

Terminal Evaluation Report
on
The Third Country Training Program
in the field of
Road Maintenance and Construction Machines
in the Kingdom of Morocco

JICA LIBRARY



1182428 [1]

March 2004

JICA Morocco Office

MOO
JR
06-01

JICA
411
61.4
MOO
LIBRARY

I. Outline of the Project	
Country: The Kingdom of Morocco	Project title: Road Maintenance and Construction Machines
Issue/Sector: Transport	Cooperation scheme: Third Country Training Program
Division in charge: JICA Regional Department IV (Africa, Middle East and Europe), Middle East and Europe Division	Total cost: 43 million yen
Period of Cooperation	(R/D) December 8, 1999 January 31, 2000 – October 24, 2003
	Partner Country's Implementing Organization: The Institute of Training on Road Maintenance and Construction Equipment (IFEER), Ministry of Equipment and Transport
	Supporting Organization in Japan:
Related Cooperation	Grant Aid "The Project of Construction of the Institute of Training on Road Maintenance and Construction Equipment" (1991, 1992) Project-type Technical Cooperation "The Road Maintenance and Construction Equipment Training Center Project" (April 1992 – April 1997)

1 Background of the Project

In Morocco, road transportation is the most important means of transportation, thus the Moroccan government has put an emphasis on the expansion and maintenance of roads. Aiming at the capacity building and efficient work of the technicians of road construction and equipment maintenance, the government of Morocco requested Japan to provide Grant Aid and Technical Cooperation. In response to this request, Japanese government cooperated in constructing 'The Institute of Training on Road Maintenance and Construction Equipment (IFEER)' and provided necessary equipment by Grant Aid, and then executed technical transfer by the Project-type Technical Cooperation during April 1992 – April 1997. In the process of this cooperation, the Project successfully accomplished its objective by training nearly 600 technicians and 140 technicians were accepted to the short term specialized courses.

As the sole specialized training center for the technicians of road construction and maintenance in Morocco, IFEER has qualified instructors and has conducted effective training. In December 1999, the agreement (Record of Discussions) on the Third Country Training Program on 'Road Maintenance and Construction Machines' for the benefit of 18 French-speaking African countries was signed between JICA and IFEER. Under this agreement, the Training was conducted 5 times during January 2000 to October 2003 and accepted 100 participants.

2 Project Overview

In order to improve knowledge and skills in the field of road maintenance and construction machines, 1month technical training course was organized at IFEER, for the benefit of 18 French-speaking African countries, 5 times during Japanese fiscal years 1999-2003.

(1) Overall Goal

To provide the participants from African countries with an opportunity to improve their knowledge and skills in the field of Road maintenance and construction machines and to improve those technical level in the participating countries.

(2) Project Purpose

To improve knowledge and skills of the participants from African countries in the field of Road maintenance and construction machines.

(3) Outputs

- To develop relevant skills and knowledge related to road maintenance and construction machines
- To improve their knowledge, skills and abilities and transfer them to other technicians in their own countries
- To identify new needs with regard to the knowledge and skills in this area

(4) Inputs

Japanese side:

Training Cost : 3,415,532.27 DH (about 43 million Yen)

Moroccan's Side:

Training Instructors, Training facilities and equipment
Training Cost : 661,580.00 DH (about 8 million Yen)

(5) Participating Countries

Benin, Cameroon, Cape Verde, Gabon, Guinea, Guinea-Bissau, Mauritania, Senegal, Togo, Burkina Faso, Central Africa, Djibouti, Mali, Niger, Tchad, Ivory Coast, Madagascar, Guinea Equatorial



1182428 [1]

