Government of Indonesia
Ministry of Home Affairs
Directorate General of Regional Development

Rural Roads Maintenance Systems (RRMS)
Training Program Phase II Project

Contract Completion Report

Contract No. AID 497-0353-C-00-4038-00
Project No. 497-0353

for

Rural Environmental Management Office
U.S. Agency for International Development
Jakarta, Indonesia

by

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CONTENTS

ACRONYMS

ADB	Asian Development Bank
BANGDA	*Direktorat Jenderal Pembangunan Daerah*, Directorate General of Regional Development, Ministry of Home Affairs
BAPPENAS	*Badan Perencanaan Pembangunan Nasional,* National Development Planning Board
Bina Marga	Directorate General of Highways, Ministry of Public Works
CADI	Computer Assisted Development, Inc.
Diklat	Educational and Training Center, Ministry of Home Affairs
DPUK	*Dinas Pekerjaan Umum Kabupaten*, District Public Works Office
EMS	Equipment Management System
GOI	Government of Indonesia
IBRD	International Bank for Reconstruction and Development
IFY	Indonesian Fiscal Year (April 1 - March 31)
Kabupaten	District (governmental unit below the province), headed by a bupati
KEPPRES	*Keputusan Presiden*, Presidential Decree
KEWMI	Kabupaten Equipment Workshop Maintenance Improvement Project (IBRD funds)
KREI	Kabupaten Road-Eastern Indonesia Project (IBRD funds)
KRMTP	Kabupaten Roads Master Training Plan Project (IBRD funds)
LETMI	*Lembaga Teknik Manajemen Industri*, Institute of Management and Industrial Engineering, Bandung Institute of Technology
MHA	Ministry of Home Affairs
MPW	Ministry of Public Works
NTT	*Nusa Tenggara Timur,* East Nusa Tenggara Province
OECF	Overseas Economic Cooperation Foundation (Japan)
OJT	On-the-job Training
PACD	Program Assistance Completion Date
PIU	Project Implementation Unit
PUSLITBANG	*Pusat Penelitian dan Pengembangan Jalan*, The Center for Road Research and Development, Bina Marga, Ministry of Public Works
Pusat	Central administrative level of government
RRMS	Rural Roads Maintenance Systems
RRMMS	Rural Roads Maintenance Management System
SULSEL	*Sulawesi Selatan*, South Sulawesi Province
TA	Technical Assistance
Tingkat	Administrative level
TMES	Training Monitoring and Evaluation System
TMIS	Training Management Information System
TNA	Training Needs Analysis
TOT	Training of Trainers
Unit Swadana	Semi-autonomous government body which engages in profit making activities and should be self-supporting
USAID	United States Agency for International Development

SUMMARY

The Rural Roads Maintenance Systems (RRMS) Training Program Phase II Project (the Project) began on March 30, 1994 and ran for 29 months through August 31, 1996. The initial Project contract period was March 30, 1994 to August 31, 1995, with a contract modification for a 9-month extension from September 1, 1995 to May 31, 1996, and an additional contract modification for a 3-month extension from June 1, 1996 to August 31, 1996. Contract modification extensions were based upon requests from the Directorate General of Regional Development (BANGDA), Ministry of Home Affairs. Computer Assisted Development, Inc. (CADI) headquartered in Fort Collins, Colorado, USA, was contracted by USAID under the U.S. Small Business Administration 8(a) Program to assist BANGDA with the implementation of the Project.

The Project was a direct outgrowth of the broader Rural Roads Maintenance Systems Project (the RRMS project) initiated in 1987 by USAID. The objective of the RRMS project was to support the Government of Indonesia (GOI) to develop and implement effective, sustainable road maintenance and management systems in rural districts of Indonesia. The RRMS project was implemented in nine districts in eastern Indonesia; two districts in the province of Nusa Tenggara Timur (NTT) and seven other districts in South Sulawesi.

The Project was a pilot institution building project designed to strengthen the groups and organizations responsible for operating systems for planning, rehabilitating, and maintaining district roads under the district offices of Ministry of Public Works (DPUKs). RRMS training developed the skills of district managers, planners, engineers, mechanics, procurement specialists and other technicians so that they will be capable of using the systems developed under the RRMS project. Major accomplishments achieved in the development and implementation of the RRMS training program under the Project are:

- One training need analysis was carried out with 49 DPUK staff members

- Three RRMS training programs were developed, budgeted for and implemented:
  (1) The IFY 1994/95 RRMS Training Program
  (2) The IFY 1995/96 RRMS Training Program
  (3) The IFY 1995/96 RRMS Project Extension Training Program

- Ten technical courses were developed and implemented:
  (1) RRMS Equipment Engine Systems, Maintenance, and Repair
  (2) RRMS Equipment Hydraulic Systems, Maintenance, and Repair
  (3) RRMS Equipment Electrical Systems, Maintenance, and Repair
  (4) Rural Roads Maintenance Management System Part 1 - Routine Operations
  (5) Rural Roads Maintenance Management System Part 2 - Programming and Budgeting
  (6) Equipment Management System Part 1 - Budgeting for Workshop and Equipment
  (7) Equipment Management System Part 2 - Equipment Utilization
  (8) Equipment Management System Part 3 - Unit Swadana Planning and Operations

(9) Construction Supervision
(10) Laboratory Practices

- One Project Management Skills Seminar was developed and implemented for DPUK chiefs

- Two computer skills courses (basic and advanced) were developed and implemented

- 29 training modules and miscellaneous training materials were produced:
  (1) seven Rural Roads Maintenance Management System modules
  (2) three Equipment Management System modules
  (3) six Construction Supervision modules
  (4) seven Training of Trainers modules
  (5) three Laboratory Practices modules
  (6) one Project Management Skills module.
  (7) two Computer Support Training modules

- 35 formal courses and one seminar were conducted

- 36 on-the-job training sessions were implemented.

- One Training of Trainers course was designed and implemented three times with 31 instructors trained.

- One training monitoring and evaluation system was developed and implemented:
  (1) Instructor/course evaluation forms
  (2) Multiple-choice tests for course participants
  (3) The computerized Training Monitoring and Evaluation System (TMES)
  (4) Hands-on training session on TMES

- 667 DPUK staff member were trained

The Project successfully developed the RRMS training program complete with competency-based training materials, instructional guidelines, and DPUK staff trained to act as instructors for these courses. These are important building blocks for the institutionalization of the RRMS and the RRMS training program.

Institutionalization of RRMS, and of a training program in support of this, is a complex and multi-stage process. The Project has made major contributions to RRMS institutionalization. Building on what had been achieved for system development by STV/Lyon Associates, Inc. (STV/Lyon), CADI has developed and pilot-tested training materials which will greatly facilitate dissemination of RRMS nationwide.

Such nationwide dissemination has already started for the Equipment Management System through the Kabupaten Equipment Workshop Maintenance Improvement Project. Another system for which the RRMS project has established a firm basis for sustainability is the two-

envelope system of tendering. This tendering system has been legislated through a Presidential Decree as one of four approved systems for contract tendering at district level.

Since 1987, USAID has made a major contribution to rural road maintenance in Indonesia. By stressing and continuously highlighting the importance of road maintenance and management, the RRMS project and the Project have assisted the GOI to derive increased benefit from the considerable investments which it has made, and is still making, in road infrastructure. By providing the districts with a set of workable systems, and training district staff on how to apply these systems, both projects have helped to build a foundation for sustainability of rural road maintenance and management in Indonesia.

1. INTRODUCTION

1.1 Purpose of the Contract Completion Report

This contract completion report is submitted in accordance with the terms and conditions of Contract no. AID 497-0353-C-00-4038-00 between USAID and CADI. Its purpose is to summarize and review the services contracted for and provided by CADI for USAID in implementing the Rural Roads Maintenance Systems Training Program Phase II Project (the Project. This report details the activities performed, progress achieved, and lessons learned during the Project, and provides recommendations for future development. The report covers the period of 29 months from March 30, 1994 to August 31, 1996.

1.2 RRMS Project Background

The Project was part of the larger USAID sponsored Rural Roads Maintenance Systems Project (the RRMS project). To be fully understood and appreciated, the Project needs to be viewed within the broader context of the RRMS project. Because of the close link between the two projects it is necessary to first describe the RRMS project in some detail.

The RRMS project was initiated in August 1987 through a grant and loan agreement signed by USAID and BANGDA. In July 1989, STV/Lyon was contracted to provide a technical assistance team (TA) to implement the RRMS project. The RRMS project under STV/Lyon ended in April 1995. The RRMS project was an institutional development project designed to strengthen the capacity of district offices of the Ministry of Public Works (*Dinas Pekerjaan Umum Kabupaten*, DPUK) to plan, rehabilitate and maintain rural roads. The principal objective of the RRMS project was to assist GOI in developing and implementing a sustainable system of rural road maintenance. In order to provide institutional strengthening to DPUKs, new systems of road maintenance and management were developed and introduced. Training offered under the RRMS project was intended to develop the skills of DPUK managers, planners, engineers, mechanics, and other technicians so that they could utilize the new maintenance and management systems. Road rehabilitation was also carried out with the intention of demonstrating rehabilitation, maintenance and management techniques, and to provide an incentive to the DPUKs to participate in the project activities.

The project covered two provinces in eastern Indonesia: South Sulawesi and East Nusa Tenggara (NTT). A total of nine districts were included: Takalar, Jeneponto, Bulukumba, Sinjai, Bone, Sidrap, and Pinrang in South Sulawesi; and Kupang and Belu in NTT. The new systems of road maintenance and management were pilot-tested in these nine districts. USAID anticipated that these new systems would eventually be disseminated by BANGDA outside the nine project districts to other regions in Indonesia.

1.3 RRMS Project Implementation

To strengthen the capacity of DPUK to maintain district roads, STV/Lyon developed and tried to institutionalize the following six systems in the nine project districts:

(1) Rural Roads Maintenance Management System (RRMMS)
(2) Equipment Management System (EMS)
(3) Road Selection/Planning System
(4) Road Work Certification/Quality Control System
(5) Road Work Contracting System
(6) Local Resource Mobilization/User Fee Model

The development of these six systems and initial efforts made to institutionalize them were two of STV/Lyon's major accomplishments. Each of the six systems is briefly described below.

The RRMMS provided improved procedures, guidelines, and manuals for the routine and periodic maintenance of district roads. The office and field manuals were made available to the nine districts in 1991 and various elements of the system were implemented and pilot-tested.

Before the start of the RRMS project, Bina Marga had a seven volume equipment management system developed under an IBRD-funded project. STV/Lyon condensed and simplified these into a single volume EMS. The manual offers guidelines on: workshop and equipment operations; warehouse staffing and management; equipment utilization and maintenance; budgeting for workshop and equipment; and disposal of equipment. BANGDA has mandated that the revised EMS be used in all districts receiving IBRD, ADB, USAID, and OECF assistance.

The Road Selection/Planning System was developed and made available in 1991. The system took a comprehensive approach to planning, which considered social, economic and political factors. The system was relatively non-technical and easy-to-use by government officials from a non-engineering background who were involved in the planning process. It was tested in the planning process in 1991/92 and 1993/94.

The Road Work Certification/Quality Control System was established to improve the performance of contractors and lessen the incidence of poor quality work. Quality control and design manuals were produced by STV/Lyon and tested in the nine districts.

The Road Work Contracting System was developed and the two-envelope tendering system was accepted and adopted on a nationwide basis by a Presidential Decree (KEPPRES 16/1994). A manual and a video were developed by STV/Lyon to support the national dissemination of the system.

The Local Resource Mobilization/User Fee Model was prepared to generate revenue for road maintenance through the imposition of toll fees on selected roads. It was successfully tested in Pinrang during the RRMS project.

In addition to the development of the above systems, STV/Lyon also carried out an extensive road rehabilitation program. Road rehabilitation was seen by the USAID project designers as a means of creating a supply of maintainable roads which were used to showcase the six systems and to stimulate interest in the nine districts.

STV/Lyon implemented a number of training activities to support the institutionalization of RRMS. Under a fellowship program, 24 GOI officials affiliated with the RRMS project participated in degree programs at Hasanuddin University, the Bandung Institute of Technology, and the Surabaya Institute of Technology. In IFY 1990/91, STV/Lyon started to conduct short-term training courses consisting of formal courses, on-the-job training (OJT), mentor training, seminars, and project reviews. In IFY 1992/93, the focus of RRMS training was changed to mostly OJT activities held in the districts. In that year, the course subjects were tendering/contracting, road condition surveys, highway design, materials testing/quality control, construction supervision, equipment maintenance procedures and highway maintenance procedures. In IFY 1993/94, the training program differed little from that of the previous year, but training was provided to 16 additional districts, 14 of which were in South Sulawesi, and two in NTT.

1.4 The Project Background

CADI was contracted by USAID in March 1994 to develop a sustainable training program and to continue and improve the RRMS training activities in support of the institutionalization efforts. All training activities connected with the RRMS project after March 30, 1994 were, henceforth, collectively known as the RRMS Training Program Phase II.

The contract between USAID and CADI was for a 17-month period from March 30, 1994 to August 31, 1995. In August 1995, USAID extended the Program Assistance Completion Date (PACD) for 12 months to August 31, 1996. CADI was asked by BANGDA to continue the development and implementation of the IFY 1995/96 RRMS Training Program up to the PACD. USAID extended the contract completion date to May 31, 1996 and later to August 31, 1996.

1.5 Goals and Objectives of the Project

The primary goal of the Project was to develop a sustainable training program that would contribute to the institutionalization and dissemination of the six systems developed by STV/Lyon. Whereas project training activities by STV/Lyon had primarily focused on improving the technical skills of project DPUK staff, the focus of training activities of the Project was to develop a training program, supported by training courses with modular training materials, that could be institutionalized in a governmental training institution. Once such a training program and associated materials were developed, they could in turn contribute directly to the institutionalization and dissemination of the six systems.

The statement of work in the initial contract between USAID and CADI specified three training objectives. The first objective was to improve the skills of the district public works staff in a number of areas relating to the six systems developed by STV/Lyon. The second objective was to identify, develop and train trainers and mentors in the provinces or districts so that skills training could become less dependent on central support and eventually be self-sustaining. The third objective was to provide an opportunity for middle and senior level GOI managers to participate in management skills training.

The training objectives specified in the extension contract modifications were to continue with the tasks and/or activities not completed during the first contract period, and to complete an additional three activities to enhance the sustainability and institutionalization of RRMS achievements, including the implementation of the 1995/96 Training Program, the preparation of Ministry of Home Affairs (MHA) and Ministry of Public Works (MPW) training units in training delivery and training management, and the integration of RRMS activities with the IBRD-funded Kabupaten Roads Master Training Plan Project (KRMTP).

1.6 Task Statement of the Project

The overall task of CADI was to assist BANGDA in developing and implementing the three RRMS training programs in the nine project districts, which included a total of 30 tasks as specified by USAID. These project tasks were:

Task Number	Description
1	Design IFY 1994/95 Work Plan
2	Develop Training Modules and Time Schedule
3	Develop Potential Participant List
4	Translate and Disseminate Manuals
5	Develop a Training Monitoring System
6	Develop a Standardized "Two-way" Evaluation System
7	Develop Assessment Format and Certificates
8	Conduct IFY 1993/94 Training Program
9	Conduct Training of Trainers (TOT) Program
10	Conduct Mentor Training
11	Monitor Long-Term Training
12	Conduct Management Skills Course
13	Purchase Training Materials
14	Identify Districts in Timor Timur
15	Design IFY 1994/95 Training Program
16	Develop IFY 1994/95 Training Program Budget Proposal
17	Develop/Modify Training Module
18	Conduct IFY 1994/95 Training Program
19	Carry Out a DPUK Training Needs Assessment
20	Develop IFY 1995/96 Training Program
21	Develop IFY 1995/96 Training Program Budget Proposal
22	Implement IFY 1995/96 Training Program

23	Implement Computer Support Training for DPUK Staff
24	Evaluate and Revise IFY 1995/96 Training Program and Materials
25	Produce Additional RRMS Training Modules
26I	ntroduce and Initiate the Establishment of the RRMS Training Delivery and Management System
27	Introduce a Training Management Information System
28	Integrate and Coordinate RRMS Activities with IBRD Rural Roads Training Activities
29	Design IFY 1995/96 Project Extension Training Plan and Budget
30	Implement IFY 1995/96 Project Extension Training Program

1.7 CADI Training Team

CADI, a natural resources consulting firm, participates in the U.S. Small Business Administration 8(a) Program, and is located in Fort Collins, Colorado, USA. The firm is a Chapter C corporation and managed by Dr. Tom S. Sheng, the Chief Executive Officer. CADI has extensive experience in natural resources management, training, institutional development, and computer applications. The Project was overall supervised by Dr. Sheng, the Project Manager. The CADI training team was mobilized on April 1, 1994 and a project office was subsequently opened in Ujung Pandang, South Sulawesi. At the time of mobilization, the training team consisted of Dr. E. Edwards McKinnon, Chief of Party (COP); Mr. Wayne Bougas, Training Coordinator; Mr. Jerry Chamberland, Training Specialist; and a group of Indonesian administrative and financial staff. Dr. McKinnon resigned as COP in July 1994. After an intensive one month search for a new COP, Mr. Bougas was selected in September 1994 and Mr. Chamberland was promoted to Training Coordinator. In November 1994, Mr. Luc Spyckerelle was hired as Training Specialist. Mr. Bougas resigned as COP on August 9, 1996, three weeks before PACD.

For the 29-month project, CADI provided a total level of effort of 394.04 person-months and successfully completed the 30 major tasks listed above. Level of effort details included a total of 20.25 person-months of home office support, 302 person-months of long-term field office support, 5.45 person-months of training material development specialists (both expatriate and local), 38.64 person-months of locally-hired core instructors, 10 person-months of computer training, 1.2 person-months of laboratory practices inventory consultants, and 16.5 person-months of translators. A detailed breakdown of the level of effort statistics can be found in Appendix 6.1, and the three RRMS Training Program Schedules are shown in Appendix 6.2.

2. RRMS TRAINING PROGRAM

This section of the report describes the RRMS training program developed under the Project. This program was developed over the life of the Project and ultimately from the development of three annual training programs that were combined to form a single, coherent RRMS training program.

2.1 RRMS Training System

The RRMS training program was developed and implemented according to the following six-stage, cyclical, training system:

(1) Training Needs Analysis (TNA)
(2) Course Design and Curriculum Development
(3) Training Materials Development
(4) Instructor Identification and the Training of Trainers
(5) Training Delivery
(6) Monitoring, Evaluation, and Feedback

Figure 1 schematizes and sequences the six components of this training system.

The CADI training team implemented the training system in cooperation with BANGDA Pusat, the BANGDA Project Implementation Unit (PIU), and BANGDA Tingkat I in South Sulawesi and NTT. A TNA was implemented to ascertain the expressed training needs of DPUK staff. Based on this analysis, training programs were designed, curriculums developed, and training materials written. National and district level instructors were identified and trained. Courses were then delivered and pilot-tested, and DPUK staff members were trained. A monitoring, evaluation, and feedback system was developed and used to track course implementation and to enable the CADI training team to revise programs and courses once they had been pilot-tested. This approach was basically cyclical, with the monitoring system possibly leading to improvements in training programs, materials, or course delivery.

