$	1,425.00
Total Cost F.O.B. U.S.	\$	6,825.00
TOTAL ESTIMATED COST PER SINGLE COMPLETE MOUNTING	\$	<u>8,250.00</u>

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ELECTRICITY COURSESOURCE:
ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
300	Simpson 260 - 6P Vom	22-6178	2	147.10	6	294.20
210	Amprobe Rotary Meter RS - 2	168160	2	62.40	N/A	124.80
210	Amprobe Energizer A 45L Test Leads, Straight Barrel - Tipped for RS-2 Meter	168210	2	12.15	"	24.30
421	Electrician's Knives	22-2770	30	12.25	30	367.50
697	Cement Finishing Trowel	42-2452	5	12.25	10	61.25
696	Brick Trowels (London Pattern)	42-2402	5	11.30	10	56.50
	Magnesium Hawk 10" x 10"	Not Know	5	n.p.	25	
	Cold Chisels 1" Blade 10" Length min.	Not Know	5	n.p.	25	
900	Star Drills - Millers Falls 1/4" Cut	10-6608	30	2.15	15	64.50
900	Star Drills - Millers Falls 12"long 3/8" Cut	10-6610	30	2.30	15	69.00
900	Star Drills - Millers Falls 12"long 1/2" Cut	10-6612	5	2.45	15	12.25
146	Tape Rules - 3 Meter Lufkin	10-6258	15	6.00	30	90.00
146	Replacement Blades For Tape Rule		15	3.00	30	45.00
144	Chalk Line Reels - Chalk-O-Matic	10-2178	5	4.75	2	23.75
147	Metric Steel Rule - 300 mm Lufkin	10-6144	3	7.95	2	23.85

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ELECTRICITY COURSE (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
144	Measuring Tape-Keson	10-4934	5	18.00	3	90.00
149	Torpedo Level, Stanley 9"	12-2518	2	6.35	1	12.70
127	Diagonal Cutting Pliers Utica	10-4746	15	7.60	30	114.00
127	Diagonal Cutting Pliers Utica	10-4756	15	7.20	30	108.00
120	Needle-Nose Pliers-Long Chain Utica	10-4818	15	6.25	30	93.75
127	"Rib Joint" Utility Pliers 10"Utica	10-4782	15	7.20	30	108.00
124	Engineer Hand Hammers Stanley 16"	10-0402	15	12.00	30	180.00
123	Tinners Setting Hammer, 13"	10-0394	3	11.10	3	33.30
123	Claw Hammers, 13 1/2",Steel Handle	10-0330	15	13.20	30	198.00
131	Screwdriver, Stanley, 4"	10-0226	15	3.15	8	47.25
131	Screwdriver, Stanley, 6"	10-0228	15	4.15	8	62.25
131	Screwdriver, Stanley,12"	10-0234	15	7.65	8	114.75
131	Screwdriver, Stanley, 3"	10-0212	15	2.65	8	39.75
131	Phillips Screwdriver, Size 1	10-8626	15	1.30	8	19.50
131	Phillips Screwdriver, Size 2	10-8628	15	1.70	30	25.50
131	Stubby Screwdriver, 1/4" x 1 1/2"	10-8660	15	1.45	8	21.75

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ELECTRICITY COURSE (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
134	Stanley Brace 10"	10-0826	5	22.90	15	114.50
134	Replacement Jaws, Stanley Brace	10-0830	5	4.45	3	22.25
134	Auger Bit Set, Irwin	10-4608	2	44.60	6	89.20
135	Speedbor Woodbit Set, 13 Bits Plastic Roll	10-4614	3	16.90	1.5	50.70
104	Hand Saw, Diston, 26" 10 pts/IN Crosscut	10-4434	2	16.45	2	32.90
106	Hack Saw Frame	10-4470	3	8.25	2	24.75
107	Hack Saw Blade, Starrett 12" 12" x 1/2" x .025" 24 Teeth per inch	10-6286	300	28.90 per 100	150	86.70
700	Pipe Wrench, Aluminum Handle 14"	42-2718	2	17.79	10	35.58
230	Crescent Wrench Set, 6", 8", 10"	10-8512	2	22.50	6	45.00
239	15 Pcs Metric Combo Wrench Set Blueline	18-8534	3	44.50	12	133.50
908	Utility Vise, Wilton	54-2212	1	48.00	15	48.00
142	Combination Square, English & Metric Stanley	10-0690	2	9.95	2	19.90
411	Test Prod, Red	22-2436	2	.49	1	.99
411	Test Prod Black	22-2438	2	.49	1	.99