II. Evaluation Team		
Members of Evaluation Team	JICA Morocco Office (Eihiko OBATA, Deputy Resident Representative and Ouafae SBITI, Office Staff)	
Period of evaluation	15 / March / 2004 – 31 / March / 2004	Type of Evaluation: Terminal Evaluation
III. Results of Evaluation		
1 Summary of Evaluation Results		
(1) Relevance		
<p>For African countries, economic infrastructure development such as roads etc. is highly necessary and training of a high quality engineer is important. The objective of the Training Course matches this development issue with regard to the improvement of road maintenance technique of the participating countries.</p> <p>The contents of this training covers wide range of training through theory, practice and on-site visit about the operation technology of various construction machinery, their structure, maintenance technology, the efficient use in consideration of cost and selection, safety measures, etc. And the training is carried out 5 times to a total of 100 participants from 18 countries.</p> <p>According to the questionnaire at the end of each course, about 70%, 90%, and 75% of participants has answered "It was very good" or "good" about the contents covered, the level of training and the depth of the contents respectively, therefore the validity of the course is judged high.</p>		
(2) Effectiveness		
<p>About 90% of participants have answered in the questionnaire that the contents of training met their expectations, and it is judged that the contents corresponded to technical needs. Moreover, in the interview to the training participants (46 persons) who went back to their countries, holding seminar, technical guidance to a coworker, circulation of a training text, etc. are performed, and several persons got the scholarship to a higher qualification and many participants said that the training was useful to their promotion.</p> <p>The fact that training participants raise their skill and contribute to the spread of their skill to others is considered that this course has led to the level-up of road-maintenance technology by the efficient use of construction machines.</p> <p>On the other hand, the needs about the maintenance of electronic device and information processing, etc. were specified for further improvement of road maintenance technology in future.</p>		
(3) Efficiency		
<p>IFEER, as the sole construction machinery training center in Morocco, has accepted many trainees from public and private sector and the number of them amounts to about 2600 persons in total from 1993.</p> <p>Based on this training experience, a technical level of instructors is high and the secretariat is abundant in experience, it can be said that such existing human resources and material resources, such as an institution, equipments, etc. mainly built and supplied by Japan's cooperation, were efficiently utilized in the training course.</p> <p>In the questionnaire at the end of each course, the contents of training, instructors, accommodations are satisfied by participants with the rate of about 90%, 90%, and 80% respectively.</p> <p>And about 90% of participants answered that the impression of IFEER was good through the whole training course, and most of them wished training of other themes in IFEER again. On the other hand, with the problem of the weather condition at the time of training, there were years which received restriction in practical operation training in the field, so training efficiency had been affected several times.</p>		
(4) Impact		
<p>By the result of the interview to the training participants who went back to their countries, many of them spread their knowledge and technology, and these activities brought the improvement in a technical level of their organization.</p> <p>It is thought that these activities led to the efficient use of construction machinery, high work quality, shortening of working hours, growth of the durable years of machines, and contributed to the efficient and exact road maintenance in a participating countries.</p> <p>Also by the execution of this Third Country Training for the benefit of African countries, IFEER has become well known in Morocco and has enhanced its status in the African region.</p>		
(5) Sustainability		
<p>The participants are performing technology-transfer activities in their own countries as mentioned above, and it is judged that the training effect is maintained and expanded.</p> <p>IFEER, as the Morocco's only training organization over 11 years since its foundation in 1993 in the field concerned, carried out continuation training and reeducation course for the benefit of public and private sector engineer.</p> <p>And IFEER's budget has been allocated by the state about 5 million DH(s) (about 60 million yen) every year, in addition, IFEER has the income from those training course.</p> <p>The number of trainees is constantly exceeded 200 persons annually, although it cannot say that the financial situation is sufficient, it is judged that the sustainability as an organization is stable.</p> <p>IFEER purchased audiovisual equipment, the notebook PC, the maintenance tool etc. by its own budget in order to complement the effect of the Third Country Training, but it is difficult for IFEER to invite foreign trainees by its own budget, and for the participating country side, it seems difficult to dispatch trainees by their original budget, therefore the continued support is required.</p>		

2. Factors promoting sustainability and impact

(1) Factors concerning to Planning

The training program covered broad contents and its level and depth had almost satisfied the participants.

(2) Factors concerning to the Implementation Process

Excellent ability of instructors, sufficient equipment and accommodations, and also flexible reexamination of a program according to the needs of participants and arrangement of a visiting lecturer flexibly heightened the training effect.

3. Factors inhibiting sustainability and impact

(1) Factors concerning to Planning

Since training implementation time was comparatively rainy season, the field training for equipments operation had been affected a little.

About 60% of participants had an opinion that the training period was short, and also an opinion that there is little time to spare in a program. In order to better meet the technical innovation of construction machinery, there were also many opinions which wish the additional training about electronic device and information processing.

(2) Factors concerning to the Implementation Process

According to the interview to the training participants who went back to their countries, 5 participants out of 46 responded that the knowledge and skill obtained by training are their personal things, and they did not spread their technique.

Survey of skill utilization and its spread is not conducted by the training implementation organization.

4. Conclusions

The contents of training, instructor's quality, and the training institution got the high degree of satisfaction generally, and the training courses were carried out effectively, and, as for the training participants, the many are also tackling technology transfer after returning their countries, therefore it is judged that the original purpose of the improvement in technical power and a technical transfer were almost attained.

From now on, reexamination of the season of training and its duration, and evolution of the training program which corresponds to the technical innovation of construction machinery will be required.

5. Recommendations

(1) By the questionnaire to training participants, many of them pointed out the shortness of a training period. It is recommended to reexamine the contents of a training program and a training period in consideration of increasing of practical training portion which many participants requested, and incorporating electronic device maintenance and information processing in order to meet the technical innovation of construction machinery in recent years.

(2) Reexamination about training time is recommended so that the training course can be carried out at the time for which field training of equipments operation would not be affected as much as possible.

(3) It is desirable for IFEER to monitor the situation of the technology spread by the trainees by sending questionnaire etc. so as to raise motivation to technical transfer, and to grasp a participating country's needs continuously in order to harness them in future training.

(4) According to the interview, all the participants have expressed the continuing needs for this kind of training and its necessity, therefore it is desirable to carry out the Third Country Training Course continuously.

6. Lessons Learned

In order to secure practice of the technical transfer after returning home country, it should be considered to write clearly in the invitation document about the expectation of technical transfer and the execution of follow-up survey by the training implementation organization.