In IFY 1994/95, a number of training modules were produced based on the TNA results. After training materials had been developed by the CADI training team, instructors were identified. In IFY 1995/96 and IFY 1996/97 when CADI was responsible for all aspects of training program implementation, training courses were preceded by a TOT. After completion of the TOT, preparations for training course implementation were initiated by the CADI training team. Except for the TOT and two EMS courses which took place in Ujung Pandang, all other courses took place on-site at selected district public works offices. These districts were selected according to criteria including willingness of the DPUK to host RRMS training, availability of training facilities, and location of the intended host DPUK with respect to neighboring DPUKs from which additional participants would be drawn. In the area of training course implementation, BANGDA PIU had considerable responsibility and input including site logistics and all administrative arrangements between local and provincial government regarding participant registration and enrollment. Once the training site had been selected, BANGDA PIU began logistics arrangements including identification of appropriate

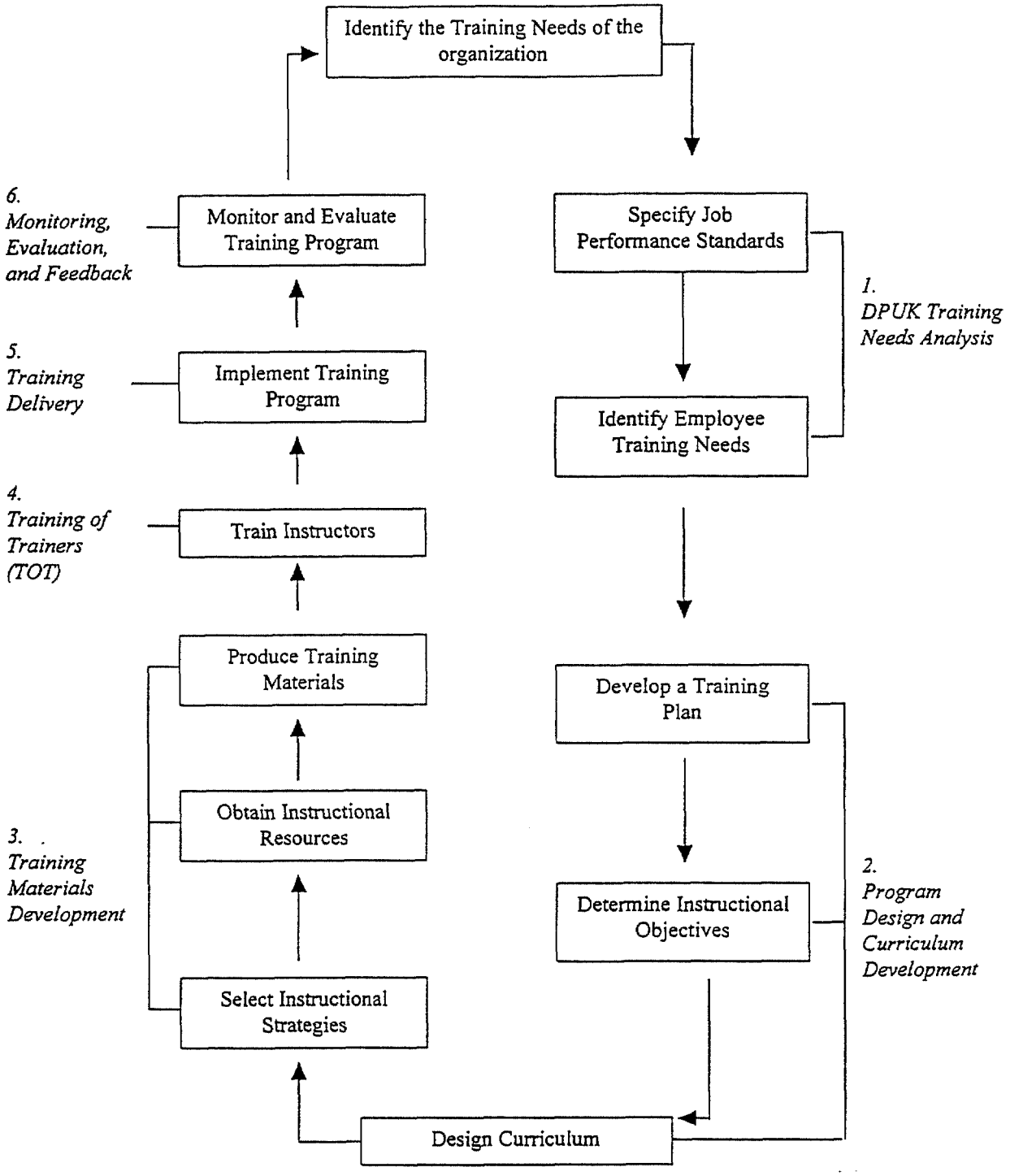


Figure 1 Components of the RRMS Training System

accommodations and making arrangements for meals, and transport to and from the training site. In addition, prior to the beginning of the training course the BANGDA PIU was responsible for the reproduction of training materials from master copies provided by CADI, transportation of the materials to the training site, and provision of other classroom supplies at the training site.

Once the training course began primary responsibility at the site rested with the CADI core instructors working with the national instructors and BANGDA PIU representatives to assure that all aspects of implementation proceeded smoothly. Course monitoring was carried out by a CADI training team member and, if possible, he represented the Project at the opening and/or closing ceremony. During periods of intense training activity, this process was repeated in several cycles - when a course finished at one district site, another followed immediately at a different location.

After completion of a training course or series of courses, the focus of activity shifted to the CADI office in Ujung Pandang. The CADI training team met with members of the BANGDA PIU to review details of course implementation while CADI core instructors began the process of training module revision. This final stage of the RRMS Training System involved not only editorial changes in the training materials, but also revisions made for pedagogical and technical reasons.

The DPUK Training Needs Analysis

The CADI training team carried out a TNA in order to ascertain the expressed training needs of DPUK staff. The team prepared and used a questionnaire to conduct the survey. The questionnaire was divided into three sections: (1) performance (task) identification and assessment; (2) identification of reasons for weak performance; and (3) course and participant identification. Respondents were asked in the first section to assess the importance of listed work tasks to the DPUK. The second section of the questionnaire asked respondents to list all tasks that required improvement, and give reasons for the weak performance in each task listed. The third section requested respondents to make specific suggestions for training courses and targeted course participants.

Program Design and Curriculum Development

Each IFY a training program based on the results of the TNA was designed and written up in a training plan to be submitted by BANGDA to USAID for the latter's approval. These annual training plans listed the courses to be taught, implementation dates, and course locations. Participant selection criteria and participant lists were provided. Budget summaries for course implementation were also calculated.

The CADI training team mainly focused the RRMS curriculum development activities on the systems developed by STV/Lyon. The technical system manuals developed by STV/Lyon formed the basis for the development of the training courses. All training programs were designed with an aim to achieve both system institutionalization and skill development. On the one hand, these training programs sought to introduce and contribute to the

institutionalization of the new systems developed by STV/Lyon, and on the other hand, training programs endeavored to upgrade technical skills of DPUK personnel such as improving the skills of DPUK mechanics to repair operating equipment. Thus, the three RRMS training programs were designed to achieve both system institutionalization and skill development.

In addition to the ten technical courses, a seminar on project management skills and training monitoring and evaluation were also developed. The RRMS training, therefore, focused on technical as well as managerial skill development.

Training Material Development

The CADI training team, in collaboration with STV/Lyon, transformed a diverse range of technical materials (e.g., RRMMS and EMS guidelines by STV/Lyon) into a unified and comprehensive set of modular, competency-based training materials. These materials focused on the technical skills and supporting knowledge DPUK staff must master to successfully carry out their work. All training modules that were developed contained a set of instructional objectives describing trainee performance, specifically, the skills that they would be able to perform having completed the course. The modules also contained a set of instructional strategies which outline the activities the instructor would undertake in order to achieve specified training objectives. Instructional strategies were a type of instructors' notes which defined the methodology which would be employed to reach instructional objectives. Modules also contained training materials that would be distributed to the trainees. These materials normally consisted of (1) information sheets which provided any background knowledge the trainees needed to know in order to perform each skill, (2) skill sheets describing in a step-by-step fashion how the skill was actually performed, and (3) exercise sheets which required trainees to solve problems or perform calculations associated with their work. Finally, evaluation instruments were designed which would enable both the instructors and trainees to appraise the extent to which instructional objectives had been met. Appendix 6.3 contains a complete set of the RRMS module specifications.

Training of Trainers

The CADI training team developed and pilot-tested a Training of Trainers (TOT) course. The TOT course taught the participants the principles of participatory adult-learning techniques, and gave them an opportunity to try these techniques out using the technical courses they would be teaching. The purpose of the TOT course was to train a cadre of DPUK staff as instructors so they would be capable of continuing RRMS training activities after the Project was completed. If CADI had only focused on producing various sets of competency-based modular training materials without at the same time training qualified instructors to teach the courses, it would have been more difficult for the GOI to continue providing RRMS training. CADI perceived that a group of competent district instructors supported by BANGDA, would greatly contribute to the sustainability of RRMS training.

The TOT program followed a three-stage approach. During stage one, district instructors attended a TOT course taught by the CADI training team. During stage two, district

instructors assisted CADI instructors and worked with trainees in small groups during the implementation of technical courses. During stage three, the teaching emphasis shifted from the CADI instructors to the district instructors. For the past 12 months, district instructors were teaching many courses assisted by the CADI training team. This three-stage approach to TOT ensured that all district instructors mastered the instructional materials and teaching techniques, and were teaching the courses by providing the instructors with at least two opportunities to teach technical course materials.

Training Delivery

Training delivery combined formal, classroom instruction with OJT. Two-day, three-day, even up to a week-long training courses may be forgotten if offered only once, thus contributing little to sustainability. Successful courses which endeavor to institutionalize a system, a body of knowledge, or a set of skills should at a minimum consist of two components: (1) a formal classroom course, coupled with (2) structured OJT. Using the six-stage, cyclical training system trainees learned new skills in a classroom or workshop setting, then returned to their work units to actually apply the newly learned skills in structured and supervised OJT. Trainees were assisted in their work by instructors sent into the field, or by co-workers or supervisors who had previously taken the course. The structured OJT component of the course was the key to success as it not only enabled, but also assured that trainees utilized and internalized the skills and systems taught in the formal classroom component of the course. Utilizing such an approach directly contributed to the training system and skill development and their long-term sustainability.

Monitoring, Evaluation, and Feedback

Monitoring and evaluation were important parts of CADI's approach to training. RRMS training plans developed in association with RRMS training programs served as the principal monitoring and control instrument for training implementation. The CADI training team and BANGDA PIU staff each provided feedback on the training programs and whether or not the objectives established in training plans were, in fact, met.

Evaluation instruments for monitoring instructor's performance and the suitability of course materials were also developed and pilot-tested. These instruments also sought to ascertain whether or not the RRMS courses adequately addressed the DPUK training needs as expressed in the TNA. In addition to monitoring instructor performance, multiple-choice evaluation instruments were also developed for the technical courses and were used to determine whether or not participants had achieved course objectives. The computerized TMES was developed for use at BANGDA, Pusat to monitor the RRMS training activities and store training statistics and data.

2.2 RRMS Training Program Achievements

CADI accomplished 30 major tasks during the Project. Major training accomplishments are as follows:

(1) One TNA was carried out.
(2) Three RRMS training programs were designed, budgeted for, and implemented with through put total of 667 DPUK personnel trained.
(3) Ten technical courses were developed and implemented.
(4) One TOT course was designed and implemented three times.
(5) One project management skills seminar was developed and pilot-tested.
(6) Twenty-nine training modules and miscellaneous training materials were produced to support course implementation.
(7) Multiple-choice testing instruments were developed for the technical road maintenance and equipment management courses.
(8) One TMES was developed, implemented, and shared with KRMTP.

Training Needs Analysis

Between August and November 1994, the CADI training team and the BAGDA PIU conducted a TNA in the nine project districts. The purpose of this TNA was to ascertain what was perceived to be the training needs of the nine project DPUK. This was the first formalized attempt during the Project to ascertain from DPUK staff what types of training they themselves maintained their institutions needed. In the past RRMS training activities had often been decided in Jakarta and passed down to the district with little or no local input. The TNA represented a bottom-up approach. The CADI training team knew that if the DPUKs had input in the type of training they received, they would have a bigger stake in training success and be more supportive and enthusiastic about the RRMS training efforts. Subsequently, questionnaires were returned by 49 respondents from the nine districts. The results were analyzed and presented to both USAID and BANGDA in the RRMS Training Needs Analysis Report dated January 1995. The TNA indicated that district staff strongly desired training in equipment management systems, road maintenance systems, materials testing and quality control, and road design.

Program Design and Curriculum Development

Three training programs were developed, budgeted for, and delivered during the Project as follows:

(1) The IFY 1994/95 RRMS Training Program
(2) The IFY 1995/96 RRMS Training Program
(3) The IFY 1995/96 RRMS Project Extension Training Program

The IFY 1994/95 RRMS Training Program focused on skill development and endeavored to upgrade DPUK mechanics' abilities to maintain and repair the engines, the hydraulic systems, and the electrical systems of heavy operating equipment. Two Computer Support Training courses, basic and advanced, were also designed and implemented in Ujung Pandang and Kupang as part of this program.

The IFY 1995/96 RRMS Training Program focused on the rural road maintenance and road equipment management introduction and familiarization. Courses were given in RRMMS and EMS. Two TOT courses for RRMMS and EMS were offered during this program. The Project Management Skills Seminar was also implemented.

The IFY 1995/96 RRMS Project Extension Training Program focused on material testing and quality control. Courses were given in Laboratory Practices and Construction Supervision. A third TOT course for Construction Supervision was also implemented. Appendix 6.2 contains detailed implementation schedules for the three training programs.

The following ten technical courses were developed and implemented for the three training programs:

(1) RRMS Equipment Engine Systems, Maintenance and Repair
(2) RRMS Equipment Hydraulic Systems, Maintenance and Repair
(3) RRMS Equipment Electrical Systems Maintenance and Repair
(4) RRMMS Part 1- Routine Operations
(5) RRMMS Part 2 - Programming and Budgeting
(6) EMS Part 1 - Budgeting for Workshop and Equipment
(7) EMS Part 2 - Equipment Utilization
(8) EMS Part 3 - Unit Swadana Planning and Operations
(9) Construction Supervision
(10) Laboratory Practices

The RRMS Equipment Engine Systems, Maintenance and Repair course trained participants to check and repair fuel systems, cooling systems, and trouble-shoot common engine operating problems. The RRMS Equipment Hydraulic Systems, Maintenance and Repair course sought to enable trainees to install and maintain hydraulic tanks, repair hydraulic cylinders, identify and use proper types of hydraulic oils, etc. The RRMS Equipment Electrical System Maintenance and Repair course upgraded participants' ability to trouble-shoot and repair charging systems, starters, ignition systems, and check and maintain batteries, etc.

RRMMS Part 1 focused on work scheduling, work report preparation, and work control, while RRMMS Part 2 centered on activities and standards, condition and feature inventories, and work program and budgeting. EMS Part 1 dealt with the calculation of actual costs for fleet and workshop operation and maintenance and the estimation of income from direct works and hire charges. EMS Part 2 included methods of using and reporting the use of equipment, the use of force accounts, and equipment hire by contractors. EMS Part 3 centered on the establishment of a Unit Swadana to generate revenue for vehicle maintenance.

The Construction Supervision course focused on the interpretation of shop drawings, understanding of work contracts, mobilization of contractor equipment, recalculation of work volume, quality control, and the evaluation of compaction methods, etc.

The Laboratory Practices course introduced participants to soil, concrete, and asphalt testing procedures.

In addition to the technical courses described above, a project management skills seminar for DPUK chiefs was also developed. The purpose of this seminar was to introduce DPUK chiefs to basic project management principles and skills. The following topics were covered during the seminar: project management, project organization, project planning and monitoring, project scheduling, budgeting, project management information systems, and value engineering.

Two Computer Support Training courses, including basic and advanced versions, were designed for DPUK office staff. The basic course provided an introduction to computer operation and familiarized participants with WordStar and Lotus 123. The advanced course focused on the Microsoft software applications of Windows, Word, and Excel.

Training Materials Development

Twenty-nine training modules and miscellaneous training materials were developed. The seven RRMMS modules were produced jointly by STV/Lyon and CADI. The three EMS system modules were produced by the CADI short-term specialists. The CADI training team, assisted by a short-term consultant from the Kabupaten Roads Eastern Indonesia (KREI) Project, produced the six Construction Supervision modules. The Construction Supervision course produced by CADI was based on the Work Supervision Course originally produced by the KRMTP. The seven TOT modules, originally produced for MPW by the Institutional Development and Training Project (IDTP), were revised and reworked by the CADI training team.

Additional training materials were developed by CADI subcontractors. The Laboratory Practices course was produced by PUSLITBANG (Pusat Penelitian dan Pengembangan, the Center For Research and Development, Bina Marga) in Bandung. Three modules were produced focusing on soil, concrete, and asphalt testing procedures. LETMI at the Bandung Institute of Technology developed the Project Management Skills Seminar. The basic and advanced Computer Support Training courses were developed by Kharisma Computers in Ujung Pandang and Jacob's Computer Center in Kupang. Table 1 lists all the courses and training modules developed directly by CADI and its subcontractors.

Table 1 Training Courses and Modules Produced by CADI and Its Subcontractors

Course	Module
Rural Roads Maintenance Management System	1. Introduction 2. Activities and Standards 3. Work Scheduling 4. Work Control 5. Work Report Preparation 6. Condition and Feature Inventories 7. Work Program and Budget
Equipment Management System	8. Budgeting for Workshop and Equipment 9. Equipment Utilization 10. Unit Swadana Planning & Operations
Construction Supervision	11. Contract Specifications 12. Methods of Construction Supervision 13. Construction Supervision Preparation 14. Quality Control Supervision 15. Payments and Reporting 16. Work Completion
Training of Trainers	17. Training Principles 18. Lectures 19. Questioning 20. Demonstration 21. Selecting Exercises 22. Using Exercises 23. How to Make a Lesson Plan
Laboratory Practices	24. Soil Testing 25. Concrete Testing 26. Asphalt Testing
Project Management Skills Seminar	27. Project Management
Computer Support Training	28. Basic Computer Skills: WordStar, Lotus 123 29. Advanced Computer Application: Microsoft Windows, Word and Excel

Instructor Identification and Training of Trainers

A total of three TOT courses were conducted under the Project and 31 instructors were trained. Table 2 provides the detailed statistics of the TOT courses below.

Table 2 TOT Course Statistics

Course	Date	Number of Instructors Trained
TOT 1 - RRMMS and EMS	June 2 - 12, 1995	18
TOT 2 - RRMMS	August 21 - 26, 1995	4
TOT 3 - Construction Supervision	May 20 - 29, 1996	9
	Total	31

TOT 1 and TOT 2 trained district instructors to teach the RRMMS Part 1 - Routine Operations course, the RRMMS Part 2 - Programming and Budgeting course, the EMS Part 1 - Budgeting for Workshop and Equipment, and the EMS Part 2 - Equipment Utilization course. TOT 3 prepared instructors to teach the Construction Supervision course. All TOT courses were taught by the CADI training team.

Program Delivery

The RRMS training program implementation proceeded smoothly. The successful implementation of the three training programs was in large part due to the excellent working relationship between the members of CADI training team and the BANGDA PIU at Jembatan Selatan, Jakarta. CADI and BANGDA PIU staff worked well together and cooperated as a team in planning, designing, implementing the courses. Mr. Jendra Muslim, the PIU team leader and his staff Mr. Budi Santosa, Mr. Firman, Mr. J. Iskandar, and Mr. Ramli Ismail should be highly commended for their good work. The cooperative working relationship between Mr. Wouter Sahanaya, USAID/REM/RRMS Project Officer and Mr. Sebastianus Hadianto, USAID/REM RRMS Project Manager, Mr. Tasfin Marzuki, BANGDA/RRMS Project Manager, and the CADI training team members, also directly contributed to the success of the three IFY training programs. The bonds that Mr. Johnny Manoch and Mr. Philos Soedharso, the CADI core instructors, had established as district engineers with the RRMS project under STV/Lyon over the years with DPUK chiefs greatly facilitated the training activities at the district level. Table 3 lists the 36 formal courses and/or seminars (not including OJT) conducted under the three training programs. Additionally, a total of 36 OJT training sessions were carried out as presented in Table 4.