ELECTRICITY COURSE (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
411	Banana Plug - Red	22-2424	2	.44	1	.88
411	Banana Plug Black	22-2426	2	.44	1	.88
801	Wire Brush for 6" Bench Grinder 1/2" Hole Fine	48-2372	1	17.75	1	17.75
935	Wire Scratch Brush 14" x 1"	42-2316	2	1.40	2	2.80
163	High Speed Drill Set - Metric 1 mm - 13 mm	14-6644	2	33.75	10	67.50
166	Masonry Drill Set 1/4" Shank -	14-4360	2	16.10	1	32.20
144	Saw Files (Triangular) Nicholson: 7" Regular Taper	10-2450	2	2.25	1	4.30
	6" Extra Slim	10-2474	2	1.75	1	3.50
	5" Double Extra Slim	10-2482	2	1.60	1	3.20
191	Variable Speed Electric Drill 3/8" Black and Decker	16-2524	2	99.75	8	199.50

ELECTRICITY COURSE

SOURCE:

BRODHEAD GARRETT CATALOG 1980-81

AUDIO VISUAL TRAINING AIDS/DEMONSTRATION MODELS

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
952	Complete Set of Instructional Transparencies	354170	1	630.00		630.00
951	Complete Set of Instructional Transparencies	354191	1	100.00		100.00
521	MTC Electric Motor Technology Center	186781	1	1,895.00	160	1,895.00

EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

ELECTRONICS

List No. 5

Cost F.O.B. U.S. Source

- For tools & equipment 1980 / 81 price	\$	1,785.00
Plus 30% inflation factor	\$	178.00
- Demonstration Models of Machinery based on 1980 / 19 81 prices	\$	1,962.00
Plus 10% inflation factor	\$	200.00
- Audio/Visual Aids 19 / prices	\$	630.00
Plus 10% inflation factor	\$	70.00
Freight & Handling	\$	1,275.00
Total Cost F.O.B. U.S.	\$	4,825.00

TOTAL ESTIMATED COST PER SINGLE

COMPLETE MOUNTING \$ 6,100.00

AUDIO VISUAL TRAINING AIDS/ DEMONSTRATION MODELSSOURCE:
BRODHEAD GARRETT CATALOG-1980/81

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
951	Complete series of instructional Transparencies	354170	1	630.00		630.00
	50% Electricity Course Mounting Estimate	N/A	N/A	N/A	N/A	1,785.00
171	Demonstration Models - Exploratory Electricity - Electronics Learning Unit/Complete Set of Instructional Material	162828 BG 5 B	1	465.00	-	465.00
193	Black + White TV Trainer Unit	418860 TV	1	762.00	-	762.00
868	Electronics Services Kits	361580	1	378.51	-	378.51
869	Electronic Tool ETB-100	171123	1	356.40	-	356.40

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EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

CARPENTRY

List No. 6

Cost F.O.B. U.S. Source

- For tools & equipment 1980 / 81 price	\$	9,931.00
Plus 30% inflation factor	\$	994.00
- Demonstration Models of Machinery based on 19 80 19 81 prices	\$	N/A
Plus 10% inflation factor	\$	N/A
- Audio/Visual Aids 1980 / 81 prices	\$	400.00
Plus 10% inflation factor	\$	40.00
Freight & Handling	\$	4,635.00
Total Cost F.O.B. U.S.	\$	11,365.00

TOTAL ESTIMATED COST PER SINGLE

COMPLETE MOUNTING \$ 16,000.00

CARPENTRY COURSEITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
53	Tool Locker for Wood working Complete with tools	TL-84WT	1	2,189.00	600	2,189.00
104	Back Saw 12", 13 pts/inch, Diston	10-4500	5	10.25	5	51.25
104	Cross Cut Saw, Stanley, 10 pts/ inch, 26"	10-0990	5	13.15	5	65.75
104	Rip Saw, Stanley, 5 1/2 pts./inch	10-0994	5	13.15	5	65.75
123	Hammers Claw, Steel Handle, 13oz.	10-0334	5	11.65	5	58.25
124	Wood Mallet, 5" Head, 3" Face Diameter	10-2908	5	4.50	5	22.50
122	Cabinet Scrapers, Stanley	10-0950	5	14.30	15	71.50
122	Cabinet Scraper Replacement Blade	10-0952	10	1.80	3	18.00
142	Marking Gauges-Graduated in mm.	12-2412	10	5:80	10	58.00
142	Sliding T Bevel	10-0678	5	6:50	5	32.50
143	Try Square, 10", Stanley, English/Metric	10-0654	10	8.70	10	87.00
147	Folding Rules, Lufkin, Metric - English, 6Ft.	10-6226	10	4.95	10	49.50
119	Block Plane, Stanley, 6"	10-0768	5	17.10	20	85.50
119	Stanley Jack Plane, 14" Smooth bottom	10-0748	5	32.60	20	163.00
118	1 Miter Box, Stanley with Saw	10-8320	5	3.20	10	16.00
114	Flat Wood Rasp, 10"	10-2396	5	6.25	7.5	31.25
114	Half Round Wood Rasp, 10"	10-2406	5	6.70	7.5	33.50
114	Flat File, 10"	10-2550	5	3.75	7.5	18.75
114	Half Round File, 10"	10-2496	5	5.00	7.5	15.00