7. Follow-up Situation

naught

Contents of Evaluation Report

Executive Summary

Chapter 1	Outline of Evaluation Study	6
1-1	Objectives of Evaluation Study	
1-2	Members of Evaluation Study Team	
1-3	Period of Evaluation Study	
1-4	Methodology of Evaluation Study	
Chapter 2	Outline of Evaluated Project	6
2-1	Background of Project	
2-2	Summary of Initial Plan of Project (Cooperation Content)	
Chapter 3	Achievement of Project	8
3-1	Implementation Framework of Project	
3-2	Achievement in Terms of Output	
3-3	Achievement in Terms of Activity	
3-4	Achievement in Terms of Input	
Chapter 4	Results of Evaluation	8
4-1	Evaluation by Five Criteria	
4-1-1	Relevance	
4-1-2	Effectiveness	
4-1-3	Efficiency	
4-1-4	Impact	
4-1-5	Sustainability	
4-2	Factors Promoting Sustainability and Impact	
4-2-1	Factors concerning to Planning	
4-2-2	Factors concerning to the Implementation Process	
4-3	Factors Inhibiting Sustainability and Impact	
4-3-1	Factors concerning to Planning	
4-3-2	Factors concerning to the Implementation Process	

Chapter 5	Conclusion	13
Chapter 6	Recommendations	14
6-1	Recommendations for Partner Country Side (Direction of Future Activities of Project)	
6-2	Recommendations for JICA (Necessity for Follow-up Cooperation)	
Chapter 7	Lessons Learned	14
7-1	Lessons Learned regarding Situations in Evaluated Country and Sectors (policy, technological level, social and cultural aspect, institution, economic and financial aspect, etc.)	
7-2	Lessons Learned regarding Project Management (Finding, Formulation, Implementation, Evaluation, etc.)	

ANNEX

Evaluation Grid

Countries and the number of participants

Result of the Interview to participants

List of participants

Course programs of 1st~5th sessions

Chapter 1 Outline of Evaluation Study

1-1 Objectives of Evaluation Study

At the time of terminating the Third Country Training Program (1999-2003) in The Institute of Training on Road Maintenance and Construction Equipment (IFEER), JICA Morocco Office executed the Terminal Evaluation for the purpose of getting lessons learned and recommendations, which contribute to formulate the effective cooperation in the future, by evaluating efficiency, effectiveness and sustainability of the Program. Also, whether the Program is to be terminated or necessary to be extended and, in case of extension, what points to be improved are to be examined by this Evaluation.

1-2 Members of Evaluation Study Team

JICA Morocco Office

(Eihiko OBATA, Deputy Resident Representative and Ouafae SBITI, Office Staff)

1-3 Period of Evaluation Study

March 15, 2004 – March 31, 2004

1-4 Methodology of Evaluation Study

Evaluation Grid was set (see ANNEX). The study is executed based on the Evaluation Grid and document survey (training implementation report of each session prepared by IFEER and internal documents of IFEER), direct observation to the site and telephone interviews to the African participants and interviews to instructors and managers of IFEER were conducted.

Chapter 2 Outline of Evaluated Project

2-1 Background of Project

In Morocco, road transportation is the most important means of transportation, thus the Moroccan government has put an emphasis on the expansion and maintenance of roads.

Aiming at the capacity building and efficient work of the technicians of road construction and equipment maintenance, the government of Morocco requested Japan to provide Grant Aid and Technical Cooperation. In response to this request, Japanese government cooperated in constructing 'The Institute of Training on Road Maintenance and Construction Equipment (IFEER)' and provided necessary equipment by Grant Aid, and then executed technical transfer by the Project-type Technical Cooperation during April 1992 – April 1997.

In the course of this Project-type Technical Cooperation, JICA dispatched 9 long-term experts, accepted 21 Moroccan counterparts for technical training in Japan and supplied necessary equipment. In the process of this cooperation, 4 courses were created such as Construction Equipment Operation, Mechanics, Construction Equipment Management and Road Maintenance, and the Project successfully accomplished its objective by training nearly 600 Moroccan technicians and 140 technicians were accepted to the short term specialized courses.

As the sole specialized training center for the technicians of road construction and

maintenance in Morocco, IFEER has qualified instructors and has conducted effective training. On December 8, 1999, the agreement (Record of Discussions) on the Third Country Training Program on "Road Maintenance and Construction Machines" for the benefit of 18 French-speaking African countries was signed between JICA and IFEER. Under this agreement, the Training was conducted 5 times during January 2000 to October 2003 and accepted 100 participants.

2-2 Summary of Initial Plan of Project (Cooperation Content)

In order to improve knowledge and skills in the field of road maintenance and construction machines, 4 weeks technical training course is organized at IFEER, for the benefit of 18 French-speaking African countries, 5 times during Japanese fiscal years 1999-2003.

(1) Overall Goal

To provide the participants from African countries with an opportunity to improve their knowledge and skills in the field of road maintenance and construction machines and to improve those technical level in the participating countries.

(2) Project Purpose

To improve knowledge and skills of the participants from African countries in the field of road maintenance and construction machines.