Table 3 Implementation Statistics for RRMS Training Activities

Course	Number of Times Implemented
(1) RRMS Equipment Engines Systems, Maintenance and Repair	4
(2) RRMS Equipment Hydraulic Systems Maintenance and Repair	4
(3) RRMS Equipment Electrical Systems Maintenance and Repair	4
(4) RRMMS Part 1 - Routine Operations	4
(5) RRMMS Part 2 - Programming and Budgeting	4
(6) EMS Part 1 - Budgeting for Workshop and Equipment	3
(7) EMS Part 2 - Equipment Utilization	3
(8) Construction Supervision	4
(9) Laboratory Practices	1
(10) Project Management Skills Seminar	1
(11) Computer Support Training	
- Basic Computer Skills	2
- Advanced Computer Application	2
Total	36

Table 4 OJT Training Statistics

Type of OJT	Number of Sessions
RRMMS	9
EMS	12
Laboratory Practices	11
Construction Supervision	4
Total	36

For more information on these training activities, Appendix 6.4 summarizes courses, implementation dates, locations, and number of participants trained by IFY.

The RRMS equipment maintenance and repair courses (Engines, Hydraulic, and Electrical) were taught by Bina Marga staff and private sector personnel. RRMMS Parts 1 and 2 courses and EMS Parts 1 and 2 courses were taught by the CADI training team and BANGDA PIU

consultants. The Construction Supervision Course was taught by the CADI training team and a BANGDA PIU consultant. The Laboratory Practices course was taught by PUSLITBANG staff, and the Project Management Skills course was implemented by LETMI-ITB staff members. The Computer Support Training courses were taught by Kharisma Computer Center and Jacob's Computer Center personnel.

A total of 667 DPUK staff members were trained during the Project. However, this does not mean that 667 different individuals attended these training courses. A single person may have attended more than one course and she/he would be individually counted each time she/he participated in a course. Appendix 6.5 contains participant lists of the RRMS annual training programs.

Monitoring, Evaluation and Feedback

A monitoring and evaluation system was developed to monitor and evaluate RRMS training activities. The training plans developed for training program implementation served as the primary monitoring instruments. These plans listed courses to be taught, course locations, course scheduling, participants, and expenditures.

Evaluation forms were developed for RRMMS, EMS, and Construction Supervision courses. The forms asked course participants to evaluate instructors, course materials, scheduling and accommodations. Participants were asked, for example, what sections of the course were most useful and applicable for their work. They were also asked how the course could best be improved to meet their needs. The feedback obtained from course participants was later used to revise training programs, courses, and instructional materials.

The CADI training team also developed a series of multiple-choice testing instruments for RRMMS, EMS, and Construction Supervision courses. The purpose of these tests was to evaluate the participants understanding of the formal classroom and theoretical portions of these courses.

A MapInfo-based TMES was developed by CADI in corporation with the staff members from KRMTP in August 1995. As part of the institutionalization effort, CADI established links between CADI's TMES and the KRMTP's Training Management Information System (TMIS) via dBASE data file format. In April 1996, the TMES was improved so it could access the Microsoft Access data files of the TMIS directly. The aim of this direct data file link is to enhance the compatibility between the TMES and TMIS. The major function of both systems is to store, organize, evaluate, and display the RRMS and KRMTP training program data and statistics.

2.3 Tasks Accomplished

All 30 tasks stated in the Task Statement of the USAID-CADI contract, including revisions and amendments, were accomplished by the CADI training team. CADI's accomplishments within the framework of the Task Statement are discussed in Appendix 6.6.

Several tasks were revised in discussions with USAID. Because the principal focus of the Project was training, it was decided that Task No. 4 (Translate and Disseminate Manuals) should be subsumed under Task No. 17 (Develop/Modify Training Modules) rather than work on technical manuals which did not have a specific training content. As a result of Task No. 13 (Purchase Training Materials), it was determined that appropriate published training materials for district road maintenance and management were not available. The CADI training team decided to focus on Task No. 17 instead of Task No. 13. In discussions with USAID, it was agreed that increasing the number of participants in TOT courses was more appropriate in the utilization of project resources than carrying out Task No. 10 (Conduct Mentor Training) as described in the Task Statement. Task No. 11 (Monitor Long-Term Training) was not implemented because the Project responsibility for this activity had been completed before mobilization of the CADI training team. Task No. 14 (Identify Districts in Timor Timur) was not carried out due to limited project resources and the political situation in East Timor.

Overall, the CADI training team has: (1) trained 667 DPUK staff members, (2) completed three annual training programs, (3) developed 12 formal courses, (4) conducted 72 training courses, (5) produced 29 training modules, (6) prepared 67 reports, (7) distributed 12 packages of MapInfo, and (8) purchased and handed over 32 items of non-expendable property. For more details on reports, software packages, and non-expendable items, see Appendices 6.7 - 6.9 respectively.

3. INSTITUTIONALIZATION AND SUSTAINABILITY OF RURAL ROADS MAINTENANCE MANAGEMENT SYSTEMS AND SUPPORT TRAINING

Under the RRMS project and the Project, the term institutionalization is used to refer to two distinct processes: (1) the institutionalization of the six systems that were developed by STV/Lyon, and (2) the institutionalization of the RRMS training program developed by CADI to support these systems. The institutionalization of the training program is actually one step in the broader institutionalization process.

3.1 General Strategy for Systems Institutionalization and Sustainability

A project which aims at developing and institutionalizing sustainable systems operates—implicitly or explicitly—according to a general strategy. The general strategy which has been used by the CADI training team for evaluation of the institutionalization efforts consisted of the following six steps :

(1) Development of new systems
(2) Pilot-testing of the new systems in selected districts
(3) Lobbying to obtain national acceptance of, and commitment to utilization of the new systems
(4) Regulatory, structural and manpower adjustments to facilitate the institutionalization of the new systems
(5) Development, pilot-testing and institutionalization of a training program and training courses and materials to disseminate and support the new systems
(6) Dissemination of the new systems on a national level

The successful implementation of the above strategy depends upon a well articulated interaction between three components: (1) the systems themselves, (2) training, and (3) the process of institutionalization. Graphically this can be represented as three interlocking circles (see Figure 2). Various sectors of this figure point to particular combinations of the three components.

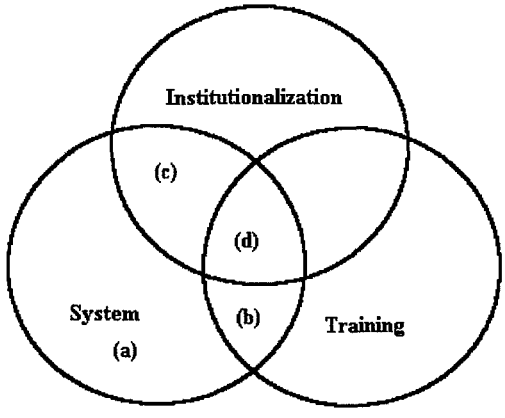


Figure 2 Interaction of Three Components for the Effective Institutionalization of System

Sector (a): Systems have not been institutionalized, and no support training is available. Such systems may not have much of a life beyond the duration of the project.

Sector (b): Systems have been developed together with a training support system, but neither the system nor the training is institutionalized. Training may be implemented through a temporary project entity but no provisions are in place for the continuation of such training through established channels. The chances that such systems and training will be continued beyond the end of the project are rather slim.

Sector (c): Systems have been developed and institutionalized (e.g. by establishing a legal basis for their implementation nationwide), but there is no training component to support the implementation of the systems. The drawback of this situation is that it may take a long time for the systems to become established, if at all; the systems are nominally in place but hardly operational.

Sector (d): Systems are fully integrated in the country's institutional framework, and there is an institutionalized training support system in place. The ideal situation.

The successful implementation of the institutionalization strategy also requires that the various parties involved in the process play their respective roles in the different steps effectively. Table 5 below indicates the level of effort and commitment which is needed from a TA team, BANGDA (as the main stakeholder), and the MPW to generate a sufficient amount of momentum for each of the steps in the institutionalization process.

Table 5 Level of Effort/Commitment Required for Institutionalization

Institutionalization Strategy	Technical Assistance	BANGDA	Ministry of Public Works		
			Pusat	Province	District
(1) Development of new systems	High	Low	Medium	Low	Low
(2) Pilot-testing of the new systems in selected districts	High	Medium	Low	Medium	High
(3) Lobbying to obtain national acceptance and commitment to utilization of the new systems	Low	High	High	Medium	Low
(4) Regulatory, structural, and manpower adjustments to facilitate institutionalization of the new systems	Low	Medium	Medium	Low	Low
(5) Training program to disseminate and support the new systems					
(a) Development of and pilot-testing training courses and materials	High	Low	Medium	Low	Low
(b) Institutionalization training program	Low	High	High	Low	Low
(6) Dissemination of the new systems on a national level	Low	High	High	Medium	Low

The TA team plays a major role in developing the various systems (Step 1), and developing and pilot-testing training materials in support of these systems (Step 5a). The TA team also plays a prominent role as facilitator during the pilot-testing of the systems in the districts (Step 2), but this cannot succeed without a genuine commitment to the system try-outs from the DPUKs. They in turn, however, need authorization from MHA and MPW, so they can use these systems for their operations (Step 3). The pilot-testing may show that there are certain deficiencies in either the systems, or the institutional framework in support of the systems (Step 4). Depending on the type and magnitude of the problems, these have to be tackled by either the TA team, the implementing agency or the supervisory agencies at provincial and national level. MHA and MPW at the national level also have to take the lead role in the institutionalization of the systems through legislation and official approval (Step 3), and institutionalization of the training components through acceptance and incorporation of the training in established training institutions (Step 5b). Dissemination nationwide also falls primarily to these government agencies (Step 6), but the level of effort of the TA team could become high if assistance for dissemination was specifically mentioned as a task in the scope of work of the project.

3.2 Institutionalization of RRMS

Even though the RRMS project paper (1987) did not present as explicit step-by-step strategy for institutionalization as that stated above, the foundation of a implementable strategy seemed to be in place. The RRMS project paper stated that the project's purpose was "*to develop effective and sustainable systems of road maintenance and management at the district level*". In order to achieve this goal, the project would focus on selected districts in the provinces of South Sulawesi and NTT "*to test and demonstrate the means and benefits of applying maintenance and improved approaches to managing district roads networks*". On a higher level, the project would assist "*the GOI to define and resolve financial, institutional, and other policy constraints to effective maintenance and efficient management of district road networks nationwide*". One hoped for the outcome of the project according to the original, logical framework, was that "*adoption of elements or entire project systems for use in non-project districts*" would be an indicator to assess the project's success in this respect.

The RRMS project paper identified "training" as one component - besides equipment, workshops and technical assistance - to achieve the project targets. The project paper specified that the training would "*focus primarily on planning, management and supervision skills as well as field work methods*". Training was a project input which would contribute to the establishment of key elements of a sustainable program for on-going management and maintenance of road networks. At the inception of the project, it was not specified that training would become a sustainable component. Although the systems had to be sustainable, but not necessarily the training component of the project.

3.3 RRMS Training Program Institutionalization

The Project focused on Step 5 of the overall institutional process. Under the Project, CADI sought to develop, pilot-test, and institutionalize a training program to support and contribute to the RRMS sustainability.

The Project developed training courses and institutional materials to support the institutionalization of the following systems: RRMMS, EMS, and Construction Supervision. Due to limited project resources, neither a course nor training materials were developed to support the two-envelope tendering system. Training materials were not developed for the Road Work Certification and Local Resource Mobilization systems due to low interest from the TNA and low priority from BANGDA and USAID.

The RRMS training program, like the systems it supports, needs to be institutionalized. Once the training program is institutionalized, the executing agency can each year budget and plan for the implementation of RRMS training courses, and thus support system dissemination. Ideally, the RRMS training program should be institutionalized in a governmental training institution located within MHA, or in Bina Marga, MPW. At this time, it seems more appropriate to incorporate the RRMS training program within the better equipped and staffed Diklat Bina Marga.

Bina Marga is currently developing its own master training program for district roads under KRMTP. The best approach to institutionalize the RRMS training program is to integrate the courses and training materials into the KRMTP training program being developed for Bina Marga. The Project has taken steps in this direction. All RRMS training materials developed by the CADI training team have been distributed to the KRMTP project. RRMS and KRMTP have cooperated in the production of the TMES and TMIS; and the CADI training team has developed a construction supervision course based on KRMTP work supervision training materials. RRMS and KRMTP construction supervision courses complement one another; the former focuses on field inspectors, and the latter on project managers. The RRMS instructional materials can, therefore, easily be integrated in the Diklat Bina Marga training program. PUSLITBANG under CADI developed a laboratory practices course which will hopefully be revised and be used by KRMTP.

The Project instructional materials have also been distributed to other projects and may ultimately be institutionalized through them. The EMS Part 3 - Unit Swadana training module, developed by the CADI training team, will be used by BANGDA's KEWMI project to facilitate the institutionalization of Unit Swadana in selected DPUK. CADI has also distributed training materials to the KREI project which is providing training to the seven RRMS DPUK in South Sulawesi. The KREI project is building and following up on the Laboratory Practices course implemented by CADI. Table 6 summarizes what has been achieved for the RRMS and training program institutionalization from March 1994 to August 1996.

Table 6 Focus of RRMS Institutionalization Efforts from March 1994 to August 1996

RRMS and the Training Program	Systems Institutionalization Strategy Steps					
	(1)	(2)	(3)	(4)	(5)	(6)
RRMMS		√			√√	√
EMS Part 1 - Budgeting for Workshop and Equipment and EMS Part 2 - Equipment Utilization		√			√√	√
EMS Part 3 - Unit Swadana Planning and Operations	√√		√		√√	√
Laboratory Practices		√			√	
Construction Supervision		√			√√	√
TOT	√	√			√√	√
Training Monitoring and Evaluation	√√				√	

Legend :

(1)	Development of systems	(4)	Adjustments to facilitate institutionalization
(2)	Pilot testing in selected areas	(5)	Development, pilot-testing and institutionalization of training program
(3)	Building national acceptance and commitment	(6)	Dissemination on a national level
√	Some Effort	√√	More Effort

Under the contract, CADI's efforts were oriented toward Step 5 of the institutionalization strategy. As indicated in Table 5, there are actually two aspects to this step: (1) the development and pilot-testing of training courses and materials, and (2) the institutionalization of the training program. CADI has developed and pilot-tested many courses and training materials to support the new systems developed by STV/Lyon. The institutionalization of the training program was achieved in part.

The overall achievement for institutionalization of RRMS, encompassing both the systems development (undertaken mostly by STV/Lyon) and the training support development (undertaken by CADI), is summarized in Table 7. As illustrated in Table 7, considerable progress has been made in the institutionalization of the Road Work Contracting System. What is needed is the production of training materials to support dissemination of the system (Step 5). The EMS 1,2, and 3 have achieved a high degree of institutionalization. GOI approval for RRMMS is under consideration (Step 3) and adjustments for the systems and institutional framework will follow (Step 4). Road Selection, Road Work Certification/Quality Control System, and Local Resource Mobilization/User Fee Model have been developed and pilot-tested. They have not yet gained national approval, training materials have not been developed, and dissemination seems doubtful due to low interest from GOI. The table also indicates that training courses and modules have been developed by the CADI training team for the RRMMS, EMS, and Construction Supervision, plus a set of TOT modules.

Table 7 Overall RRMS Institutionalization Efforts from August 1987 to August 1996

RRMS and the Training Program	Systems Institutionalization Strategy Steps						*Type of System Institutionalization
	(1)	(2)	(3)	(4)	(5)	(6)	
RRMMS	√√	√√			√√	√	(b)
EMS Part 1 - Budgeting for Workshop and Equipment and EMS Part 2 - Equipment Utilization	√√	√√	√		√√	√	(b)
EMS Part 3 - Unit Swadana Planning and Operations	√√		√		√√	√	(b)
Road Selection / Planning System	√√	√			√		(a)
Road Work Certification / Quality Control System	√√	√			√		(a)
Road Work Contracting System	√√	√√	√√	√	√	√√	(c)
Local Resource Mobilization / User Fee Model	√√	√		√			(a)
Laboratory Practices		√			√		(a)
Construction Supervision		√			√√	√	(b)
TOT	√	√			√√	√	(b)
Training Monitoring and Evaluation	√√				√		(a)

Legend :

(1)	Development of systems	(4)	Adjustments to facilitate institutionalization
(2)	Pilot testing in selected areas	(5)	Development, pilot-testing and institutionalization of training program
(3)	Building national acceptance and commitment	(6)	Dissemination on a national level
√	Some Effort	√√	More Effort

* See Section 3.1 for details

Regarding the institutionalization of the RRMS training program, steps have been taken to integrate it into Diklat Bina Marga's rural roads training program through KRMTP. This process will take time and presently it is incomplete. In the interim, RRMS training materials have been distributed to other projects such as KEWMI and KREI to contribute to the improvement of rural road maintenance and management.

Additionally, RRMS has achieved partial institutionalization where the systems have been developed and pilot-tested. A legal basis has been put into place for nationwide application of the systems, and a fully fledged training component has been developed and was incorporated into the training program of a recognized training establishment.

4. LESSONS LEARNED

The Project was a success. With limited project resources and over a short period of time, the CADI training team managed to develop 12 courses, produce 29 training materials, and pilot-test them in the classroom and OJT to improve the skills of DPUK staff members. In the execution of these tasks, the CADI training team learned several lessons.

4.1 RRMS Training Program

- The RRMS training program reflected the training needs as expressed by the DPUK themselves. The DPUKs were thus able to participate in defining the scope of training which was provided to them; and it was a demand driven program with a bottom-up approach. This participation in the program formulation expressed itself in genuine interest in the courses when these were implemented later on.

- CADI was fortunate in that it could hire people who had been closely involved in the testing of the systems as core instructors for its training program. These people not only had a very good understanding of the setup of the systems and the technical contents of the training modules, but they also knew the project DPUKs and its staff members from first-hand experience. No time was thus lost in getting acquainted with the DPUK staff.

- All CADI training team members were fluent in Bahasa Indonesia, which tremendously assisted in the development of the training materials, for the implementation of the training program, and in all aspects of project management.

- CADI continuously helped to facilitate a smooth resolution of program implementation and management issues. CADI, by its presence in Ujung Pandang and because of the good personal contacts it had established with the provincial BANGDA office and the project DPUKs, was able to alleviate problems of communications, and thereby substantially contributed to a smooth execution of training implementation.

- In developing the training courses and material, CADI first and foremost thought of the DPUK staff members who were to be trained and their needs. The courses were designed to be as practical as possible, in line with their day-to-day work and knowledge requirements. General theoretic classroom teaching was kept to a minimum, focusing instead on addressing problems the people had experienced themselves in their own work environments.

- The RRMS training program was very effective because it combined formal teaching with OJT. Without OJT follow-up in the districts, much of the knowledge which had been conveyed through the formal courses would have quickly been forgotten.

The Project, like any project, experienced some technical, management, and administrative problems as well. The lessons we learned from this are:

- The CADI training team consisted of three training specialists with no road engineering experience. CADI's capability to produce road maintenance and management training materials was reduced after the demobilization of STV/Lyon due to the lack of in-house engineering staff.

- GOI funds disbursement procedures often made it difficult to implement training courses on time. CADI was initially unable, for example, to implement engine, hydraulic, and electrical system maintenance courses in March to June, 1994 because funding for course implementation was not available. Delays in the disbursement of funds also made it difficult to synchronize on-the-job training activities with the DPUK work schedule.

- Official notification of training courses and requests to the DPUKs to send staff members to attend these courses were usually received with a few days notice. Because of this, the participants selected to attend the training courses were not always members of the original target group selected for the training.