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CARPENTRY COURSE (CONT'D)

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
137	Chisel Set, Set of 4 Stanley Chisels, 1/4", 1/2", 3/4", 1"	4H-1252	5	15.50	15	232.50
105	Coping Saw, Stanley, 6 3/4" throat	10-0968	10	3.15	10	31.50
112	Coping Saw Blade, Trojan Brand					
	Fine	10-4294	500	<u>per 100</u> 23.80	1	71.40
	Medium	10-4296	300	23.80	1	71.40
	Coarse	10-4298	300	23.80	1	71.40
906	Oilstone Combination, Fine India, Hard Arkansas	52-4210	1	46.00	1	46.00
119	Duplex Rabbet Plane, 8 1/4" Stanley	10-0778	2	33.00	2	66.00
140	Saw Horse Brackets	10-0996	20	5.60 per pair	20	112.00
915	"Jorgenson" Joiner's Clamp, 36"	54-2120	15	14.50	8	217.50
915	"Jorgenson" Joiner's Clamp, 18"	54-2116	15	13.30	8	199.50
916	"Jorgenson" Hand Screw Clamps					
	7"	54-2006	15	9.25	8	138.75
	10"	54-2010	15	11.90	8	178.50
	16"	54-2016	10	22.75	8	227.50
919	4 1/4" Opening Spring Clamp	54-2656	10	2.40	5	24.00
919	"Pony" Band (Web) Clamp	54-2086	5	6.75	3	33.75
135	Machine Shank Expansive Bit, 1/4" Shank	10-6428	15	9.65	8	144.75
135	Speedbore Set, Irwin, 88" Sets	10-4614	10	16.90	5	169.00
791	Mortising Attachment for 15" Drill Press	48-2214	2	38.90	20	77.80

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CARPENTRY COURSE (CONT'D)

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
790	Mortising Chisels					
	1/4" x 1/4"	48-2156	1	33.50	1	33.50
	5/16" x 5/16"	48-2158	1	33.50	1	33.50
	3/8" x 3/8"	48-2160	1	36.65	1	36.65
	1/2" x 1/2"	48-2162	1	40.95	1	40.95
790	Mortising Chisel Bit					
	1/4" Rockwell	15-514	1	12.55	1	12.55
	5/16" Rockwell	15-515	1	13.05	1	13.05
	3/8" Rockwell	15-516	1	13.40	1	13.40
	1/2" Rockwell	15-517	1	15.30	1	15.30
819	10" Tilting 5/8 Arbor Bench Saw Complete with Side Extension Wings, Steel Stand, 1 1/2 HP, 230/460 V 3 Phase Motor and Push Button Magnetic Starter, Wired for 230 V Front Guide Bar Must be in Metric (see p. 819 - Rockwell 34-552)	DS	1	1,061.00	3,322	1,061.00
819	Standard Table Saw Insert	48-2820	1	15.10	2	15.10
819	Dado Heat Table Insert	48-2828	1	16.75	2	16.75
819	Auto Set Miter Gage	48-2888	1	26.40	3	26.40
829	Adjustable Dado 5/8" Arbor	48-2904	1	41.60	4	41.60
816	10" Saw Blades					
	Combination	48-2818	3	14.85	6	44.55
	Hollow Ground	48-2812	3	22.15	6	66.45
	Rip	48-2814	3	11.95	6	35.85
	Cross Cut	48-2816	3	11.95	6	36.85

CARPENTRY COURSE (CONT'D)

ITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
789	Drill Chuck W/Key 1/2" 3 Jaw	48-2200	1	40.10	2	40.10
798	Rockwell 6" Bench Grinder 1/3 hp. 115 V Motor	D/S	1	136.00	50	136.00
798	Edge Tool Grinding Attachment for 6" Bench Grinder	48-2432	1	46.95	6	46.95
798	Aluminum Oxide Wheel 1/2" x 6" 54G. Grade K 1/2" Hole	48-2426	2	11.95	4	23.90
798	Diamond Pointed Wheel Dresser	48-2382	1	46.90	1	46.90
801	Wire Brush for 6" Bench Grinder 1/2" Hole Fine	48-2372	2	17.75	2	35.50
935	Wire Scratch Brush 14" x 1"	42-2316	5	1.40	5	7.00
935	Counter Dusters Size 8"	42-2312	1	2.55	1	2.55
677	Boston "KS" Pencil Sharpener Model KS	38-2800	1	6.50	1	6.50
163	High Speed Drill Set Metric 1mm-13mm	14-6644	2	33.75	10	67.50
166	Masonry Drill Set 1/4" Shank 4 Drills	14-4368	1	16.10	1	16.10
114	Saw Files (Triangular) Nicholson					
	7" Reg. Taper	10-2458	3	2.25	3	6.75
	6" Extra Slim	10-2474	3	1.75	3	5.25
	5" Double Extra Slim	10-2482	3	1.60	3	4.80
191	Variable Speed Electric Drill 3/8" (Black & Decker)	16-2524	2	99.75	8	199.50
459	Protecto Shield 6" Visor	34-2180	10	1.95	110	19.50

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CARPENTRY COURSEITEMS FROM PAXTON-PATTERSON
CATALOG 80

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
	Head Gear For Visor	34-2190	10	5.25	110	52.50
666	Chalk Board Drafting Set, 4 Piece Set	38-2950	1	10.95	1.5	10.95
666	Chalk Board Compass 17"	38-2952	1	2.75	1/2	2.75
662	School Compass 3 1/2" W/Pencil	38-2700	3	.75	1 1/2	2.25
663	No. 1 Basic Drawing Outfit	38-6042	2	28.95	10	57.90

AUDIO-VISUAL TRAINING AIDS

ITEMS FROM BRODHEAD-GARRETT

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
936	DCA Transparences a) Woodworking Basics - Complete Series	58-0945	1	141.50		141.50
953	b) Woodworking Hard Tools - Complete Series	34-8269	1	92.00		92.00
955	a) Wood Technology I & II - Complete Series	WT I 345399	1	75.00		75.00
		WTII 450535	1	92.00		92.00

of

EQUIPMENT MOUNTING FOR MOBILE SKILLS TRAINING UNIT

PLUMBING

List No. 7

Cost F.O.B. U.S. Source

- For tools & equipment 1980/81 price	\$	4,210.00
Plus 30% inflation factor	\$	420.00
- Demonstration Models of Machinery based on 19__/19__ prices	\$	N/A N/A
Plus 10% inflation factor	\$	
- Audio/Visual Aids 1980/81 prices	\$	600.00
Plus 10% inflation factor	\$	60.00
Freight & Handling	\$	710.00
Total Cost F.O.B. U.S.	\$	5,290.00

TOTAL ESTIMATED COST PER SINGLE
COMPLETE MOUNTING \$ 6,000.00

PLUMBING COURSE

SOURCE:
 ITEMS FROM PAXTON-PATTERSON
 CATALOG 1980

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
701	Ridgid Pipe Wrench					
	12"	42-2006	1	14.00	4	14.00
	14"	42-2008	1	15.85	6	15.85
	18"	42-2010	1	21.65	9	21.65
701	Ridgid Pipe Threader Set 1/8" - 1 1/4", 7 pieces	42-2044	2	204.00	10	408.00
701	Ridgid Heavy Duty Pipe Cutter	42-2026	4	62.25	24	249.00
701	Extra Cutter Wheels For Pipe Cutter	42-2028	8	3.45	1	27.60
701	Ridgid Tubing Cutters					
	1/8" - 1" 00	42-2020	2	12.50	12	25.00
	3/16" - 1 1/8 00	42-2022	2	15.20	12	30.40
701	Extra Cutting Wheels For Tubing Cutter	42-2024	8	2.50	1	20.00
701	MonKey Wrench 12" 3" capacity	42-2086	1	8.10	2	5.10
701	Robinair Tube Bender	42-2326	2	16.35	2	32.70
127	"Rib Joint" Pliers, Utica 14"	10-4784	10	10.80	10	108.00
129	Vise Grip Wrench, 10", Straight Jaw	10-6958	5	5.50	5	27.50
131	Irwing Screwdriver Assortment	10-4698	2	23.95	12	47.90
123	Mechanics Hammer - Ball Pein, 20 OZ.	10-0366	5	8.75	8	43.75
123	Mechanics Hammer -Ball Pein, 32 OZ.	10-0370	5	9.00	10	45.00