(3) Outputs

- To develop relevant skills and knowledge related to road maintenance and construction machines
- To improve their knowledge, skills and abilities and transfer them to other technicians in their own countries
- To identify new needs with regard to the knowledge and skills in this area

The invited countries are set as follows;

Benin, Cameroon, Cape Verde, Gabon, Guinea, Guinea-Bissau, Mauritania, Senegal, Togo, Burkina Faso, Central Africa, Djibouti, Mali, Niger, Chad, Ivory Coast, Madagascar, Guinea Equatorial

The number of participants from these countries is decided not to exceed two (2) per country in principle and within the limit of twenty (20) on totals.

The qualifications of applicants are set as follows;

- To be nominated by their respective Government
- To have practical experience of more than 2 years in the field of road maintenance and construction machines
- To be under 45 years of age
- To have the quality to speak, read and write in French
- To be in good health, both physically and mentally, in order to complete the course

Chapter 3 Achievement of Project

3-1 Implementation Framework of Project

The Third Country Training Program was organized by IFEER as an executing agency of the Program. IFEER made necessary procedure to inform and invite the participants every year. And JICA supported the realization of this Program financially.

3-2 Achievement in Terms of Output

Participants from each country were counted as follows respectively during 5 years in total:
Benin 5, Cameroon 7, Cape Verde 1, Gabon 6, Guinea 6, Guinea-Bissau 2, Mauritania 5, Senegal 6, Togo 7, Burkina Faso 11, Central Africa 10, Djibouti 5, Mali 10, Niger 8, Chad 6, Ivory Coast 1, Madagascar 2, Guinea Equatorial 2
Total number of participants is 100.

3-3 Achievement in Terms of Activity

The training program was executed according to the curriculum attached in ANNEX.

3-4 Achievement in Terms of Input

(1) Japanese side :

Training Cost : 3,415,532.27 DH (about 43 million Yen)

1st session 629,193.28DH

2nd session 669,433.82DH

3rd session 697,589.17DH

4th session 719,410.00DH

5th session 699,906.00DH

(2) Moroccan's Side :

Training Instructors, Training facilities and equipments

Training Cost : 661,580.00 DH (about 8 million Yen)

1st session 120,540.00DH

2nd session 120,540.00DH

3rd session 126,500.00DH

4th session 138,000.00DH

5th session 156,000.00DH

Chapter 4 Results of Evaluation

4-1 Evaluation by Five Criteria

4-1-1 Relevance

For African countries, economic infrastructure development such as roads etc. is highly necessary and training of a high quality engineer is important. The objective of the Training Course matches this development issue with regard to the improvement of

road maintenance technique of the participating countries.

The contents of this training covers wide range of training items through theory, practice and on-site visit about the operation technology of various construction machinery, their structure, maintenance technology, the efficient use in consideration of cost and selection, safety measures, etc. And the training is carried out 5 times, during January 2000 to October 2003, with a total number of 100 participants from 18 countries.

According to the questionnaire at the end of each course (session), about 70%, 90%, and 75% of participants have answered very good or good about the contents covered, the level of training and the depth of the contents respectively (sources: RAPPORT DE STAGE, cours No.1~5), therefore the validity of the course is judged high.

And according to the interview to 46 ex-participants, all participants replied that this third country training program still has the big needs.

(1) Contents covered

	1 st session	2 nd session	3 rd session	4 th session	5 th session	Total	% to 100 participants
Too wide	2	3	1	3	2	11	11.0
Good	6	16	15	13	17	67	67.0
Narrow	7	1	4	2	0	14	14.0
	15	20	20	18	19	92	

(2) Level of training

	1 st session	2 nd session	3 rd session	4 th session	5 th session	Total	% to 100 participants
High	3	1	4	4	5	17	17.0
Good	13	18	16	12	14	73	73.0
Basic	1	1	0	0	0	2	2.0
	17	20	20	16	19	92	

(3) Depth of the contents

	1 st session	2 nd session	3 rd session	4 th session	5 th session	Total	% to 100 participants
Deep	1	4	1	4	4	14	14.0
Good	11	13	12	11	14	61	61.0
Not deep	5	3	7	1	0	16	16.0
	17	20	20	16	18	91	

4-1-2 Effectiveness

The number of participants from each country varied, but allotment number of participants, which is 20 in total for each course, was almost accomplished.

About 90% of participants have answered in the questionnaire that the contents of

training met their expectations, and it is judged that the contents corresponded to technical needs. Moreover, in the interview to the participants who went back to their countries (regrettably, only 46 persons could be interviewed because of their absence for work in the field etc.), holding seminar (7 participants), technical guidance to a coworker (18 participants), circulation of a training texts (24 participants), etc. are performed, and several persons got the scholarship to a higher qualification and many participants said that the training was useful to their promotion.

The fact that participants raise their skill and contribute to the spread of their skill to others is considered that this course has led to the level-up of road-maintenance technology by the efficient use of construction machines.

On the other hand, the needs about the maintenance of electronic device, information processing, topographic measurement technique and data-base creation etc. were specified for further improvement of road maintenance technology in future.

4-1-3 Efficiency

IFEER, as the sole construction machinery training center in Morocco, has accepted many Moroccan trainees from public and private sector and the number of them amounts to about 2,600 persons in total from 1993 (sources: IFEER).