- The preparation and assistance for training program implementation demanded a great deal of time and attention from the CADI training team. The combination of the tasks of training materials development and training program implementation has restricted the number of training packages which CADI could develop, and the attention it could give to the issue of institutionalization.

4.2 Institutionalization of RRMS and RRMS Training

- From Ujung Pandang, CADI has actively pursued coordination and cooperation with other projects such as KRMTP and KREI. Deliberate efforts were made to avoid duplication in the development of training courses and systems, focusing instead on filling existing gaps and giving support for materials and systems which were already developed.

- Institutionalization is a complex, multi-stage process. All steps in the approach must be implemented in order to achieve complete institutionalization of the systems. Training development is necessary but will not achieve institutionalization on its own. The challenge of institutionalization of systems such as RRMS is affected by having different actors playing the lead role in different steps of the institutionalization process.

- To achieve widespread use of existing training materials, an active strategy of dissemination needs to be pursued. Making training materials available to potential users will in itself not lead to a demand for such training. Strategies for active system dissemination might have had more of an impact if they had more thoroughly explored possible system dissemination as part of an overall RRMS institutionalization plan.

5. RECOMMENDATIONS

Based on the lessons learned, CADI makes the following recommendations for future RRMS-related projects in Indonesia.

5.1 RRMS Training Program

- Target agencies for training have to be actively included in program formulation; e.g., through a TNA. Apart from a wide ranging TNA at the start of the project, a reassessment of training needs should be carried out each year. Such an activity could be combined with an impact assessment by both course participants and DPUK managers of the training which has been delivered in the previous year. A recurrent TNA will also make the DPUKs more skilled in assessing their own needs, and will help to focus their attention on the importance of ongoing training to improve task performance.

- The teams of specialists which develop the technical systems and the training materials in support of such systems need to work closely together. If they are not a single team, the specialists should at least overlap for the duration of development of the training manuals.

- There is a definite need for a continuation and expansion of road and equipment management training for DPUKs. Such training should keep formal classroom teaching to a minimum, and instead focus on OJT. In order to make this as effective as possible, each DPUK needs to assign a few senior staff members who are capable of providing guidance and supervision to the newly trained staff at their work units. Such supervisors should not be the most senior DPUK staff members, as they would probably not have the time to become actively involved in providing follow-up training activities.

- If the RRMS, or parts of it, receive official approval for nationwide application from both BANGDA and MPW, training materials should be developed for those systems for which no training materials are available yet. If such efforts are performed through a donor-assisted project, the TA team should be allowed to focus on development of the training materials and support for the institutionalization effort. GOI training institutions should take the lead in actual training program implementation.

- While official approval for RRMS is under consideration, CADI recommends that the RRMS training materials be distributed to other road projects to increase the likelihood of institutionalization and dissemination of the six road maintenance and management systems.

5.2 Institutionalization of RRMS and RRMS Training

- The institutionalization of RRMS will be enhanced if regular meetings can be held with the major stakeholders. A meeting every six months with high-level presentations of MHA, MPW, and donor agencies to assess progress for institutionalization and to identify obstacles which hamper institutionalization, would assure that the primary focus of institutionalization is uniform.

- The institutionalization of training systems will be enhanced if training programs such as RRMS are implemented through established training channels like the provincial training centers of MHA and MPW. Involving such training institutions in the implementation of project training programs helps to familiarize them with the contents of the courses and the resource staff who can become course instructors. Decentralization of training management will make it easier to implement the training nationwide, and make it easier for the training centers to take account of the needs of the DPUKs.

- The GOI and donors involved in RRMS-like training projects should actively promote and support coordination and exchange of outputs between similar projects. This will help to avoid duplication, and will give extra momentum to the training programs which have already been developed, thus giving a stimulus for their institutionalization.

- MHA and MPW should attempt to achieve an early consensus on which of the road maintenance and equipment management systems, or parts of it can be used by the DPUKs. Differences in standards, approaches, and reporting requirements leads to confusion for the DPUK staff who have to implement the systems, especially if the DPUKs have to switch from one system with which they are already familiar, to another system with different requirements.

- Active support for system dissemination should not be left to the final stage of a project. The longer a TA team can offer assistance for dissemination, the better the chances for widespread application, and the greater the impact of the project.

5.3 Conclusion

The RRMS project (under STV/Lyon) and the Project (under CADI) have made major contributions to rural road maintenance and management in Indonesia. The primary objective of the Project was to create a training program to support the six systems developed by STV/Lyon. The Project also sought to upgrade the capability of DPUK staff to maintain rural roads in seven districts in South Sulawesi and two in NTT; in addition to making training available to DPUK staff in three additional districts in South Sulawesi and five districts in NTT. The skills and technical knowledge of 667 DPUK staff were upgraded through the implementation of three separate RRMS training programs during the 29 months of the Project. At the same time, CADI has provided technical assistance in building the foundation for future institutionalization of the RRMS and the training program.

6. APPENDICES

6.1 Level of Effort Statistics

Level of Effort Provided by CADI Long-term Staff

Title	Long-term Staff	LOE Provided	LOE Approved under Contract (months)
HOME OFFICE			
Project Manager	Tom S. Sheng	6.49	6.49
Financial/Adm. Officer	Lori Sterling	2.10	7.07
	Vikki Sosovec	4.97	
Support Staff	Various	4.06	4.06
U.S. Short-term Specialist	Robert E. Barrett	2.63	2.48
FIELD OFFICE			
Chief of Party	E. Edwards McKinnon	3.50	26.00
	Wayne A. Bougas	21.75	
Training Coordinator	Wayne A. Bougas	6.50	29.00
	Gerald F. Chamberland	22.50	
Training Specialist	Gerald F. Chamberland	6.50	28.50
	Luc Spyckerelle	22.00	
Accountant	Hasmuniati	25.50	25.50
Secretary	Lenny Yaurentius	25.50	25.50
	Nurindah	14.50	23.75
	Amran	9.25	
Office Clerk/ Messenger	Syahrir Eko	25.50	
Watchman	A. Ismail	22.50	
	Mursalem Sija	3.00	25.50
	Overusz	25.50	25.50
Drivers	Mustari	16.00	16.00
	Syarifuddin	16.00	16.00
	Nadir	12.00	12.00
	Syafri	12.00	12.00
	Udin	12.00	12.00

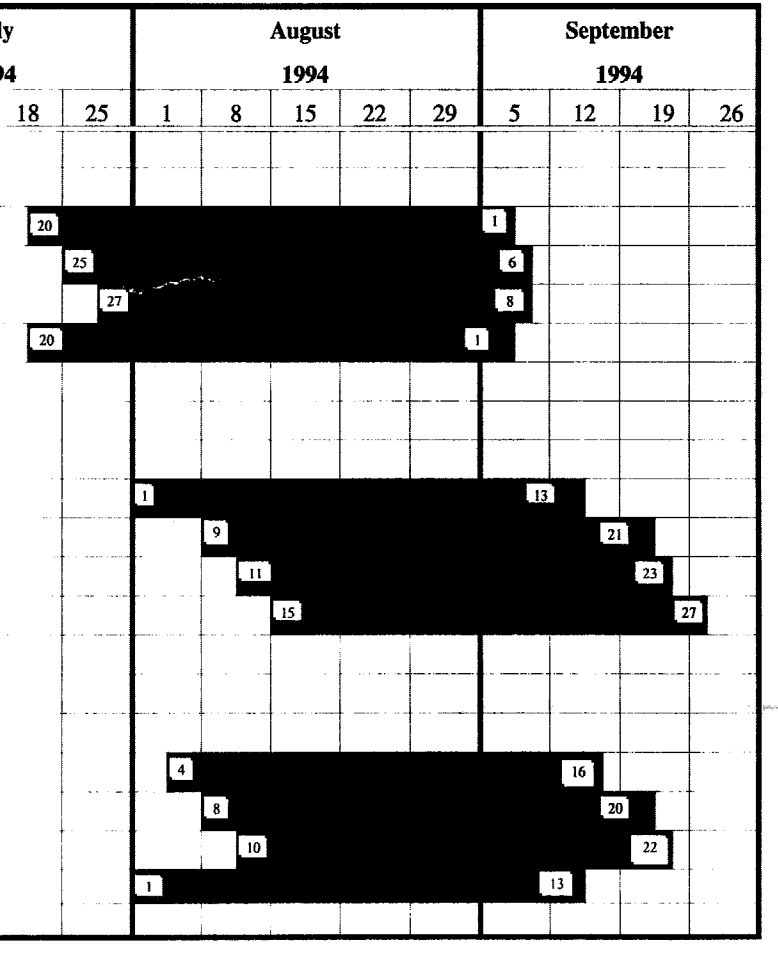
Level of Effort Provided by CADI Short-term Specialists

Title	Short-term Specialist	Activity	LOE Provided	LOE Approved under Contract (months)
Training Materials Development Specialist	Michael S. Bishop	Training Module Production	0.92	0.92
	Richard Evans	Training Module Production	3.03	3.03
	Zhiagaraja	Training Module Production	1.00	1.00
	Ir. Abdul Rahman Saenang	Training Module Production	0.50	3.00
Core Instructors	Johnny Manoch	Teaching and Materials Revision	15.50	15.50
	Philos Soedharso		15.50	15.50
	Asep Nugroho		7.64	7.65
Computer Training	Jacob's Computer	Computer Training	10.00	10.00
	Kharisma Computer			
Laboratory Equipment Inventory	Ir. H. A. Rahman Madawali	Inventory Laboratory Equipment	1.20	1.20
Translators and Draftsperson	Moertiyoso	Translating Training Modules	16.00	24.00
	Soekarno			
	Munir			
	Ahmad			
	Amir			
	Hasanuddin			
	Yiyik Fasriani Hamiruddin	Construction Supervision Modules	0.50	

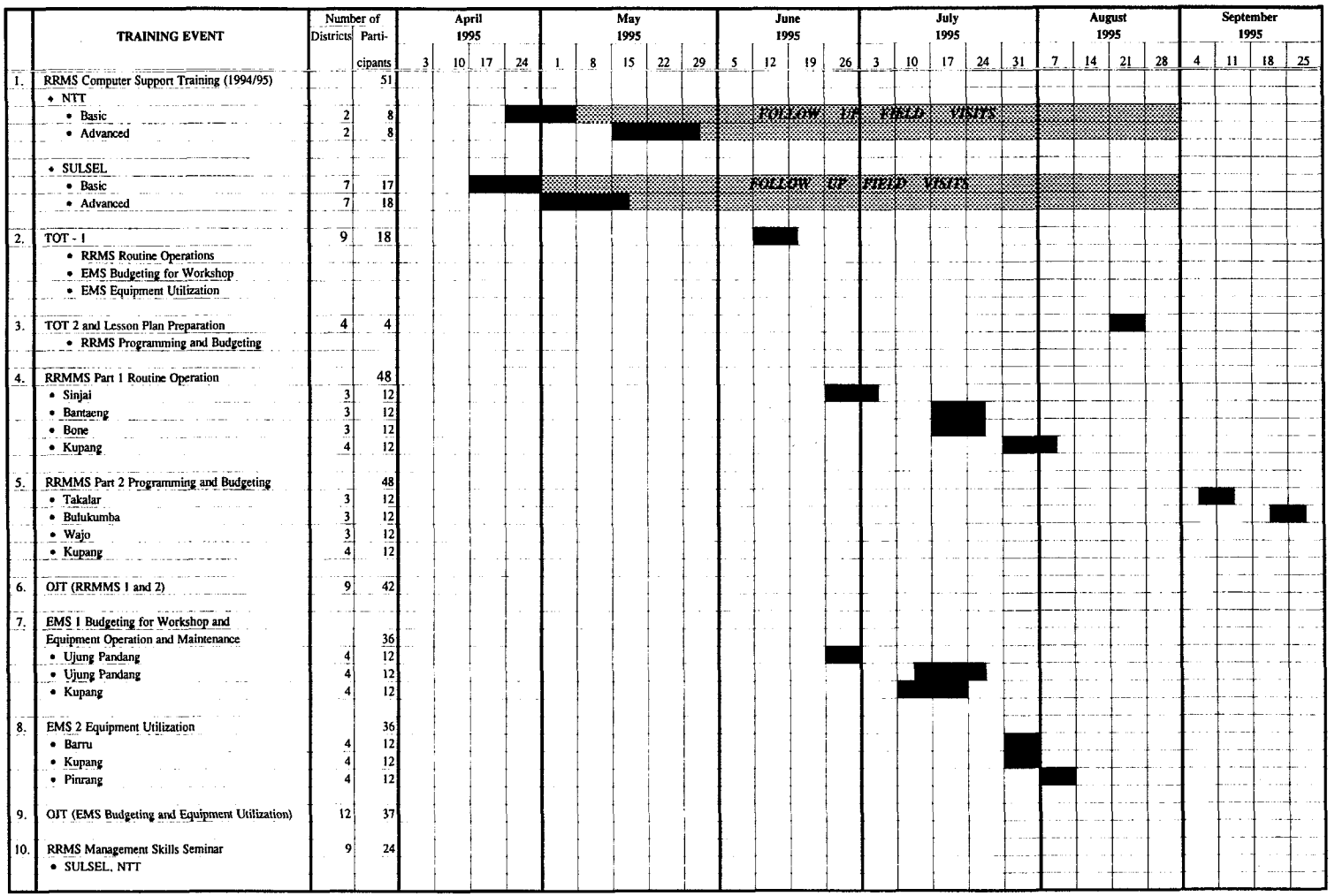
6.2 RRMS Training Program Schedules

IFY 1994/95 RRMS Training Program Schedule
July 1, 1994 - September 30, 1994

	TRAINING ACTIVITY	Number of Districts	Number of Participants
1.	° **Hydraulics**		56
	• Sinjai	8	15
	• Sinjai	7	13
	• Takalar	8	18
	• Kupang	4	10
2.	° **Engines**		61
	• Barru	6	17
	• Pinrang	8	18
	• Takalar	8	16
	• Kupang	4	10
3.	° **Electrical**		56
	• Bone	9	17
	• Bone	7	12
	• Jeneponto	8	17
	• Belu	4	10

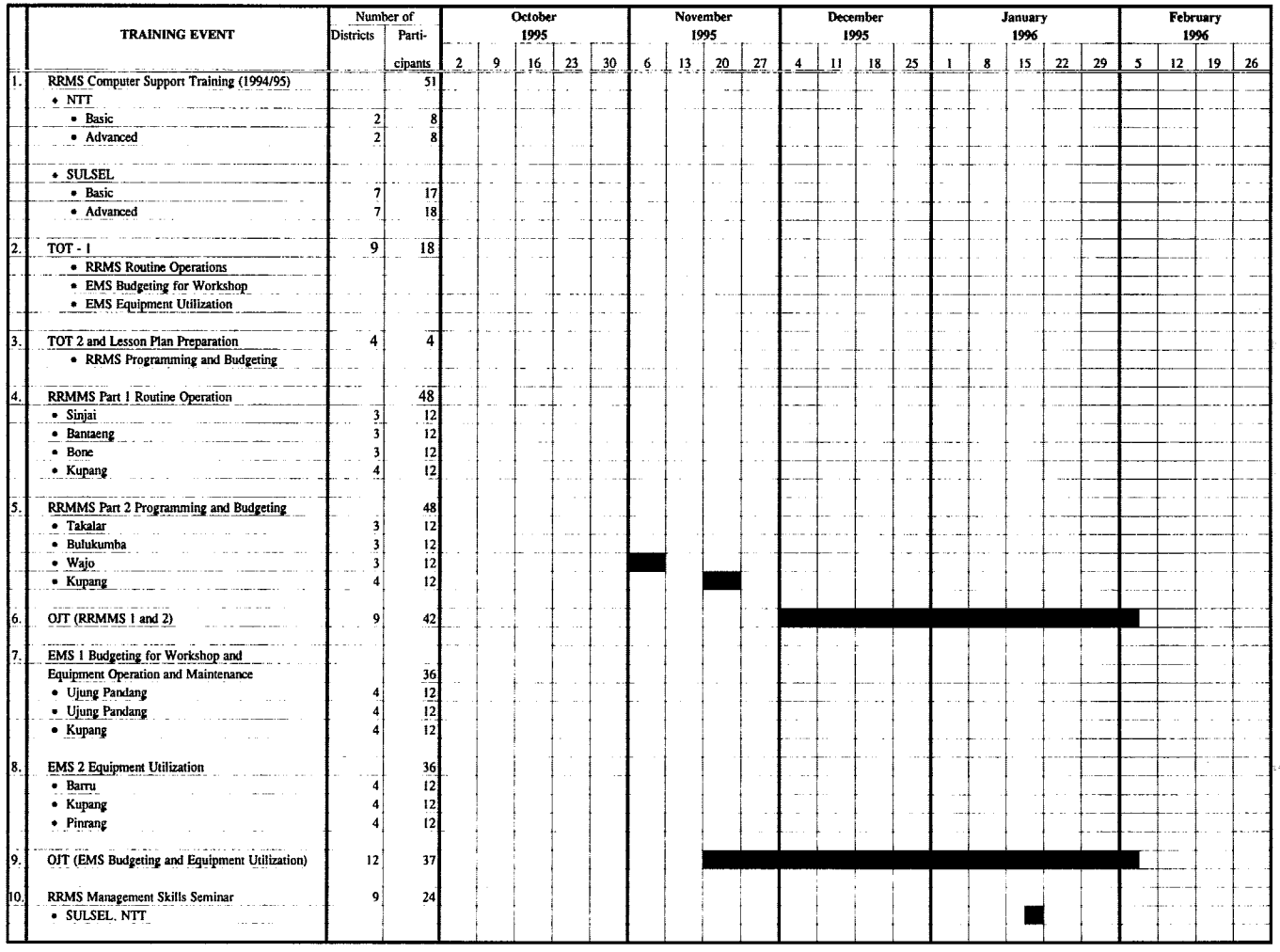


IFY 1995/96 RRMS Training Program Schedule
April 1, 1995 - February 29, 1996



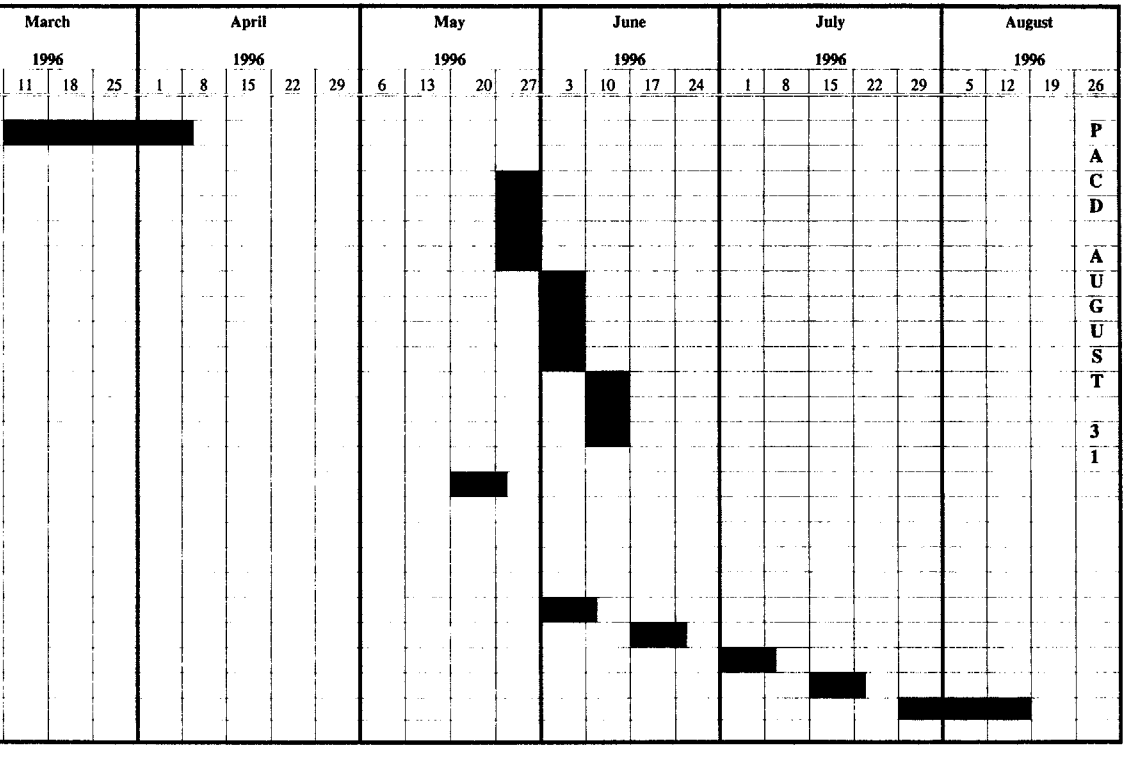
IFY 1995/96 RRMS Training Program Schedule
April 1, 1995 - February 29, 1996