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PLUMBING COURSE (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
240	Diamont Point Chisel, 6 1/2"	18-8384	10	3.05	10	30.50
240	Standard Cold Chisel, 8"	18-8374	10	3.70	10	37.00
820	Plumbing Tool (Brodhead Garrett-1980/81)	40-6021	5	165.52	40	827.60
677	Boston "Ks" Pencil Sharpener, Model KS	38-2800	1	6.50	1	6.50
163	High Speed Drill Set Metric 1mm - 13 mm	14-6644	2	33.75	10	67.50
166	Masonry Drill Set, 1/4" Shank, 4 Drills	14-4368	1	16.10	1	16.10
114	Saw Files 7" Regular Taper	10-2458	3	2.25	3	6.75
	6" Extra Slim	10-2474	3	1.75	3	5.25
	5" Double Extra Slim	10-2482	3	1.60	3	4.80
191	Variable Spzed Electric Drill 3/8" (Black and Decker)	16-2524	2	99.75	7	199.50
459	Protecto Shield, 6" Visor	34-2180	10	1.95	10	19.50
459	Headgear for Visor	34-2190	10	5.25	10	52.50
911	Utility Vise, Wilton	54-2432	1	34.75	6	34.75
147	Lufkin Steel Rules, 1 Meter	10-6148	5	19.75	5	98.75
787	Drill Press Rockwell, 6" Stroks, 15" Single Spindle, Variable Speed, 1/2" Key Chuck	D/S	1	616.00	200	616.00

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PLUMBING COURSE (Cont'd)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
789	Drill Chuck W/Key, 1/2", 3 Jaw, Rockwell	48-2200	1	40.10	1	40.10
798	Rockwell, 6" Bench Grinder 1/3 hp, 115 V Motor	D/S	1	136.00	44	136.00
798	Edge Tool Grinding Attachment For 6" Bench Grinder	48-2432	1	46.95	6	46.95
798	Aluminum Oxide Wheel, 1/2" x 6, 54 G, Grade K 1/2" Hole	48-2426	2	11.95	4	23.90
798	Diamond Pointed Wheel Dresser	48-2382	1	46.90	1	46.90
801	Wire Brush For 6" Bench Grinder, 1/2" Hole Fine	48-2372	2	17.75	2	35.50
935	Wire Scratch Brush, 14" x 1"	42-2316	5	1.40	5	7.00
935	Parts Cleaning Brush, 3 1/4"	18-6878	10	2.25	5	22.50
953	Round Point Shovel, 47" (803)	60-2600	1	14.95	5	14.95
149	Magnesium Level Torpedo-Stanley, 9"	12-2516	1	8.80	1	8.80
149	Stanley Level Non-Adjustable	12-2510	1	15.65	2	15.65
146	Lufkin Tape Measure-Mezurlok, 5 Meter	10-6260	2	11.50	5	22.00
144	"Chalk-o-Matic" Chalkline and Reel	10-2180	2	5.05	4	10.10

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PLUMBING COURSE (CONT'D)

Page No.	Item Description	Catalog Number	Qty.	Price Per: \$	Total Weight (lbs)	Total Cost \$
144	Carpenter's Pencil	10-8310	2gross	26.95 Per gross	1	53.90
696	Pointing Trowel 5 1/2"	42-2410	5	4.40	5	22.00
702	Small Plumbing Kit Case & 36 Fittings	WF-36	1	123.95	2	123.95
701	Thread Cutting Oil (Dark)		2 gal.	7.10 Per gal.	4	14.20
106	Disston Hacksaw Frames	10-4470	10	8.25	20	82.50
107	Hacksaw Blade -Starrett, 24 teeth, I inch, 12"x1/2x .025"	10-6286	100	28.90 Per 100	2	28.90
701	Ridgid Portable Tristand Pipe Vise	42-2038	1	198.00	10	198.00
116	6 PC. File Assortment 10"	10-2830	3	23.00	6	46.00
117	File Handle for 10" File	10-2970	2 doz.	3.85 Per doz.	1	7.70
130	Lineman Pliers, 7"	10-8880	2	7.80	2	15.60
124	Compothane Hammer	10-8280	2	16.10	2	32.20
127	Diagonal Cutting Pliers, Utica	10-4756	2	7.20	2	14.40
104	Disston Handsaw, 26" 10 Pts/inch, Crosscut	10-4434	2	16.45	2	32.90
	Filmstrips	N/A	1	600.00	N/A	600.00

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