	Road Maintenance	Mechanic	Equipment Management	Equipment Operation	Total
1993	30	21	9	14	74
1994	59	57	38	90	244
1995	66	53	29	65	213
1996	74	82	43	79	278
1997	79	53	47	82	261
1998	67	60	31	78	236
1999	141	47	18	64	270
2000	56	59	17	94	226
2001	39	176	28	84	327
2002	80	87	8	60	235
2003	80	95	10	60	245
Total	771	790	278	770	2,609

Based on this training experience, a technical level of instructors is high and the secretariat is abundant in experience of administration, it can be said that such existing human resources and material resources, such as an institution, equipments, etc. mainly built and supplied by Japan's cooperation, were efficiently utilized in the execution of training course.

Besides, IFEER has reexamined and revised its curriculum and method every year, and external instructors were invited depending on the needs of participants.

In the questionnaire at the end of each course, the level of training, level of instructors, and accommodations prepared are satisfied by participants with the rate of about 90%, 90%, and 80% respectively (sources: RAPPORT DE STAGE, cours No.1~5).

(1) Level of training

	1 st session	2 nd session	3 rd session	4 th session	5 th session	Total	% to 100 participants
High	3	1	4	4	5	17	17.0
Good	13	18	16	12	14	73	73.0
Basic	1	1	0	0	0	2	2.0
	17	20	20	16	19	92	

(2) Level of instructors

	1 st session	2 nd session	3 rd session	4 th session	5 th session	Total	% to 100 participants
High	8	1	1	7	4	21	21.0
Good	10	16	16	12	15	69	69.0
Fair	1	3	3	0	0	7	7.0
	19	20	20	19	19	97	

(3) Accommodations

	1 st session	2 nd session	3 rd session	4 th session	5 th session	Total	% to 100 participants
Very good	2	1	0	9	6	18	18.0
Good	9	9	20	10	11	59	59.0
Fair	4	7	0	0	2	13	13.0
	15	17	20	19	19	90	

And about 90% of participants answered that the impressions of IFEER was good through the whole training course, and most of them wished training of other themes in IFEER again.

Impressions to IFEER

	1 st session	2 nd session	3 rd session	4 th session	5 th session	Total	% to 100 participants
Very good	20	13	20	19	17	89	89.0
Fair	1	7	0	0	2	10	10.0
Mediocre	0	0	0	0	0	0	0.0
	21	20	20	19	19	99	

On the other hand, with the problem of the weather condition at the time of training, there were years which suffered restriction in practical operation training on the field (the 1st and 2nd were organized during January to February, comparatively rainy season), so training efficiency had been affected several times.

4-1-4 Impact

By the result of the interview to the participants who went back to their countries, many of them spread their knowledge and skills, and these activities brought the improvement in a technical level of their organization.

It is thought that these activities led to the efficient use of construction machinery, high work quality, shortening of working hours, growth of the durable years of machines, and contributed to the efficient and exact road maintenance in participating countries.

Also by the execution of this Third Country Training Program for the benefit of African countries, IFEER has become well known in Morocco and has enhanced its status in the African region.

4-1-5 Sustainability

The participants are performing technology-transfer activities in their own countries as mentioned above, and it is judged that the training effect is maintained and expanded.

IFEER, as the Morocco's only training organization over 11 years since its foundation in 1993 in the field concerned, carried out continuation training and reeducation course for the benefit of public and private sector engineer.

And IFEER's budget has been allocated by the government about 5 million DH(s) (about 60 million yen) every year, in addition, IFEER has the income from those training courses.

For example, tariff of training per person is set as follows:

Trainees from Ministries:	Normal course	5,500DH/month/person
	Short term module	1,500 DH/week/person
Trainees from others:	Normal course	6,600DH/month/person
	Short term module	1,900 DH/week/person

Income from training courses (sources: IFEER) (DH)

	2000	2001	2002	2003
DRCR	1,188,000.00	1,853,500.00	2,145,000.00	3,279,400.00
Others	750,141.59	503,400.55	964,002.36	305,700.00
Total	1,938,141.59	2,356,900.55	3,109,002.36	3,585,100.00

Note: DRCR: trainees from Direction of Route and Road Circulation (DRCR), Ministry of Equipment and Transport

Others: trainees from local government and private company

The number of trainees is constantly exceeded 200 persons annually (see 4-1-3 above), although it cannot say that the financial situation is sufficient, it is judged that the sustainability as an organization is stable.

IFEER purchased audiovisual equipment, the notebook PC, the maintenance tool etc. by its own budget in order to complement the effect of the Third Country Training Program, but it is difficult for IFEER to invite foreign trainees by its own budget, and for the participating country side, it seems difficult to dispatch trainees by their original budget, therefore the continued support is required.

Considering its sustainability, IFEER is examining some measures to increase its income in such a way as by tolling the cost of road improvement work at the site of the

local government, tolling repair cost of the equipment from DRCCR and that from private company, and by increasing the number of reeducation trainees or increasing trainees utilizing subsidizing system of the Office of the Professional Training and Work Promotion (OFPPPT).