	TRAINING EVENT	Number of Districts	Number of Participants
1.	RRMS Computer Support Training (1994/95)		51
	• NTT		
	• Basic	2	8
	• Advanced	2	8
	• SULSEL		
	• Basic	7	17
	• Advanced	7	18
2.	TOT - 1	9	18
	• RRMS Routine Operations		
	• EMS Budgeting for Workshop		
	• EMS Equipment Utilization		
3.	TOT 2 and Lesson Plan Preparation	4	4
	• RRMS Programming and Budgeting		
4.	RRMMS Part 1 Routine Operation		48
	• Sinjai	3	12
	• Bantaeng	3	12
	• Bone	3	12
	• Kupang	4	12
5.	RRMMS Part 2 Programming and Budgeting		48
	• Takalar	3	12
	• Bulukumba	3	12
	• Wajo	3	12
	• Kupang	4	12
6.	OJT (RRMMS 1 and 2)	9	42
7.	EMS 1 Budgeting for Workshop and Equipment Operation and Maintenance		36
	• Ujung Pandang	4	12
	• Ujung Pandang	4	12
	• Kupang	4	12
8.	EMS 2 Equipment Utilization		36
	• Barru	4	12
	• Kupang	4	12
	• Pinrang	4	12
9.	OJT (EMS Budgeting and Equipment Utilization)	12	37
10.	RRMS Management Skills Seminar	9	24
	• SULSEL. NTT		



1995/96 RRMS Project Extension Training Program Schedule
March 1 - August 31, 1996

	TRAINING ACTIVITY	Number of District	Number of Participants
1.	**Laboratory Practices**		
	◦ Course Implementation in Bandung	11	31
	◦ OJT and Laboratory Installation		27
	• Takalar	1	3
	• Jeneponto	1	3
	• Bantaeng	1	1
	• Bulukumba	1	3
	• Sinjai	1	3
	• Bone	1	3
	• Wajo	1	1
	• Sidrap	1	3
	• Pinrang	1	1
	• Kupang	1	3
	• Belu	1	3
2.	**Training of Trainers (TOT)**	9	9
	(FOR CONSTRUCTION SUPERVISION)		
3.	**Construction Supervision**		
	◦ Course Development		61
	• Sinjai	3	15
	• Bantaeng	3	15
	• Pinrang	3	15
	• Kupang	4	16
	◦ On-the-Job Training		20



6.3 Specifications for RRMS Training Modules

MINISTRY OF HOME AFFAIRS
DIRECTORATE GENERAL
OF REGIONAL DEVELOPMENT

UNITED STATES AGENCY
FOR INTERNATIONAL DEVELOPMENT

RURAL ROADS MAINTENANCE SYSTEMS: TRAINING PROGRAM PHASE II

SPECIFICATIONS FOR RRMS TRAINING MODULES

COMPILED FOR RRMS
BY COMPUTER ASSISTED DEVELOPMENT, Inc.

August, 1994

SPECIFICATION FOR RRMS TRAINING MODULES

CONTENTS

SPECIFICATIONS FOR RRMS TRAINING MODULES

1. Definition and General Description

A training module is a self-sufficient unit containing all the necessary materials - objectives, instructor's guide, technical information and exercises - required to impart a set of skills and knowledge associated with a particular job or selected work tasks.

Modules are derived from a needs analysis. A job is first analyzed. Tasks or groups of tasks in which employees require training are then identified and these become the basis of a training module.

A training module may be used in total, in part, and/or combination with other modules as a training course to meet specific training needs. The intention of such modules is to promote consistent, well-organized training implementation, and at the same time to allow for flexibility and adaptability in the composition of training.

2. Purpose

The purpose of a training module is to describe in detail the contents and objectives of the training and the means and processes by which is should be implemented.

RRMS modules also specifically seek to transfer technology more effectively to management-level, Ministry of Public Works' (Kabupaten level) staff members. Although the basic concepts and principles have general value, their applications are directed toward RRMS institutionalization. Through this approach trainees (participants) are provided with practical, relevant examples which adds motivation for learning and contributes directly to their professional growth. They also will be able to carry out their management function with practical experience from the field.

3. Composition and Contents of a Module

RRMS modules contain the following elements:

1. Introduction
2. User's Guide
3. Overview - course description
4. Instructor Profile
5. Trainee Profile
6. Syllabus - Course Outline and Schedule

7. Training Plan
   - Objectives
   - Learning Strategies/Activities
   - Resources
8. Instructional Materials
   - Technical Information
   - Learning Aids:diagrams, charts, graphs, formulae, exercises, and problem solving activities, answer sheets, etc.
9. Reference, Tools, and Equipment List
10. Evaluation Checklist - Trainee Progress
11. Course Evaluation Form

Each item will now be discussed separately.

3.1 Introduction

Each module begins with a general Introduction. This introduction will define for the instructor and trainee what a 'module' is, and also discuss its purpose. The introduction will also show where the module fits into the overall training program.

3.2 User's Guide

The User's Guide briefly outlines the contents of the module (Introduction, Training Plan, Evaluation Check List, etc.), the rationale for each section, and makes suggestions to the instructor how each section should be used.

3.3 Overview

The overview briefly describes for the instructor and trainee the broad objectives of the module and the technical skills and knowledge/theory the module seeks to impart.

3.4 Instructor Profile

Each module has been designed to be taught or facilitated by an instructor. The Instructor Profile offers recommendations for selecting appropriate instructors to implement training. It should be noted that this profile recommends only 'minimum' qualifications. It is also assumed that instructors have previously occupied a position related to the module, but may not now be in that position.

42

3.5 Trainee Profile

The Trainee Profile establishes prerequisites for trainee/participant selection. Trainee profiles differ from module to module. It is not expected that a single trainee would complete all modules. Workshop Chief would not, for example, be expected to attend the module on highway design. Modules are, therefore, of varying difficulty depending on the target population and the topics covered.

3.6 Syllabus - Course Outline and Schedule

A Syllabus or content outline is included to present a logical sequence and time schedule for training.

3.7 Training Plan

The Training Plan is the central focus of the module. It presents the training objectives, learning strategies and activities and needed resources. The objectives are stated in terms of what the trainee (participant) is to be able to do by the end of the training. The learning strategies/activities describe what needs to be done (provide information, practice exercises, etc.) in order for the trainee to accomplish the objectives. It is well to note here that learning activities are frequently interspersed in the training sequence to encourage learning by doing. For each learning step (strategy or activity) one or more resources are generally listed as an aid to the instructor to carry out his task. These resources are keyed to technical information, learning aids, reference material and/or tools and equipment.

3.8 Instructional Materials

Instructional Materials include the technical information and learning aids - diagrams, charts, exercises, answer keys - referred to in the Training Plan under the heading 'Resources'. All prepared handouts, worksheets. etc. are contained in this section. These handouts are keyed to the learning strategies outlined in the Training Plan. If the learning step, for example, is 1.1, the related technical information or learning aid will be 1.1.1, 1.1.2, 1.1.3, etc. depending on the number of items required for that step.

Technical information and learning aids handouts are intermixed and not separated out from each other. This is done for the convenience of the trainee, since he may often need information contained in a technical information sheet in order to complete an exercise in a learning out handout. Answer sheets for exercises are only contained in the instructor's version of the module and will be handed out after assignments are complete. A single page listing all technical information and learning aids handouts introduces this section. This listing includes the number of the sheet, for example, 1.1.2, 1.1.3, etc., the sheet's title, and if appropriate, its source.

3.9 Reference, Tools and Equipment List

References are materials which cannot be contained within the module due to their size, availability, relevance to a specific area or situation. The Reference List is found just after the Instructional Materials Section and will be useful to the Instructor for locating other materials, data or tolls and equipment required to carry out a certain learning step. Obviously, when tools and/or equipment or special materials are required the instructor must take prior arrangements to acquire them so they are available at the appropriate time without delay. This means the instructor must always look ahead to plan several hours, days or weeks in advance for successful implementation of the training program.

3.10 Evaluation Check List (Trainee Progress)

The Evaluation Check List for Trainee Progress is directly related to the course objectives contained in the Training Plan. These objectives, remember, state what the trainee will be able to do upon completion of training. This Check List should be used throughout the training period to record current progress during the learning activities. If certain trainees are not making sufficient progress, they can be given additional help before it is too late. The instructor should never be satisfied with the trainees' progress until each item is completed on the check list. attempted simply means a need for more assistance, if possible, from the instructor or from a successful trainee. The Evaluation Check List may become an official record of achievement for the trainee with appropriate signatures.

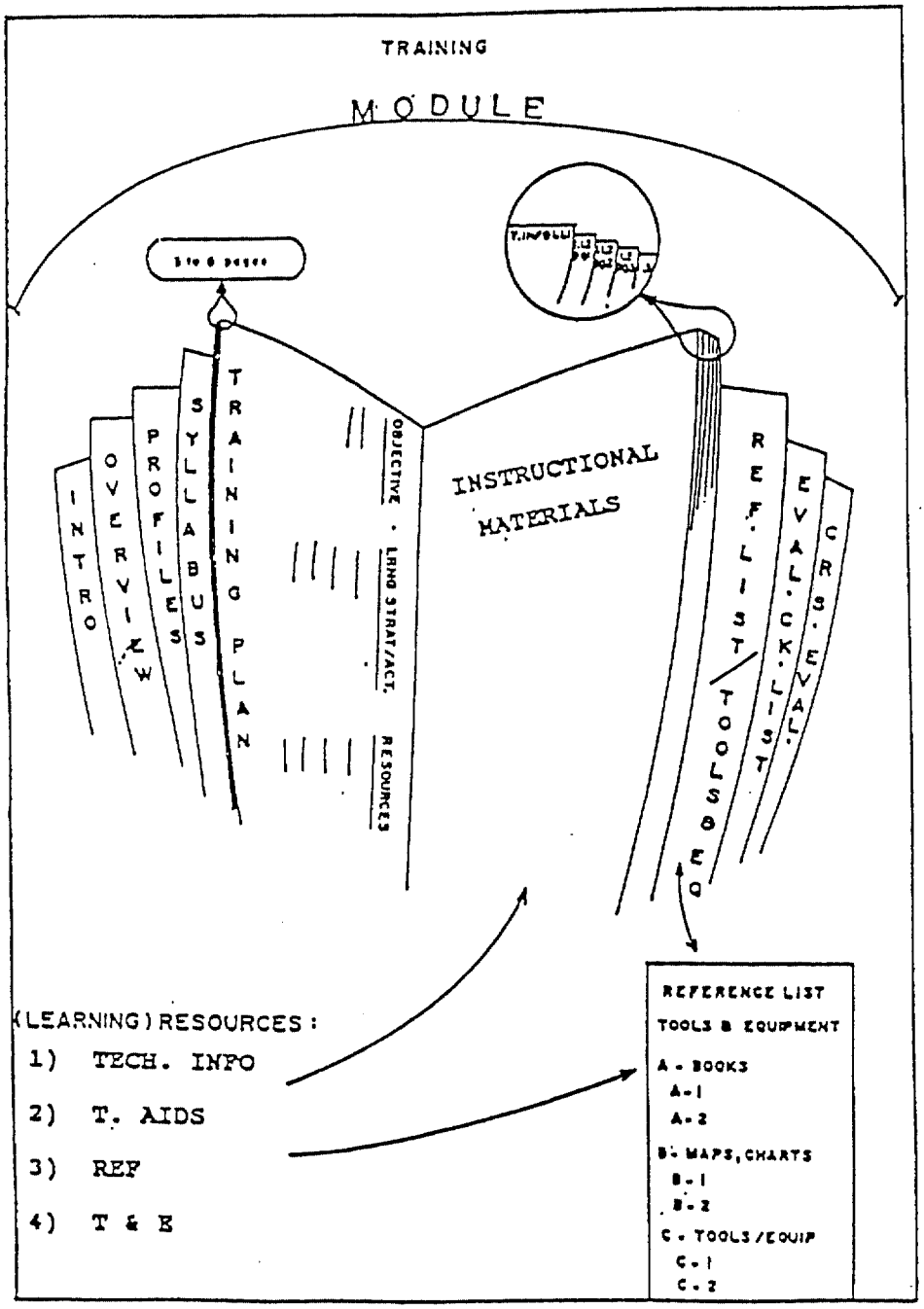
3.11 Training Course Evaluation

The Training Course Evaluation form is to be completed at the end of the training period by each trainee. It is very important to receive candid, truthful responses in order to make improvements needed in the training. Therefore, the form must be completed anonymously to avoid any possibility of personal reprisal. This form is an informal attempt at determining training adjustments which might otherwise go unnoticed. It will also give the trainer some indication how well the training was received.

4. Schematic of Module Components

Module components are schematized and summarized in figure #1 on page 5.

Figure #1: Schematic of Module Components



6.4 RRMS Training Program Summaries

Summary of IFY 1994/95 RRMS Training Program

COURSE	LOCATION	PARTICIPATING DISTRICTS	DATE	NO. OF PARTICIPANTS
Hydraulics	Sinjai	- Pinrang	July 20-September 1, 1994	2
		- Bulukumba		1
		- Sinjai		2
		- Bone		2
		- Barru		2
		- Tana Toraja		2
		- Enrekang		2
		- Wajo		2
				15
	Sinjai	- Soppeng	July 25-September 6, 1994	2
		- Sinjai		2
		- Sidrap		2
		- Bantaeng		2
		- Luwu		2
		- Pangkep		2
		- Bulukumba		1
				13
	Takalar	- Takalar	July 27-September 8, 1994	4
		- Jeneponto		2
		- Ujung Pandang		2
		- Gowa		2
		- Polmas		2
		- Maros		2
		- Mamuju		2
		- Majene		2
				18
	Kupang	- Kupang	July 20-September 1, 1994	4
		- Belu		2
		- TTS		2
		- TTU		2
				10
Subtotal				56

Summary of IFY 1994/95 RRMS Training Program (continued)

COURSE	LOCATION	PARTICIPATING DISTRICTS	DATE	NO. OF PARTICIPANTS
Engines	Barru	- Barru	August 1-September 13, 1994	8
		- Ujung Pandang		2
		- Maros		1
		- Gowa		2
		- Luwu		2
		- Pangkep		2
				17
	Pinrang	- Pinrang	August 9-September 21, 1994	4
		- Tana Toraja		2
		- Enrekang		2
		- Soppeng		2
		- Sidrap		2
		- Polmas		2
		- Mamuju		2
		- Majene		2
				18
	Bulukumba	- Takalar	August 11-September 23, 1994	2
		- Jeneponto		2
		- Bulukumba		4
		- Sinjai		2
		- Bone		2
		- Wajo		2
		- Selayar		1
		- Bantaeng		1
				16
	Kupang	- Kupang	August 15-September 27, 1994	4
		- Belu		2
		- TTS		2
		- TTU		2
				10
Subtotal				61

Summary of IFY 1994/95 RRMS Training Program (continued)

COURSE	LOCATION	PARTICIPATING DISTRICTS	DATE	NO. OF PARTICIPANTS
Electrical	Bone	- Pinrang	August 4-September	2
		- Bulukumba	16 , 1994	2
		- Sinjai		1
		- Bone		3
		- Barru		2
		- Tana Toraja		2
		- Enrekang		2
		- Luwu		1
		- Soppeng		2
				17
	Bone	- Wajo	August 8-September	2
		- Polmas	20, 1994	2
		- Selayar		1
		- Bone		2
		- Bantaeng		2
		- Pangkep		2
		- Sinjai		1
				12
	Jeneponto	- Takalar	August 10-	2
		- Jeneponto	September 22, 1994	4
		- Ujung Pandang		2
		- Gowa		2
		- Sidrap		2
		- Maros		1
		- Mamuju		2
		- Majene		2
				17
	Belu	- Kupang	August 1-September	2
		- Belu	13, 1994	4
		- TTS		2
		- TTU		2
				10
		Subtotal		56
		TOTAL PARTICIPANT THROUGH PUT FOR THE 1994/95 RRMS TRAINING PROGRAM		173

Summary of IFY 1995/96 RRMS Training Program

COURSE	LOCATION	PARTICIPATING DISTRICTS	DATE	NO. OF PARTICIPANTS
RRMS Computer Support Training				
(1) Basic	Ujung Pandang	Takalar, Jeneponto, Bulukumba, Sinjai, Bone, Sidrap, Pinrang, Kupang, Belu	April 17-28, 1995	17
	Kupang		April 24-May 5, 1995	8
(2) Advanced	Ujung Pandang	Takalar, Jeneponto, Bulukumba, Sinjai, Bone, Sidrap, Pinrang, Kupang, Belu	May 2-May 18, 1995	18
	Kupang		May 1-June 2, 1995	8
				51
TOT 1	Ujung Pandang	Takalar, Jeneponto, Bulukumba, Sinjai, Bone, Sidrap, Pinrang, Kupang, Belu	June 12-22, 1995	18
TOT 2	Ujung Pandang	Takalar, Bulukumba, Wajo, Belu	August 21-26, 1995	4
				22
RRMMS 1	Sinjai	Wajo, Bulukumba, Sinjai	June 26-July 5, 1995	12
	Bantaeng	Takalar, Jeneponto, Bantaeng	July 17-27, 1995	12
	Bone	Pinrang, Sidrap, Bone	July 18-28, 1995	12
	Kupang	Belu, TTS, TTU, Kupang	July 31-August 10, 1995	12
				48
RRMMS 2	Takalar	Bulukumba, Wajo, Sinjai	September 6-13, 1995	12
	Bulukumba	Bone, Sinjai, Bulukumba	September 20-25, 1995	12
	Wajo	Pinrang, Sidrap, Wajo	November 6-13, 1995	12
	Kupang	Belu, Kupang, TTS, TTU	November 20 -28, 1995	12
				48
Subtotal				169

Summary of 1995/96 RRMS Training Program (continued)

COURSE	LOCATION	PARTICIPATING DISTRICTS	DATE	NO. OF PARTICIPANTS
OJT (RRMMS 1 and 2)	Takalar	Takalar	December 4-7, 1995	5
	Pinrang	Pinrang	December 4-7, 1995	4
	Jeneponto	Jeneponto	December 11-14, 1995	5
	Sidrap	Sidrap	December 11-14, 1995	4
	Wajo	Wajo	January 22-25, 1996	4
	Bantaeng	Bantaeng	January 22-25, 1996	5
	Bone	Bone	January 29-February 1, 1996	6
	Sinjai	Sinjai	January 29-February 1, 1996	6
	Bulukumba	Bulukumba	February 5-8, 1996	3
				42
EMS 1	Ujung Pandang	Takalar, Jeneponto, Bulukumba, Sinjai	June 26-30, 1995	12
	Ujung Pandang	Pinrang, Bone, Barru, Sidarap	July 12-27, 1995	12
	Kupang	Kupang, TTS, TTU, Belu	July 10-24, 1995	12
				36
EMS 2	Barru	Barru, Takalar, Jeneponto, Bulukumba	July 31-August 4, 1995	12
	Kupang	Kupang, TTS, TTU, Belu	July 31-August 4, 1995	12
	Pinrang	Pinrang, Sinjai, Sidrap, Bone	August 8 - 12, 1995	12
				36
Subtotal				114

Summary of IFY 1995/96 RRMS Training Program (continued)

COURSE	LOCATION	PARTICIPATING DISTRICTS	DATE	NO. OF PARTICIPANTS
OJT (EMS 1 and 2)	Kupang	Kupang	November 20-22, 1995	2
	Soe	Soe	November 23-25, 1995	2
	Kefamenanu	Kefamenanu	November 22-24, 1995	2
	Belu	Belu	November 20-22, 1995	4
	Takalar	Takalar	December 4-7, 1995	3
	Pinrang	Pinrang	December 4-7, 1995	4
	Jeneponto	Jeneponto	December 7-8, 1995	3
	Sidrap	Sidrap	December 11-14, 1995	4
	Bulukumba	Bulukumba	December 11-13, 1995	3
	Barru	Barru	December 18-21, 1995	4
	Sinjai	Sinjai	January 29-February 1, 1996	3
	Bone	Bone	February 5-8, 1996	3
				37
Management Skill Seminar	Takalar, Jeneponto, Bulukumba, Sinjai, Bone, Sidrap, Pinrang, Kupang, Belu, Bandung	Takalar, Jeneponto, Bulukumba, Sinjai, Bone, Sidrap, Pinrang, Kupang, Belu, Bandung	January 16-18, 1996	24
		Subtotal		61
		TOTAL PARTICIPANT THROUGH PUT FOR THE 1995/96 RRMS TRAINING PROGRAM		344

Summary of the IFY 1995/96 Project Extension Training Program

COURSE	LOCATION	PARTICIPATING DISTRICTS	DATE	NO. OF PARTICIPANTS
Laboratory Practices				
(1) Formal Course	Bandung	Sinjai, Bulukumba, Jeneponto, Takalar, Bone, Pinrang, Sidrap, Kupang, Belu, Wajo, Bantaeng	March 11-April 9, 1996	31
(2) OJT	Bandung	Sinjai, Bulukumba, Jeneponto, Takalar, Bone, Pinrang, Sidrap, Kupang, Belu, Wajo, Bantaeng	May 27-June 14, 1996	27
TOT for Construction Supervision	Ujung Pandang	Wajo, Bantaeng, Jeneponto, Takalar, Bone, Pinrang, Sidrap, Kupang, Belu	May 20-29, 1996	9
Construction Supervision				
(1) Formal Courses	Sinjai	Sinjai, Bulukumba, Wajo	June 3-11, 1996	15 15
	Bantaeng	Bantaeng, Jeneponto, Takalar	June 17-25, 1996	15
	Pinrang	Pinrang, Bone, Sidrap	July 1-9, 1996	16
	Kupang	Kupang, Belu, TTS, TTU	July 15-23, 1996	20
(2) OJT	Kupang, Belu, TTU, TTS	Kupang, Belu, TTU, TTS	July 29-August 16, 1996	2
TMES (Version 2)	Jakarta	Jakarta	July 17-18, 1996	
		TOTAL PARTICIPANT THROUGH PUT FOR THE 1995/96 RRMS PROJECT EXTENSION TRAINING PROGRAM		150
		GRAND TOTAL (July 1994-August 1996)		667

6.5 List of Participants Enrolled in RRMS Training Formal Courses

LIST OF COURSE PARTICIPANTS - IFY 1994/95

COURSE TITLE : HYDRAULICS
LOCATION : TAKALAR
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	IR. ANWAR	580.019.082	UJUNG PANDANG
2.	ARMAN SYAFRI, BE	110.013.176	UJUNG PANDANG
3.	AMIRUDDIN		GOWA
4.	AMIRUDDIN S.		GOWA
5.	MUH. DJAFAR	010.217.533	TAKALAR
6.	RANGKA	580.021.681	TAKALAR
7.	ABDUL RAZAK	580.013.659	TAKALAR
8.	ADI POERNOMO	580.016.926	TAKALAR
9.	MARTONO	580.020.470	MAMUJU
10.	KAPALENG	580.018.636	MAMUJU
11.	RAMLI		MAJENE
12.	SYAFRUDDIN		MAJENE
13.	MAKMUR WAHID	580.009.511	MAROS
14.	M. AMIR		MAROS
15.	SYAHRI WAHAB	580.021.215	POLEWALI MAMASA
16.	DG. SIRADJA	010.121.120	POLEWALI MAMASA
17.	HANAFI		JENEPONTO
18.	SUNAWIR LAHO		JENEPONTO

COURSE TITLE : HYDRAULICS
LOCATION : SINJAI A (first)
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	AMIRUDDIN	580.019.521	SINJAI
2.	SYAHRUDDIN		SINJAI
3.	BAHARUDDIN		BONE
4.	FAISAL MAHMUD		BONE
5.	AMRAN D.		PINRANG
6.	RAMLI		PINRANG
7.	BAHARUDDIN	580.019.216	ENREKANG
8.	ABDUL LATIF		ENREKANG
9.	YAKOBUS SULLE	580.021.560	TANA TORAJA
10.	LUKAS MAILI	580.013.423	TANA TORAJA
11.	M. WARIS USMAN		WAJO
12.	ARSYAD TUTU	580.015.222	WAJO
13.	M. YUSUF	580.017.301	BULUKUMBA
14.	SYAHWAN BE.	580.015.373	BARRU
15.	MUH. RUM HARIS	580.013.668	BARRU

COURSE TITLE : HYDRAULICS
LOCATION : SINJAI B (Second)
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	M. ARSYAD HASAN	101.097.540	SOPPENG
2.	SUHARTA		SOPPENG
3.	TAMRAN	580.021.507	BULUKUMBA
4.	AHMAD SAKIR		BANTAENG
5.	SANGKALA	580.014.741	BANTAENG
6.	MUHAMMAD ILYAS		PANGKEP
7.	MANNYANG		PANGKEP
8.	M. ARIF		SINJAI
9.	MANYIRUDDIN		SINJAI
10.	RUDIANTO	580.022.581	SIDRAP
11.	M. ARIFUDDIN		SIDRAP
12.	LADINAR NASRUL, BE	101.103.698	LUWU
13.	ABDULLAH	580.021.539	LUWU

COURSE TITLE : HYDRAULICS
LOCATION : KUPANG
PROVINCE : EAST NUSA TENGGARA

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	JONATAS LINA	620.017.069	BELU
2.	HERI BERTUS MAU	620.024.442	BELU
3.	Y. PAUSOBE	620.010.466	TIMOR TENGAH UTARA
4.	P. SIANIPAR	620.018.322	TIMOR TENGAH UTARA
5.	Y.E. KASEH	620.023.106	TIMOR TENGAH SELATAN
6.	H. BALAN	010.224.353	TIMOR TENGAH SELATAN
7.	SOEHARTO	620.011.063	KUPANG
8.	WELIEM NJOLA	620.017.951	KUPANG
9.	MUSA DIRA THOME	620.014.990	KUPANG
10.	A.P. HENDRIK	620.021.285	KUPANG

COURSE TITLE : ELECTRICAL
LOCATION : BELU
PROVINCE : NUSA TENGGARA TIMUR

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	ELIAS E. NENOBESI	620.021.699	TIMOR TENGAH SELATAN
2.	YEFTA YAN	620.021.699	TIMOR TENGAH SELATAN
3.	OLYMPAS RANOH		KUPANG
4.	WELLEM RIWO	620.020.675	KUPANG
5.	JACOB ABRAHAM NATU	620.016.544	TIMOR TENGAH UTARA
6.	NDUN YOHANES	620.022.218	TIMOR TENGAH UTARA
7.	SERAN PAULUS	620.020.774	BELU
8.	PRIMUS KLAU KEHIK	620.023.251	BELU
9.	AGUSTINUS TANESIB	620.024.340	BELU
10.	ADY PRIBADI		BELU

COURSE TITLE : ELECTRICAL
LOCATION : BONE A (First)
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	M. YUSRI		SINJAI
2.	SUNAR	580.013.657	LUWU
3.	MARTHEN T.		PINRANG
4.	HASRI	010.243.143	ENREKANG
5.	PAJUMAN, Bsc	580.020.849	ENREKANG
6.	YENENG USMAN	580.013.611	BULUKUMBA
7.	IDRIS B.	580.021.926	BULUKUMBA
8.	PAULUAS BALATTAN	580.022.270	TANA TORAJA
9.	YOSEP SAKKUNG	580.020.527	TANA TORAJA
10.	HASBULLAH		BONE
11.	KANEBO YUSTARI		BONE
12.	NUSKAN SARIF		BONE
13.	ABDUL KARIM L.	580.009.110	SOPPENG
14.	FARIDE MADE	580.012.982	SOPPENG
15.	HARYANTO	580.022.099	BARRU
16.	SYAMSU	580.016.099	BARRU
17.	NARTO		PINRANG

COURSE TITLE : ELECTRICAL
LOCATION : BONE B (Second)
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	ABDUL KAHAR	580.015.187	PANGKEP
2.	SYARIFUDDIN		PANGKEP
3.	M. KASIM	010.215.149	POLEWALI MAMASA
4.	M. HASIB		POLEWALI MAMASA
5.	SAMPARA		BANTAENG
6.	PAKKI	580.016.287	BANTAENG
7.	MAULLERE		BONE
8.	A. AMIRUDDIN		BONE
9.	BASIR		WAJO
10.	ZAKKAR		WAJO
11.	LUBIS	580.019.133	SINJAI
12.	SALAMA		SELAYAR

COURSE TITLE : ELECTRICAL
LOCATION : JENEPONTO
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	MUHAMMAD NAJIR	580.021.892	TAKALAR
2.	MUHAMMAD ISSA		TAKALAR
3.	MUHAMMAD ANAS	580.015.254	MAMUJU
4.	SAENONG P.	580.007.146	MAMUJU
5.	ALIMUDDIN	580.020.372	GOWA
6.	TAJUDDIN		GOWA
7.	HAERUDDIN	580.016.103	MAJENE
8.	ABDUH	010.088.622	MAJENE
9.	IR. HAMZAH PALILI		SIDRAP
10.	KASMAN		SIDRAP
11.	AG. MANGGAUKANG	580.019.961	UJUNG PANDANG
12.	SYARIFUDDIN		UJUNG PANDANG
13.	M. BASIR	580.009.110	JENEPONTO
14.	M. JABIR LAHO	580.012.982	JENEPONTO
15.	KAMARUDDIN	580.022.099	JENEPONTO
16.	ANWAR P.	580.016.099	JENEPONTO
17.	MAKKA KULLE	580.010.588	MAROS

COURSE TITLE : ENGINES
LOCATION : PINRANG
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	SIMON MINGGOE, BE	010.088.546	PINRANG
2.	IR. AKHMAD LAUPE	010.213.596	PINRANG
3.	MUHAMMAD ANWAR		PINRANG
4.	ABDUL RASYID S.		PINRANG
5.	RUBEN BALA	580.015.253	TANA TORAJA
6.	MATIUS LOBO	580.017.328	TANA TORAJA
7.	MUHAMMAD ALIK	010.088.539	ENREKANG
8.	MACHMUD S.	580.019.473	ENREKANG
9.	M. HATTA MAENONG	580.009.151	SOPPENG
10.	UMAR		SOPPENG
11.	NAJAMUDDIN IBRAHIM	580.011.937	POLEWALI MAMASA
12.	TISWAN	580.019.389	POLEWALI MAMASA
13.	NAJAMUDDIN	580.018.968	MAMUJU
14.	LA. SEMANG D.	580.005.966	MAMUJU
15.	MUHAMMAD ALI	580.019.225	MAJENE
16.	HARNID		MAJENE
17.	ANDI NATSIR	580.015.269	SIDRAP
18.	BUHARI		SIDRAP

COURSE TITLE : ENGINES
LOCATION : BULUKUMBA
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	SUPARDING		BONE
2.	AMIRUDDIN H.		BONE
3.	SYARIFUDDIN		SINJAI
4.	ISMAIL	580.021.888	TAKALAR
5.	ALIMUDDIN	580.013.754	TAKALAR
6.	M. RUSLI	580.016.853	WAJO
7.	NASRI		WAJO
8.	SAHARUDDIN		JENEPONTO
9.	BAHARUDDIN P.		JENEPONTO
10.	SURIYADI Z.	580.015.107	BANTAENG
11.	SYAMSIR	580.019.229	BULUKUMBA
12.	M. ALI M.	580.013.666	BULUKUMBA
13.	ZAINAL ABIDIN	580.011.849	BULUKUMBA
14.	ABDUL RAJAB		SELAYAR
15.	ANWAR WAHID	010.219.090	SINJAI
16.	MAKMUR M.	580.011.953	BULUKUMBA

COURSE TITLE : ENGINES
LOCATION : BARRU
PROVINCE : SOUTH SULAWESI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	RAMLI		PANGKEP
2.	ABDUL RAHMAN NUR		PANGKEP
3.	M. SUDDIN	580.020.001	LUWU
4.	SYARIFUDDIN	580.019.341	LUWU
5.	SANGKALA		UJUNG PANDANG
6.	MUH. ARIS		UJUNG PANDANG
7.	SANUSI SAKKA		MAROS
8.	IR. A. BUSRI DIDI	580.020.215	GOWA
9.	SURYADI		GOWA
10.	YERID KONDO, BE	580.014.144	BARRU
11.	SYAHWAN, BE	580.015.373	BARRU
12.	MUHAMMAD HARIS	580.013.668	BARRU
13.	A. ABBAS AKSA, Bsc	580.021.229	BARRU
14.	ALAMSYAH. DS		BARRU
15.	BAKRI L.		BARRU
16.	AMIRUDDIN	580.018.969	BARRU
17.	MAKMUR	580.019.436	BARRU

COURSE TITLE : ENGINES
LOCATION : KUPANG
PROVINCE : EAST NUSA TENGGARA

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	TITUS BANOLA	010.203.860	
2.	DEMATRIUS A.O. RADJA	620.023.689	
3.	MA. ANTONIUS	620.022.141	BELU
4.	MARSELINUS BHIA	620.023.960	BELU
5.	FRANS NEOBENY	620.018.303	
6.	MARTHEN L. DETHAN	620.014.982	KUPANG
7.	MONANG PARDEDE	620.017.644	
8.	ROBERTH SEDA		
9.	MUSA DIRA THOME	620.014.990	KUPANG
10.	WELLEM NJOLA	620.017.951	KUPANG

LIST OF COURSE PARTICIPANTS - IFY 1995/96

COURSE : RRMMS 1
COURSE TITLE : ROUTINE OPERATIONS I
LOCATION : SINJAI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	SUPRATMAN	110.047.957	BULUKUMBA
2.	ANDI MOLLA	580.005.841	BULUKUMBA
3.	MUH. RAMLI		BULUKUMBA
4.	ZOOL HIDAYAT		BULUKUMBA
5.	ABD. MUIN R.	580.005.243	WAJO
6.	M. BASRI	580.013.618	WAJO
7.	A. M. ODANG	580.240.205	WAJO
8.	RUSDIANTO	580.021.205	WAJO
9.	M. AMIR P.	010.088.142	SINJAI
10.	HUMRAN	580.020.783	SINJAI
11.	A. HARUN	010.088.686	SINJAI
12.	ISKANDAR NUR	508.014.513	SINJAI

COURSE : RRMMS 1
COURSE TITLE : ROUTINE OPERATIONS I
LOCATION : BANTAENG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	MANSYUR	010.088.635	TAKALAR
2.	ABD. MUIN	580.015.260	TAKALAR
3.	BONTOJAI	580.017.931	TAKALAR
4.	SULTAN	580.017.213	TAKALAR
5.	YUPI YUDDIN		JENEPONTO
6.	BUDI TAUFIK	580.021.463	JENEPONTO
7.	MUSTAR. S	580.022.080	JENEPONTO
8.	ABDUL PATTA	580.015.375	JENEPONTO
9.	ARSYAD B.	580.021.798	BANTAENG
10.	HAMKA A. MAKSUD	580.009.169	BANTAENG
11.	M U S A	010.097.551	BANTAENG
12.	M. ARIFIN	508.017.805	BANTAENG

COURSE : RRMMS 1
COURSE TITLE : ROUTINE OPERATIONS I
LOCATION : BONE

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	SYAMSU ALAM	580.020.543	BONE
2.	B. DG. MATTERU	580.004.916	BONE
3.	JUNEDHY	580.020.305	BONE
4.	ANDI BAHRAM	580.018.233	BONE
5.	MUSTAMIN	580.013.844	SIDRAP
6.	SYAMSUDDIN	580.017.397	SIDRAP
7.	AKHMAT PAITA		SIDRAP
8.	RUKMAN		SIDRAP
9.	HERCULES	101.169.319	PINRANG
10.	ABD. RASYID	580.014.565	PINRANG
11.	ABD. HABIB	010.095.838	PINRANG
12.	SALIDA	010.109.650	PINRANG

COURSE : RRMMS 1
COURSE TITLE : ROUTINE OPERATIONS I
LOCATION : KUPANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	FL. DANIEL	620.016.818	KUPANG
2.	MM SINE	620.016.120	KUPANG
3.	H. BALUKH	620.020.368	KUPANG
4.	A. SAEK	620.020.685	KUPANG
5.	A. BRIA SERAN	620.011.803	BELU
6.	PAULUS LINA	620.008.539	BELU
7.	MICHAEL SUDA	620.014.946	BELU
8.	BLASIUS M. META	620.023.151	BELU
9.	A.E. DENGGA	620.016.648	TIMOR TENGAH SELATAN
10.	B. ALUMPAH	620.024.430	TIMOR TENGAH SELATAN
11.	HERIODO	620.020.408	TIMOR TENGAH UTARA
12.	ANTON D. SANBEIN	620.020.816	TIMOR TENGAH UTARA

COURSE : RRMMS 2
COURSE TITLE : PROGRAMMING & BUDGETING
LOCATION : TAKALAR

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	SUPRATMAN	110.047.957	BULUKUMBA
2.	ANDI MOLLA	580.005.841	BULUKUMBA
3.	MUH. RAMLI		BULUKUMBA
4.	ZOOL HIDAYAT		BULUKUMBA
5.	ABD. MUIN R.	580.005.243	WAJO
6.	M. BASRI	580.013.618	WAJO
7.	A. M. ODANG	580.240.205	WAJO
8.	RUSDIANTO	580.021.205	WAJO
9.	M. AMIR P.	010.088.142	SINJAI
10.	HUMRAN	580.020.783	SINJAI
11.	A. HARUN	010.088.686	SINJAI
12.	ISKANDAR NUR	508.014.513	SINJAI

COURSE : RRMMS 2
COURSE TITLE : PROGRAMMING & BUDGETING
LOCATION : BULUKUMBA

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	M. AMIR P.	010.088.142	SINJAI
2.	HUMRAN	580.020.783	SINJAI
3.	A. HARUN	010.088.686	SINJAI
4.	ISKANDAR NUR	508.014.513	SINJAI
5.	SYAMSU ALAM	580.020.543	BONE
6.	B. DG. MATTERU	580.004.916	BONE
7.	JUNEDHY	580.020.305	BONE
8.	ANDI BAHRAM	580.018.233	BONE
9.	SUPRATMAN	110.047.957	BULUKUMBA
10.	ANDI MOLLA	580.005.841	BULUKUMBA
11.	MUH. RAMLI		BULUKUMBA
12.	ZOOL HIDAYAT		BULUKUMBA