4-2 Factors Promoting Sustainability and Impact

4-2-1 Factors concerning to Planning

The training program covered broad contents, and its level and depth had almost satisfied the participants.

4-2-2 Factors concerning to the Implementation Process

Excellent ability of instructors, sufficient equipment and accommodations, and also flexible reexamination of a program according to the needs of participants and flexible arrangement of a visiting lecturer heightened the training effect.

4-3 Factors Inhibiting Sustainability and Impact

4-3-1 Factors concerning to Planning

Since the 1st and 2nd training programs were organized during January to February, comparatively rainy season, the field training for equipments operation had been affected a little.

About 60% of participants had an opinion that the training period was short, and also an opinion that there is little time to spare in a program. In order to better meet the technical innovation of construction machinery, there were also many opinions which wish the additional training about electronic device and information processing.

4-3-2 Factors concerning to the Implementation Process

According to the interview to the training participants who went back to their countries, 5 participants out of 46 responded that the knowledge and skill obtained by training are their personal things, and they did not spread their technique.

Survey of skill utilization and its spread is not conducted by the training implementation organization.

Chapter 5 Conclusion

The objective of this Third Country Training Program was judged closely in line with the needs of the targeted African countries.

The contents of training, instructor's quality and the training institution got the high degree of satisfaction generally, and the training courses were carried out effectively. As for the training participants, many are also tackling technology transfer after returning their countries; therefore it is judged that the original purpose of the improvement in technical skill and technical transfer were almost attained.

IFEER constantly trained more than 200 Moroccan technicians annually and with its income situation in recent years, it is judged that the sustainability as an organization

is stable.

From now on, reexamination of the season of training and its duration, and evolution of the training program which keeps in line with the technical innovation of construction machinery will be required.

Chapter 6 Recommendations

6-1 Recommendations for Partner Country Side (Direction of Future Activities of Project)

- (1) By the questionnaire to training participants, many of them pointed out the shortness of a training period. It is recommended to reexamine the contents of a training program and a training period in consideration of increasing of practical training portion which many participants requested, and incorporating electronic device maintenance and information processing in order to meet the technical innovation of construction machinery in recent years.
- (2) Reexamination about training season is recommended so that the training course can be carried out at the time when field training of equipments operation would not be affected by weather condition.
- (3) It is desirable for IFEER to monitor the situation of the technology spread by the trainees by sending questionnaire etc. so as to raise motivation to technical transfer, and to grasp a participating country's needs continuously in order to harness the needs to future training program.

6-2 Recommendations for JICA (Necessity for Follow-up Cooperation)

- (1) According to the interview, all participants have expressed the continuing needs for this kind of training and its necessity; therefore it is desirable to carry out the Third Country Training Program continuously.
- (2) In order to reinforce the effectiveness of the course and to meet the technical innovation of the machinery, it is desirable to examine favorably about the request of equipment renovation from Moroccan government.

Chapter 7 Lessons Learned

7-1 Lessons Learned regarding Situations in Evaluated Country and Sectors (policy, technological level, social and cultural aspect, institution, economic and financial aspect, etc.)

Motivation of instructors is important to the level of training and successful implementation of the course. In IFEER, reexamination of the curriculum has been made annually by the instructors. Some instructors of IFEER benefited the training in

Japan several times after the termination of technical cooperation by JICA. It is thought that the continuous training opportunities for instructors contributed their motivation.

7-2 Lessons Learned regarding Project Management (Finding, Formulation, Implementation, Evaluation, etc.)

In order to secure practice of the technical transfer after returning home country, it should be considered to write clearly in the invitation document about the expectation of technical transfer and the execution of follow-up survey by the training implementation organization.

EVALUATION GRID

Evaluation Criteria	Evaluation Questions		Basis for judgement	Data Needed	Data Sources	Data Collection Methods
	Main questions	Sub-questions				
Relevance	<ul style="list-style-type: none"> Does the training objective match the needs of target African countries? Does the contents of the training match the needs of participants? 	<ul style="list-style-type: none"> Are the contents appropriate? Are the course level appropriate? Are the course depth appropriate? 	<ul style="list-style-type: none"> Ratio of satisfaction of participants 	<ul style="list-style-type: none"> Opinion of participants 	<ul style="list-style-type: none"> Evaluation report of each session Participants 	<ul style="list-style-type: none"> Review of Evaluation report of each session Interview
Effectiveness	<ul style="list-style-type: none"> Does the IFEER provide high quality training? Do the participants transfer their skills to others? 	<ul style="list-style-type: none"> Does the course realize the level-up of skill? What kind of measures of skill transfer? 	<ul style="list-style-type: none"> Ratio of satisfaction of participants Number of participants who transfer their skill to others 	<ul style="list-style-type: none"> Opinion of participants Measures taken and number of participants who performed skill transfer 	<ul style="list-style-type: none"> Evaluation report of each session Participants 	<ul style="list-style-type: none"> Review of Evaluation report of each session Interview
Efficiency	<ul style="list-style-type: none"> Seen from the achieved output, were the quality, quantity and timing of the input appropriate? 	<ul style="list-style-type: none"> Is instructor level appropriate? Are equipment used appropriate? Is timing of the course appropriate? 	<ul style="list-style-type: none"> Ratio of satisfaction of participants 	<ul style="list-style-type: none"> Opinion of participants 	<ul style="list-style-type: none"> Evaluation report of each session Participants 	<ul style="list-style-type: none"> Review of Evaluation report of each session Interview
Impact	<ul style="list-style-type: none"> What kind of impact is observed? Are there any ripple effects? 	<ul style="list-style-type: none"> What kind of impact to the work of participants and to the organization of participants? What kind of impact to the technology up-date in road sector? 	<ul style="list-style-type: none"> Impact observed 	<ul style="list-style-type: none"> Opinion of participants and their superiors 	<ul style="list-style-type: none"> Participants and their superiors 	<ul style="list-style-type: none"> Interview
Sustainability	<ul style="list-style-type: none"> Does the skill transfer continue? Does the IFEER have the potential to continue the Third Country Training Program? 	<ul style="list-style-type: none"> Do the participants have motivation of skill transfer? Does IFEER have operation and management potential? Is financial situation good? 	<ul style="list-style-type: none"> Motivation is observed Measures taken by IFEER for operation and management Situation of income increase 	<ul style="list-style-type: none"> Opinion of participants Measures taken by IFEER Financial data 	<ul style="list-style-type: none"> Participants IFEER 	<ul style="list-style-type: none"> Interview Data from IFEER
Others						