COURSE : RRMMS 2
COURSE TITLE : PROGRAMMING & BUDGETING
LOCATION : WAJO

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	HERCULES	101.169.319	PINRANG
2.	ABD. RASYID	580.014.565	PINRANG
3.	ABD. HABIB	010.095.838	PINRANG
4.	SALIDA	010.109.650	PINRANG
5.	MUSTAMIN	580.013.844	SIDRAP
6.	SYAMSUDDIN	580.017.397	SIDRAP
7.	AKHMAT PAITA		SIDRAP
8.	RUKMAN		SIDRAP
9.	ABD. MUIN R.	580.005.243	WAJO
10.	M. BASRI	580.013.618	WAJO
11.	A. M. ODANG	580.240.205	WAJO
12.	RUSDIANTO	580.021.205	WAJO

COURSE : RRMMS 2
COURSE TITLE : PROGRAMMING & BUDGETING
LOCATION : KUPANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	FL. DANIEL	620.016.818	KUPANG
2.	MM SINE	620.016.120	KUPANG
3.	H. BALUKH	620.020.368	KUPANG
4.	A. SAEK	620.020.685	KUPANG
5.	A. WIDI		BELU
6.	PAULUS LINA	620.008.539	BELU
7.	MICHAEL SUDA	620.014.946	BELU
8.	BLASIUS M. META	620.023.151	BELU
9.	A.E. DENGGA	620.016.648	TIMOR TENGAH SELATAN
10.	A. TANEO	620.018.181	TIMOR TENGAH SELATAN
11.	S. ZUHRI	620.022.737	TIMOR TENGAH UTARA
12.	B. BANI	620.020.624	TIMOR TENGAH UTARA

COURSE : EMS 1
COURSE TITLE : BUDGETING FOR WORKSHOP EQUIPMENT AND MAINTENANCE
LOCATION : UJUNG PANDANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	MUHAMMAD RUM	580.013.668	BARRU
2.	SYAMSU	580.016.099	BARRU
3.	MUH. SAYUTI	580.022.912	BARRU
4.	M. YASIN YUSUF	010.088.864	SIDRAP
5.	RUDIYANTO	580.022.581	SIDRAP
6.	LADOLLAH		SIDRAP
7.	ZAINUDDIN		BONE
8.	M. JAFAR NGANRO	580.004.915	BONE
9.	S A M A D	580.020.018	BONE
10.	J. M. AMIRUDDIN	580.007.202	PINRANG
11.	IR. SABIR ALI		PINRANG
12.	RAMLI		PINRANG

COURSE : EMS 1
COURSE TITLE : BUDGETING FOR WORKSHOP EQUIPMENT AND MAINTENANCE
LOCATION : UJUNG PANDANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	KAMARUDDIN	580.013.626	TAKALAR
2.	MUH. DJAFAR	010.217.533	TAKALAR
3.	RANGKA	580.021.681	TAKALAR
4.	M. BASIR	580.013.617	JENEPONTO
5.	SAFIUDDIN	580.018.499	JENEPONTO
6.	SAHARUDDIN	580.021.462	JENEPONTO
7.	MUCHLIS RAUF	010.085.892	BULUKUMBA
8.	MUH. YUSUF	580.017.301	BULUKUMBA
9.	MAKMUR M.	580.011.953	BULUKUMBA
10.	ANWAR WAHID	010.219.090	SINJAI
11.	SYAHRUDDIN	580.013.769	SINJAI
12.	ARIF		SINJAI

COURSE : EMS 1
COURSE TITLE : BUDGETING FOR WORKSHOP EQUIPMENT AND MAINTENANCE
LOCATION : KUPANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	SOEHARTO	620.011.062	KUPANG
2.	DJIBRAEL DJAMI	620.014.983	KUPANG
3.	WELLEM NYOLA	620.017.915	KUPANG
4.	A. HUSIN	620.018.217	KUPANG
5.	KEHI THEODORUS	620.016.707	BELU
6.	MA. ANTONIUS	620.022.141	BELU
7.	HERIBERTUS MAU	620.024.442	BELU
8.	JESUA P. ADOE	620.024.777	BELU
9.	N. OTTO	620.006.316	TIMOR TENGAH SELATAN
10.	J. LODO	620.016.556	TIMOR TENGAH SELATAN
11.	YOHANIS NDUN	620.022.216	TIMOR TENGAH UTARA
12.	FRANS SETTU	620.023.452	TIMOR TENGAH UTARA

COURSE : EMS 2
COURSE TITLE : EQUIPMENT UTILIZATION
LOCATION : BARRU

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	KAMARUDDIN	580.013.626	TAKALAR
2.	MUH. DJAFAR	010.217.533	TAKALAR
3.	RANGKA	580.021.681	TAKALAR
4.	M. BASIR	580.013.617	JENEPONTO
5.	SAFIUDDIN	580.018.499	JENEPONTO
6.	SAHARUDDIN	580.021.462	JENEPONTO
7.	MUCHLIS RAUF	010.085.892	BULUKUMBA
8.	MUH. YUSUF	580.017.301	BULUKUMBA
9.	MAKMUR M.	580.011.953	BULUKUMBA
10.	MUHAMMAD RUM	580.013.668	BARRU
11.	SYAMSU	580.016.099	BARRU
12.	MUH. SAYUTI	580.022.912	BARRU

COURSE : EMS 2
COURSE TITLE : EQUIPMENT UTILIZATION
LOCATION : PINRANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	J.M AMIRUDDIN	580.007.202	PINRANG
2.	IR. SABIR ALI		PINRANG
3.	RAMLI		PINRANG
4.	ZAINUDDIN		BONE
5.	M. JAFAR NGANRO	580.004.915	BONE
6.	S A MA D	580.020.018	BONE
7.	ANWAR WAHID	010.219.090	SINJAI
8.	SYAHRUDDIN	580.013.769	SINJAI
9.	ARIF		SINJAI
10.	ANDI NATSIR		SIDRAP
11.	RUDIYANTO	580.022.581	SIDRAP
12.	LADOLLAH		SIDRAP

COURSE : EMS 2
COURSE TITLE : EQUIPMENT UTILIZATION
LOCATION : KUPANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	SOEHARTO	620.011.062	KUPANG
2.	DJIBRAEL DJAMI	620.014.983	KUPANG
3.	WELLEM NYOLA	620.017.915	KUPANG
4.	A. HUSIN	620.018.217	KUPANG
5.	KEHI THEODORUS	620.016.707	BELU
6.	MA. ANTONIUS	620.022.141	BELU
7.	HERIBERTUS MAU	620.024.442	BELU
8.	JESUA P. ADOE	620.024.777	BELU
9.	N. OTTO	620.006.316	TIMOR TENGAH SELATAN
10.	J. LODO	620.016.556	TIMOR TENGAH SELATAN
11.	YOHANIS NDUN	620.022.216	TIMOR TENGAH UTARA
12.	FRANS SETTU	620.023.452	TIMOR TENGAH UTARA

COURSE TITLE : CONSTRUCTION SUPERVISION
LOCATION : SINJAI

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	HASANUDDIN	580.013.597	SINJAI
2.	M. AMIR P.	010.088.692	SINJAI
3.	HUMRAN	580.020.783	SINJAI
4.	ISKANDAR NUR	580.014.513	SINJAI
5.	LUBIS	580.019.133	SINJAI
6.	SUPRATMAN	110.047.957	BULUKUMBA
7.	HAMJAH	580.017.567	BULUKUMBA
8.	JAMIL DAHLAN	580.017.860	BULUKUMBA
9.	A. ARIFUDDIN	580.019.977	BULUKUMBA
10.	NATSIR ZAINAL	010.218.986	BULUKUMBA
11.	M. BASRI	580.013.618	WAJO
12.	SYAFRIL PATIROI	580.013.635	WAJO
13.	PATEDDUNGI	010.089.170	WAJO
14.	NURDIN S.	010.088.620	WAJO
15.	NANA YUDIANA	110.049.173	WAJO

COURSE TITLE : CONSTRUCTION SUPERVISION
LOCATION : BANTAENG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	ABD. RAHMAN	010.088.694	TAKALAR
2.	ABD. MUIN	580.015.260	TAKALAR
3.	EDDY POERNOMO	580.016.926	TAKALAR
4.	ABD. HARIS	580.020.437	TAKALAR
5.	MUH. SUAIB KAWANG	580.022.602	TAKALAR
6.	MUSTAMU		JENEPONTO
7.	BUDI TAUFIK	580.021.463	JENEPONTO
8.	MUSTAR	580.022.080	JENEPONTO
9.	YUPI YUDDIN		JENEPONTO
10.	YOS ALEXANDER	580.020.839	JENEPONTO
11.	SYAKRIM	580.014.889	BANTAENG
12.	ARIFIN S.	580.017.805	BANTAENG
13.	MUSA	010.097.551	BANTAENG
14.	MAKMUR	580.014.974	BANTAENG
15.	HAMKA A. MAKSUD	580.009.169	BANTAENG

COURSE TITLE : CONSTRUCTION SUPERVISION
LOCATION : PINRANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	ABD. HABIB	010.095.838	PINRANG
2.	HERKULES	010.189.319	PINRANG
3.	HERMAN T.	580.016.058	PINRANG
4.	BAHTIAR	580.015.986	PINRANG
5.	YUNUS	580.018.735	PINRANG
6.	TAJUDDIN	010.088.630	BONE
7.	A. SYAMSUL ALAM	580.020.543	BONE
8.	SUDARSONO		BONE
9.	SYAMSUL BAHRI	580.018.125	BONE
10.	A. BACHTIAR	010.154.631	BONE
11.	SYAMSUDDIN U.	580.017.397	SIDRAP
12.	MUSTAMIN J.	580.013.644	SIDRAP
13.	RUKMAN L.		SIDRAP
14.	ACHMAD PAITA		SIDRAP
15.	IDHAN LAMBONG		SIDRAP

COURSE TITLE : CONSTRUCTION SUPERVISI ON
LOCATION : KUPANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	ARMIS SAIK		KUPANG
2.	M.M. SINE		KUPANG
3.	A. FERNANDES		KUPANG
4.	KASMI GON		KUPANG
5.	FREDDY GABUR		KUPANG
6.	GEDION K.		BELU
7.	FRANS ASA		BELU
8.	MARSEL SERAN		BELU
9.	CARLOS AMARAL		BELU
10.	YONAS NAIBUTI		BELU
11.	JIMY LALU	620.017.030	TIMOR TENGAH UTARA
12.	A.D. SANBEIN	620.020.815	TIMOR TENGAH UTARA
13.	JOS NESI	620.021.652	TIMOR TENGAH UTARA
14.	M. TAIMENAS	620.011.405	TIMOR TENGAH SELATAN
15.	A.E. DENGGA	620.016.648	TIMOR TENGAH SELATAN
16.	N.Z. BOYMAU	620.008.432	TIMOR TENGAH SELATAN

COURSE TITLE : TOT FOR CONSTRUCTION SUPERVISION
LOCATION : UJUNG PANDANG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	MOH. TRANGGONO	110.043.371	TAKALAR
2.	M. NASRUN B.		JENEPONTO
3.	ARSYAD BORAHIMA	580.021.798	BANTAENG
4.	HARSID YARHAM	580.017.688	SINJAI
5.	JAFAR SAIMI	010.219.239	BULUKUMBA
6.	KAMARUDDIN	580.013.990	BONE
7.	ACHMAD DACHLAN	580.017.467	SIDRAP
8.	SALIDA	010.109.630	PINRANG
9.	A. BRIA SERAN		BELU

COURSE TITLE : LABORATORY PRACTICES
LOCATION : BANDUNG

NO.	PARTICIPANT NAME	GOVERNMENT EMPLOYEE NUMBER	DISTRICT
1.	M. NASSER PARAWANSA	010.239.778	BPPP SULSEL
2.	SYAMSUDDIN	110.034.899	BPPP SULSEL
3.	MANSYUR	010.088.635	TAKALAR
4.	BONTOJAI	580.017.931	TAKALAR
5.	MUH. NAJIR	580.021.892	TAKALAR
6.	H. ABD. MALIK	580.012.595	JENEPONTO
7.	SYAMSUL BAHRI	580.016.548	JENEPONTO
8.	ABIDIN ALI		JENEPONTO
9.	AM. ICHSAN	580.021.892	BULUKUMBA
10.	ZOOL HIDAYAT	580.019.256	BULUKUMBA
11.	IDRIS B.	580.032.926	BULUKUMBA
12.	NORMAH	110.047.952	SINJAI
13.	ANWAR WAHID	010.219.090	SINJAI
14.	MISBAHUNISA	580.022.690	SINJAI
15.	A. BAHRAM	580.018.233	BONE
16.	ILHAM		BONE
17.	SAKTI		BONE
18.	MUH. YAMIN		SIDRAP
19.	ABD. RASAK		SIDRAP
20.	AMIN SAFEI		SIDRAP
21.	SALIDA	010.109.630	PINRANG
22.	ARSYAD B.	080.021.798	BANTAENG
23.	PATTEDUNGI	010.089.170	WAJO
24.	HEBRON F.	620.018.416	BPP NTT
25.	ELSA E.L		BPP NTT
26.	BAMBANG KUSNO		KUPANG
27.	ERENS RAJA		KUPANG
28.	ZACHARIAS SA'U		KUPANG
29.	MATHIAS BRIA		BELU
30.	ALFRIDUS BAUK		BELU
31.	NIKOLAS NURAK		BELU

6.6 Project Tasks Accomplished

FIRST CONTRACT PERIOD, MARCH 30, 1994 - AUGUST 31, 1995

The tasks listed below fall into two categories: (1) core tasks from the Task Statement of the contract and (2) additional tasks, not originally included in the Task Statement, but later requested by USAID.

Tasks

Task # 1	**Design IFY 1994/95 Workplan**
Accomplishments	CADI's 1994/95 workplan was developed and submitted to USAID in May 1994.

Task # 2	**Develop Training Modules and Time Schedule**
Accomplishments	The CADI training team, working in conjunction with STV/Lyon produced the following seven RRMS training modules: (1) Introduction (2) Activities and Standards (3) Work Scheduling (4) Work Control (5) Work Report Preparation (6) Condition and Feature Inventories (7) Work Program and Budget The CADI training team, working in conjunction with two CADI short-term specialists, Richard Evans and late Michael Bishop, produced the following three EMS training modules: (1) Equipment Utilization (2) Budgeting for Workshop and Equipment (3) Unit Swadana Planning and Operations

Task # 2 (continued)	Develop RRMS Training Modules and Time Schedule
	Training of Trainers Course materials, originally produced for MPW by the Institutional Development and Training Project (IDTP), were revised and reworked by the CADI training team. The following seven TOT modules were produced: (1) Training Principles (2) Lectures (3) Questioning (4) Demonstrations (5) Selecting Exercises (6) Using Exercises (7) How to Make a Lesson Plan

Task # 3	Develop Potential Participant List
Accomplishments	A list of DPUK staff, eligible for RRMS training, was developed by the CADI training team before the start of the IFY 1995/96 Training Program.

Task # 4	**Translate and Disseminate Manuals**
Accomplishments	It was decided in meetings with USAID that it was not CADI's responsibility to translate and disseminate STV/Lyon technical manuals. This is not a training function. Rather CADI would produce training modules, based on STV/Lyon manuals, and translate and disseminate them. The following modules (See Task 2 above) were translated, edited, and pilot-tested as part of the IFY 1995/96 Training Program: <u>Rural Roads Maintenance and Management System</u> (1) Introduction *(Pendahuluan)* (2) Activities and Standard *(Kegiatan dan Standar)* (3) Work Scheduling *(Penjadwalan Pekerjaan)* (4) Work Report Preparation *(Pelaporan Pekerjaan)* (5) Work Program and Budget *(Rencana Kerja dan Anggaran)* (6) Work Control *(Pengendalian Pekerjaan)* (7) Condition and Feature Inventories *(Inventarisasi Kondisi dan Permukaan Jalan)* <u>Equipment Maintenance System</u> (1) Equipment Utilization *(Penggunaan Peralatan)* (2) Budgeting for Workshop and Utilization *(Penganggaran untuk Workshop dan Peralatan)* (3) Unit Swadana Planning and Operations *(Perencanaan dan Pengoperasian Unit Swadana)* was translated and edited, but not pilot-tested. <u>Pelatihan Tenaga Pelatih</u> (1) Training Principles *(Prinsip-prinsip Pelatihan)* (2) Lectures *(Ceramah)* (3) Questioning *(Pertanyaan)* (4) Demonstration *(Peragaan)* (5) Selecting Exercises *(Memilih Latihan)* (6) Using Exercises *(Penggunaan Latihan)* (7) How To Make A Lesson Plan *(Membuat Rencana Pelajaran)* Dissemination of these materials to USAID, BANGDA, DPUKs and other parties took place during the second and third contract periods. (See Task #7, second contract period.)

Task # 5	Develop a Training Monitoring System
Accomplishments	CADI developed the Training Monitoring and Evaluation System (TMES) and presented it to USAID and BANGDA in August/September, 1995. Additional work on this task was also carried out subsequently (See Task 5, second contract period).

Task # 6	Develop a Standardized "Two-way" Evaluation System
Accomplishments	Evaluation forms for RRMMS and EMS courses were developed and were pilot-tested during the implementation of IFY 1995/96 Training Program.

Task # 7	Develop Assessment Format and Certificates
Accomplishments	The CADI training team began developing a series of multiple-choice testing instruments for RRMMS and EMS training modules. Tests were pilot-tested and completed during IFY 1995/96 (See Task #8, second contract period.) The CADI training team did not develop official certificates, since these can only be issued by BANGDA.

Task # 8	Conduct IFY 1993/94 Training Program
Accomplishments	This task was completed by BANGDA in July - October, 1993 before mobilization of the CADI training team.

Task # 9	Conduct Training of Trainers (TOT) Program
Accomplishments	Two TOT courses were implemented during this contract period. The first was implemented in June 12-17 and the second in August 28 - September 2, 1995. A total of 22 district instructors were trained.

Task # 10	Conduct Mentor Training
Accomplishments	It was agreed by USAID and CADI that this task would not be carried out and that the number of TOT participants would be increased from 8 to 25.

Task # 11	Monitor Long-Term Training
Accomplishments	The majority of DPUK staff participating in long-term RRMS training had completed their course work by the time USAID-CADI signed the contract on March 30, 1994.

Task # 12	Conduct Management Skills Course
Accomplishments	LETMI was selected to develop the Project Management Skills Seminar for DPUK chiefs and senior managers. The LETMI seminar was implemented during IFY 1995/96. (See Task #9, second contract period.)

Task # 13	Purchase Training Materials
Accomplishments	A survey of commercially available training materials for rural road maintenance and management system indicated that they were not appropriate to the project needs.

Task # 14	Identify Districts in Timor Timur
Accomplishments	USAID and CADI agreed that the Project would not expand training activities into East Timor.

Task # 15	Design IFY 1994/95 Training Program
Accomplishments	The CADI training team assisted BANGDA in designing the IFY 1994/1995 RRMS Training Program. CADI's impact on the program was limited due to the March 30 start date of the USAID-CADI contract.

Task # 16	Develop IFY 1994/95 Training Program Budget Proposal
Accomplishments	CADI worked with BANGDA PIU to produce the IFY 1994/95 RRMS Training Program Budget. This budget, together with the IFY 1994/95 Training Program was submitted to USAID by BANGDA in July 1994.

Task # 17	Develop/Modify Training Modules
Accomplishments	During this contract period, a total of 17 modules were developed: seven RRMMS modules, three EMS modules, and seven TOT modules (See Task #2 for more details).

Task # 18	Conduct IFY 1994/95 Training Program
Accomplishments	The IFY 1994/95 RRMS Training Program was carried out by BANGDA and monitored by the CADI training team. The 1994/95 RRMS Training Program Monitoring and Evaluation Report produced by the CADI training team in the fourth quarter of calendar year 1994, was formally submitted to USAID in January 1995.

Additional Tasks for the First Contract Period

Task # 19	Carry Out a DPUK Training Needs Assessment
Accomplishments	A training needs analysis was carried out in the 3rd and 4th quarter of 1994. The RRMS Training Needs Analysis Report was produced in the 4th quarter 1994 and was formally submitted to USAID in January 1995. An Indonesian summary of the report, Laporan Penilaian Kebutuhan Pelatihan, was also produced and distributed to the nine project districts.

Task # 20	Develop IFY 1995/96 Training Program
Accomplishments	The IFY 1995/96 RRMS Training Program, which was based on the DPUK training needs analysis, was developed and formally submitted to USAID by BANGDA in March 1995.

Task # 21	Develop IFY 1995/96 Training Program Budget Proposal
Accomplishments	The 1995/96 Training Program Budget was developed by the CADI training team and the BANGDA PIU and was formally submitted together with the 1995/96 Training Program to USAID by BANGDA in March 1995.

Task # 22	Implement IFY 1995/96 Training Program
Accomplishments	The CADI training team, in conjunction with the BANGDA PIU, began implementation of the IFY 1995/96 RRMS Training Program during this contract period. During the time period of April 1 through August 31, 1995 the following courses were implemented: two Training of Trainers (TOT) courses, three RRMMS 1: Routine Operation courses, four RRMMS, three EMS Budgeting for Workshop and Equipment courses, and three EMS Equipment Utilization courses. A total of 142 DPUK staff members attended the formal classroom courses.

Task # 23	Implement Computer Support Training for DPUK Staff
Accomplishments	Kharisma Computer in Ujung Pandang and Jacob's Computer in Kupang were contracted to develop and conduct computer support training for DPUK staff. Computer support training was implemented in April and May 1995. A total of 51 staff members were trained. The classroom instruction was followed up with field visits by the contracted parties to the DPUKs.

SECOND CONTRACT PERIOD (THE NINE-MONTH PROJECT EXTENSION), SEPTEMBER 1, 1995 - MAY 31, 1996

The tasks for this contract period were:

(1) Six new tasks (as listed in the project extension document),
(2) Three carry-over tasks from the first contract period, and
(3) Two additional tasks requested by USAID.

New Tasks (as listed in the nine-month extension contract)

Task # 1	**Complete Implementation of IFY 1995/96 RRMS Training Program**
Accomplishments	The CADI Training team and BANGDA PIU implemented the IFY 1995/96 RRMS Training Program. The four RRMMS 2 Programming and Budgeting courses were implemented in September through November 1995. Twenty-one RRMMS and EMS OJT training sessions were also implemented between October 1995 and February 1996. Seventy-nine DPUK personnel participated in the OJT training program.

Task # 2	**Evaluate and Revise IFY 1995/96 Training Program and Materials**
Accomplishments	CADI instructors revised seven RRMMS training modules and two EMS modules. One of the CADI training team member also evaluated and revised the TOT course.

Task # 3	**Produce Additional RRMS Training Modules**
Accomplishments	A Laboratory Practices course was developed by PUSLITBANG. In February 1995, CADI short-term specialist inventoried laboratory equipment in the seven South Sulawesi project districts. The information obtained from this inventory was used to design the Laboratory Practices course syllabus and determine the types of tests to be used. Two CADI core instructors, working in conjunction with a short-term specialist, developed the Construction Supervision course with three training modules.

Task # 4	**Introduce and Initiate the Establishment of the RRMS Training Delivery and Management System**
Accomplishments	CADI started work on a set of recommendations for institutionalizing the RRMS training program within a governmental Diklat. These recommendations were completed during the next contract period. (See Task # 4, third contract period.)

Task # 5	**Introduce a Training Management Information System**
Accomplishments	CADI developed a revised version of the TMES. This revised version allows the TMES to be linked with the TMIS database developed by KRMTP.

Task # 6	**Integrate and Coordinate RRMS Activities with IBRD Rural Roads Training Activities**
Accomplishments	One of CADI's principal tasks during the second contract period was to coordinate its training activities and work closely with KRMTP. The purpose of this coordination was to avoid duplication of effort. It is also hoped that the KRMTP project might adopt RRMS systems and ultimately contribute to their institutionalization. In meetings with KRMTP staff it was decided that CADI would develop a laboratory practices course and turn over these training materials to KRMTP for incorporation into its training program. KRMTP would reciprocate by giving CADI its work supervision module to produce a new construction supervision course, which would be implemented during the 1995/96 Project Extension Training Program. As per these agreements, PUSLITBANG, in conjunction with CADI, produced the Laboratory Practices course and CADI developed a Construction Supervision For Field Inspectors course. These training materials were subsequently turned over to the KRMTP. In addition to these training materials, CADI also provided KRMTP with its RRMMS and EMS course materials.

Carry-over Tasks

Task # 7	Disseminate RRMS Training Materials
Accomplishments	The seven RRMMS modules were officially submitted to USAID, BANGDA, and KRMTP on March 18, 1996. EMS modules were submitted to USAID, BANGDA, and KRMTP in May 1996. RRMMS and EMS modules were disseminated to the nine project districts in August 1996.

Task # 8	Develop Assessment Format and Certificate
Accomplishments	The CADI training team completed development of multiple-choice testing instruments for RRMMS and EMS training modules.

Task # 9	Conduct Management Skills Seminar
Accomplishments	The Management Skills Seminar was held in Bandung January 16-18, 1996. The three-day seminar was developed and implemented by the LETMI at the Bandung Institute of Technology. Twenty-four DPUK staff and provincial personnel from South Sulawesi and NTT attended the seminar. The Management Skills module, developed for the seminar, was revised in February and officially submitted to BANGDA on March 7, 1996.

Additional Tasks

Task # 10	Design IFY 1995/96 RRMS Project Extension Training Program and Budget
Accomplishments	The IFY 1995/96 RRMS Project Extension Training Program and Budget were produced and submitted to USAID by BANGDA in November 1995. The training plan called for the implementation of the following three courses: (1) Laboratory Practices, (2) TOT for Construction Supervision Instructors, and (3) Construction Supervision For Field Inspectors.

Task # 11	**Implement IFY 1995/96 Project Extension Training Program**
Accomplishments	The Laboratory Practices formal course was implemented by PUSLITBANG personnel in Bandung March 11 - April 9, 1996. Twenty-seven participants from the nine project districts in South Sulawesi and NTT plus Wajo and Bantaeng and an additional four participants from provincial agencies attended. The TOT for Construction Supervision Instructors was implemented May 20 - 29, 1995. The Construction Supervision course was implemented during the next extension period. (See Task #1, third contract period.)

THIRD CONTRACT PERIOD (THE THREE-MONTH PROJECT EXTENSION), JUNE 1, 1996 - AUGUST 31, 1996

The six tasks for this third contract period were all carry-over tasks from the second contract period.

Carry-over Tasks

Task #1	**Implement the Modified IFY 1995/1996 RRMS Training Program**
Accomplishments	The CADI training team in conjunction with BANGDA PIU completed implementation of the 1995/1996 Project Extension Training Program on August 31, 1996. The Construction Supervision For Field Inspectors course was implemented four times during the three-month extension in 1996: (1) June 3-11, Sinjai (2) June 17-25, Bantaeng (3) July 1-9, Pinrang (4) July 15-23, Kupang Sixty-one DPUK staff members attended the formal classroom construction supervision course. The OJT training component of the Construction Supervision course was conducted July 29 through August 16, 1996.

Task #2	**Evaluate and Revise Modified IFY 1995/1996 RRMS Training Program and Materials**
Accomplishments	The TOT course materials were revised and submitted to USAID on July 30, 1996. The Construction Supervision For Field Inspectors course was also revised, and the revised course materials were submitted to USAID on August 29, 1996. The Laboratory Practices course was produced by PUSLITBANG and the course materials were not revised by CADI.

Task #3	**Produce Additional RRMS Training Modules**
Accomplishments	CADI did not produce additional training modules during the three-month contract extension, since it would take approximately six additional months to produce each module; this time frame exceeded the August 31, 1996 PACD. Instead CADI pilot-tested and revised the Construction Supervision For Field Inspectors course. This course contains the following six modules: (1) Contract Specifications (2) Methods of Construction Supervision (3) Construction Supervision Preparation (4) Quality Control Supervision (5) Payments and Reporting (6) Works Completion As of August 31, 1996, CADI produced a total of 12 formal courses with twenty-nine training modules and assorted training materials.

Task #4	**Introduce and Initiate the Establishment of an RRMS Training Delivery and Management Systems**
Accomplishments	CADI has initiated steps to institutionalize the RRMS Training Program in Badan Diklat Bina Marga, MPW through KRMTP. All RRMS training materials have been turned over to KRMTP. The EMS training materials have the greatest chance of being institutionalized there. CADI and KRMTP also cooperated on the development of a Construction Supervision Course for Field Inspectors and these materials could be implemented into Bina Marga's Training Plan. The fate of RRMMS training materials ultimately hinges on the fate of the RRMMS system itself and whether or not it achieves national acceptance. The Unit Swadana course will be used by the KEWMI project to disseminate the Unit Swadana system. CADI did not try to set up rural roads training system outside of or in competition with Bina Marga's kabupaten roads improvement training program. The CADI training team felt such an approach would prove counter productive and unacceptable to Bina Marga. The institutionalization of RRMS training will ultimately be advanced by working with MPW, not against it.

Task #5	**Introduce a Training Management Information System and Conduct a Management Skills Seminar**
Accomplishments	CADI has developed the TMES using the MapInfo 4 for Windows software. The TMES is the mapping component for the TMIS developed by KRMTP. The software program enables the user to present graphically on a map of Indonesia training related data. Such a visual display is likely to appeal to decision makers, as they can get in a glance a general overview of project progress without having to analyze in detail a number of tables. The TMES software program has been installed on a computer in the BANGDA Pusat office and the KRMTP office in Jakarta. An Indonesian TMES user's manual has been produced and two staff members in the office of the Project Manager at BANGDA have been trained in the use of both the TMES and the TMIS software programs. The Management Skills Seminar was implemented on January 16-18, 1996 (See Task #9, Second Contract Period).

Task #6	**Integrate and Coordinate RRMS Activities with IBRD Rural Roads Training Activities**
Accomplishments	CADI has: (1) turned over the STV/Lyon's system guidelines (RRMMS and EMS) to KRMTP, (2) provided KRMTP copies of all the training materials developed to support these systems, (3) submitted a set of training materials for the Laboratory Practices course to KRMTP, (4) revised the KRMTP's Construction Supervision Course For Field Inspectors, (5) assisted KRMTP on the production of their TMIS, and (6) installed a copy of CADI's TMES on their computer.

6.7 List of CADI Reports and Training Materials

LIST OF CADI REPORTS AND TRAINING MATERIALS

Title	Date
April Monthly Report	May 1994
May Monthly Report	June 1994
June Monthly Report	July 1994
Quarterly Report (April-June, 1994)	July 1994
July Monthly Report	August 1994
Proposed Extension for The Rural Roads Maintenance Systems Training Program Phase II Project	August 1994
Specifications for RRMS Training Modules	August 1994
August Monthly Report	September 1994
EMS Module: Unit Swadana Planning and Operations	September 1994
Rural Roads Maintenance Management Systems: An Introduction	September 1994
September Monthly Report	October 1994
Semi-Annual Report (April-September, 1994)	November 1994
October Monthly Report	October 1994
EMS Module: Budgeting for Workshop and Equipment	December 1994
November Monthly Report	December 1994
RRMMS Modules (1) Introduction (2) Activities and Standards (3) Work Scheduling (4) Work Control (5) Work Report Preparation (6) Condition and Feature Inventories (7) Work Program and Budget	December 1994
December Monthly Report	January 1995
Training Needs Analysis Report	January 1995
RRMS Training Program Monitoring and Evaluation Report, 1994-1995	January 1995
Quarterly Report (October-December, 1994)	February 1995
January Monthly Report	February 1995

Title	Date
Revision of 1994/95 Training Plan and Prepared Training Budget	February 1995
EMS Module: Equipment Utilization	February 1995
Project Extension Document	February 1995
February Monthly Report	March 1995
Training of Trainers Modules (1) Training Principles (2) Lectures (3) Questioning (4) Demonstrations (5) Selecting Exercises (6) Using Exercises (7) How to Make a Lesson Plan	March 1995
1995/96 Training Plan and Proposed Training Budget	March 1995
Proposed Extension for the Rural Roads Maintenance Systems Project - Training Program Phase II	April 1995
Training Needs Analysis Report (Indonesian version)	April 1995
March Monthly Report	April 1995
Quarterly Report (January-March, 1995)	April 1995
Semi-Annual Report (October 1994-March 1995)	April 1995
Training of Trainers Modules (Indonesian version) (1) Prinsip-prinsip Pelatihan (2) Ceramah (3) Pertanyaan (4) Peragaan (5) Memilih Latihan (6) Penggunaan Latihan (7) Membuat Rencana Pelajaran	April-May 1995
RRMMS Modules (Indonesian version) (1) Pendahuluan (2) Kegiatan dan Standar (3) Penjadwalan Pekerjaan (4) Pelaporan Pekerjaan (5) Rencana Kerja dan Anggaran (6) Pengendalian Pekerjaan (7) Inventarisasi Kondisi dan Permukaan Jalan	April-August 1995

Title	Date
EMS Modules (Indonesian version) (1) Penggunaan Peralatan (2) Penganggaran untuk Workshop dan Peralatan (3) Perencanaan & Pengoperasian Unit Swadana	April-August 1995
Report on Computer Training For Beginners, Kupang	May 1995
Assessment of Computer Availability and Computer Skills in the DPUK, Ujung Pandang	May 1995
Report on Computer Support Training, April 17-May 18, 1995, Ujung Pandang	May 1995
April Monthly Report	May 1995
Report on Computer Support Training - Advanced Level, Kupang	June 1995
May Monthly Report	June 1995
June Monthly Report	July 1995
Quarterly Report (April-June, 1995)	July 1995
July Monthly Report	August 1995
TMES Version 1.0 Technical Report	August 1995
TMES Version 1.0 User's Manual	August 1995
August Monthly Report	September 1995
September Monthly Report	October 1995
TMES Version 1.0 User's Manual (Indonesian version)	October 1995
Report on OJT for Basic and Advanced Computer Training, Kupang	October 1995
Semi-Annual Report (April-September, 1995)	October 1995
October Monthly Report	October 1995
The RRMS 1995/96 Project Extension Training Plan and Budget	November 1995
November Monthly Report	November 1995
Action Plan: Rural Roads Maintenance System, Training Program Phase II Report (September 1995-May 1996)	November 1995
Report on OJT for Basic and Advanced Computer Training, Ujung Pandang	December 1995

Title	Date
December Monthly Report	December 1995
Quarterly Report (October-December, 1995)	January 1996
January Monthly Report	January 1996
Monitoring and Evaluation Report on the LETMI Management Skills Seminar	January 1996
Management Skills Module	February 1996
Management Skills Seminar: Implementation Report (January 16-18, 1996)	February 1996
February Monthly Report	February 1996
Training Implementation Report: RRMMS I, II and OJT for RRMMS I, II (June 1995-February 1996)	February 1996
DPUK Laboratory Equipment Inventory	February 1996
Revised RRMMS Modules: (1) Introduction (2) Activities and Standards (3) Work Scheduling (4) Work Report Preparation (5) Work Control (6) Condition and Feature Inventories (7) Work Program and Budget	March 1996
Revised EMS Modules: (1) Equipment Utilization (2) Budgeting for Workshop and Equipment	March 1996
March Monthly Report	March 1996
Semi-Annual Report (October 1995-March 1996)	April 1996
Report on the Laboratory Practices Training	April 1996
April Monthly Report	April 1996
May Monthly Report	May 1996
TMES Version 2.0. Demonstration (English)	May 1996
June Monthly Report	June 1996
Quarterly Report (April-June, 1996)	June 1996
July Monthly Report	July 1996

Title	Date
TMES Version 2.0. User's Manual (Indonesian version)	July 1996
Construction Supervision Modules (Indonesian version) (1) Hal-hal Tentang Kontrak (2) Metode Serta Pengawasan Konstruksi (3) Persiapan Pelaksanaan Konstruksi (4) Pengawasan Mutu (5) Pembayaran dan Pelaporan (6) Penyelesaian Konstruksi	August 1996
Contract Completion Report	September 1996

6.8 Distribution List of Software Packages

DISTRIBUTION LIST OF SOFTWARE PACKAGES

The following original software packages were purchased with Project funding, and have been turned over to the following agencies:

(1) Norton Anti Virus Version 3 Windows/DOS

- 1 copy Submitted to BANGDA/MHA/GOI (August, 1996)

(2) MapInfo 3 for Windows

- 1 copy Submitted to BANGDA/MHA/GOI (July 1995)
- 1 copy Submitted to DPUK Kupang/GOI (July 1996)
- 7 copies Submitted to USAID/Jakarta (July 1996)
- 1 copies Submitted to BANGDA/MHA/GOI (August 1996)

(3) MapInfo Version 4.0 for Windows

- 1 copy Submitted to BANGDA/MHA/GOI (May 1996)
- 1 copy Submitted to USAID/Jakarta (August 1996)

6.9 List of Non-Expendable Property Purchased

COMPUTER ASSITED DEVELOPMENT, INC.
USAID PROJECT - UJUNG PANDANG OFFICE
LIST OF NON-EXPENDABLE PROPERTY
PURCHASED BY CADI

NO	DESCRIPTION	SERIAL,MODEL OR OTHER IDENTIFICATION	LOCATION	USE	INVENTORY NO	DATE PURCHASE	QTY	UNIT COST	TOTAL COST	CONDI-TION
1	Photocopy Machine	Xerox,XJ-AAE VIVACE 16 SN-26004	CADI-UP	Office	CADI/UP-031	July 07, '94	1	7,250,000	7,250,000	Good
2	Deskjet 500C (Color) Printer	Hewlett Packard E2114A	CADI-UP	Lenny Luc	CADI/UP-032 CADI/UP-033	July 11, '94	2	1,200,000	2,400,000	Good
3	Laserjet 4P Printer	Hewlett Packard C2005A	CADI-UP	Tati Amran	CADI/UP-034 CADI/UP-035	July 11, '94	2	2,550,000	5,100,000	Good
4	Blinds :		CADI-UP			July 11, '94			1,229,700	
				Wayne	From -		1			Good
				Tati, Amran & Lenny.	CADI/UP-158 to -		7			Good
				Jerry & Luc	CADI/UP-172		3			Good
				Johnny & Yos			2			Good
				Eko			2			Good
5	Telephone System (Key Telp):	Panasonic	CADI-UP			July 14, '94		2,911,125		
	Main Unit	KX-T 30810		Office	From -		1			Good
	Main Phone	KX-T 7030		Lenny & Indah	CADI/UP-040		1			Good
	Extentions Phone	KX-T 7055		COP,TCo,Eko	to -		6			Good
				Mtg.Room,Tati	CADI/UP-047					
6	Fax Machine	Xerox XT-002 Telecopier 7016	CADI-UP	Office/Clerk - Room	CADI/UP-048	July 22, '94	1	2,350,000	2,350,000	Good
7	Overhead Projector	3 M 9081	CADI-UP	Office / Mtg. Room	CADI/UP-050	August 01, '94	1	1,500,000	1,500,000	Good
8	HP IIP Platbed Scanner	C 1790A SN-3316J83056	CADI-UP	Amran	CADI/UP-063	February 08,'95	1	2,000,000	2,000,000	Good
9	Air Conditioner "Mitsubishi"	MS-13KC	CADI-UP	Training Room	CADI/UP-091	August 30,'95	1	2,700,000	2,700,000	Good