COUNTRIES AND THE NUMBER OF PARTICIPANTS

	1ST	2ND	3RD	4TH	5TH	
PERIOD	2000. 1. 31 ~ 2000. 2. 26	2001. 1. 8 ~ 2001. 2. 2	2001. 10. 1 ~ 2001. 10. 26	2002. 10. 7 ~ 2002. 11. 1	2003. 9. 29 ~ 2003. 10. 24	
THEME	OPERATION & MAINTENANCE OF CONSTRUCTION MACHINE	ROAD MAINTENANCE TECHNIQUE	CONSTRUCTION MACHINE MAINTENANCE	CONSTRUCTION MACHINE MAINTENANCE ADMINISTRATION	OPERATION & MAINTENANCE OF CONSTRUCTION MACHINE	TOTAL
BENIN		2		1	2	5
CAMEROON		2		2	3	7
CAPE VERDE				1		1
GABON	2	1		2	1	6
GUINEA	1	1	2		2	6
GUINEA-BISSAU	1			1		2
GUINEA-EQUATORIAL	2					2
MAURITANIA	1	1	2		1	5
SENEGAL	2		2	1	1	6
TOGO	2	1	2	2		7
BURKINA FASO	2	2	2	2	3	11
CENTRAL AFRICA	2	2	2	2	2	10
DJIBOUTI		2	1	1	1	5
MALI	2	2	2	2	2	10
NIGER	2	1	2	2	1	8
TCHAD	2	2	2			6
IVORY COAST					1	1
MADAGASCAR		1	1			2
TOTAL	21	20	20	19	20	100

Result of the Telephone Interview to participants

1. Does your country emphasize the policy to reinforce the road construction or maintenance?
Yes 45 No 1

2. Was the Course useful for the improvement of your technique?
Yes 46 No 0

3. How was the Course Level?
Too difficult 0 Little difficult 1 Fair 41 Easy 4 Too easy 0

4. How was the Course duration?
Too long 0 Long 1 Fair 3 Short 4 Too short 38

5. How was the teaching method of the Instructors?
Excellent 6 Good 35 Appropriate 4 Fair 1

6. How was the share (portion) of the theory and practice?
Theory should be long 0 Practice should be long 45 Appropriate 1

7. Were the materials and equipment utilized appropriate?
Too old so be renewed 23 Appropriate 22 Excellent 1

8. After returning your country, did you do any special thing to utilize your skill?
Teaching to the colleagues 18 Organize a seminar 7
Circulate the Course text to others 24 Improvement of everyday job 21
Don't teach to others 5

9. Do you think that your country / your organization still have a needs for the same training Course?
Big 46 Small 0

10. If the Course should be modified, what points?
Course level 2 Duration 42 Field trip 0 Equipment 0 Increase practice 42
Any new contents (subjects) 26

11. What the new contents should be introduced?
Information technology, Electronic technology, Machine operation, Maintenance,
Topography, Market research, Data base technology, Hydraulique, System up-dating,
Security, Electricity

INSTITUT DE FORMATION AUX ENGINES ET A L'ENTRETIEN ROUTIER (FJY1999)

Course Title : OPERATION AND MAINTENANCE OF CONSTRUCTION MACHINES From 2000/01/31 To 2000/02/26 (IFEER-SKHIRAT)

N°	Name	Sex	Country Code	Country Name	Date of Birth	Name of Employment	Title of Present Job
1	Valentin ILBOUDO	Male	563	Burkinafaso	1955.06.29	Ministry of Infrastructure, Construction and Urbanisme	Responsible of the vehicle park
2	Nabyamba OUEDRAOGO	Male	563	Burkinafaso	1955	Ministry of Infrastructure, Construction and Urbanisme	Mechanician, Responsible of shop
3	Raphael Yamodo KOLINGA	Male	575	Central African Republic			
4	Marcellin METOHGO AZI	Male	509	Gabon	1964.03.20	General Director of Public Works	Mechanic
5	Arnel Darius REVAZA	Male	609	Gabon	1963.12.13	Ministry of Equipment and Construction/Director of Public Works	Shop mechanic
6	Mamadou BILLO BALDE	Male	612	Guinea Conakry	1954.01.26	Ministry of Public Works and Transportation	Chief of the regional office of road maintenance
7	Braïma EMBALO	Male	615	Guinea Bissau	1955.06.11	Ministry of Social Equipment	Director of Equipment
8	Enrique MBENGA-OBIANG	Male	606	Guinea Equatorial	1954.02.07	Ministry of Public Works	Mechanician
9	Genaro ELE ARESO	Male	606	Guinea Equatorial	1959.09.29	Ministry of Public Works	Road Engineer
10	Bourneïma COULIBALY	Male	621	Mali		Ministry of Public Works and Transportation	Mechanic Instructor
11	Boubacar DJOP	Male	621	Mali		Perfection centre of public works and transportation	Trainer
12	Mohamed Abderrahman HAIDARA	Male	624	Mauritania	1957.02.15	Ministry of Equipment and Transportation	Engineer
13	Mamane Sani DJIBO	Male	633	Niger	1965.05.27	Ministry of Equipment and Transportation	Chief of Motor Section
14	Ibrahima Himou PITROIPA	Male	633	Niger	1964.04.28	Ministry of Equipment and Infrastructure	Chief of the service station
15	Bougourma KOUTA	Male	642	Senegal	1955	Ministry of Equipment	Head of the public works subdivision
16	Papa Souleye FAYE	Male	642	Senegal	1955.03.16	Ministry of Equipment	Chief of the periodical maintenance offices
17	Tom HASSAN CHERIF	Male	578	Tchad	1953.05.05	National compagnie of Road maintenance	Inspector of Equipment
18	Amadou SOUMA IRA	Male	578	Tchad		Directorat of Road	Deputy of the road service
19	Pamelane KOLANI BANAIKE	Male	548	Togo	1951.10.01	Société de location de matériels (SLM)	Chief de l'antenne SLM
20	Tchakourdo TAGBA	Male	648	Togo	1962.04.22	Société de location de matériels (SLM)	Team leader

STAGIAIRE PRIS EN CHARGE PAR L'AMCI (AGENCE MAROCAINE DE COOPERATION INTERNATIONALE)

21	Fode KEITA	Male	575	Central African Republic			
----	------------	------	-----	--------------------------	--	--	--

INSTITUT DE FORMATION AUX ENGINES ET A L'ENTRETIEN ROUTIER (FJY2000)

Course Title : Road Maintenance From 2001/01/08 To 2001/02/02 (IFEER-SKHIRAT)

N°	Name	Sex	Country Code	Country Name	Date of Birth	Name of Employment	Title of Present Job
1	Seibou Ouake NASSIROU	Male	560	Benin	1955	Ministry of Public Works and Transportation	Engineer of Public Works
2	Houbie SEVERIN	Male	560	Benin	1957.08.26	Ministry of Public Works and Transportation	Engineer of Public Works
3	Zebret ISMAEL	Male	563	Burkinafaso	1968.04.06	Ministry of Infrastructure, Construction and Urbanisme	Head of Dakar Road Bank Service
4	Pare LEOPOLD	Male	563	Burkinafaso	1965.02.02	Ministry of Infrastructure, Construction and Urbanisme	Civil Engineering Technician
5	Mikélen APPOLINAIRE	Male	569	Cameroun	1961	Ministry of Public Works Highways Department	Civil Engineering Technician
6	Eboode Justin ELIE	Male	569	Cameroun	1958.12.26	Ministry of Public Works Highways Department	Civil Engineering Technician
7	Fete NOEL	Male	575	Central African Republic	1957	Ministry of Equipment and Territory Adjustment	Regional Director
8	Guerrel Baïe DIEUDONE	Male	575	Central African Republic	1956.12.30	Ministry of Equipment and Territory Adjustment	Chief of the Road Maintenance Service
9	Abdelilah Med ISMAEL	Male	603	Djibouti	1962.07.23	Ministry of Equipment and Transportation	Civil Engineering Technician
10	Houssain Ismael ASSOWEH	Male	603	Djibouti	1960.11.28	Ministry of Equipment and Transportation	Chief of the Road Maintenance Services
11	Moussine Milior LAMBERT	Male	609	Gabon	1970.06.09	North-East Regional Department (Ministry of Equipment)	Head of Technical Service
12	Mordave CAMARA	Male	612	Guinea Conakry	1958	General Directorate of Road	Loaded Studies of Art Works
13	Rabe Bruno HARNEL	Male	618	Madagascar	1966.05.04	National Institute of Infrastructure	Engineer of Studies
14	Yarangore MODIBO	Male	621	Mali	1956	Improvement Centre of Public Works and Transportation	Instructor on Road Maintenance
15	Diallo Mohamed DOURA	Male	621	Mali	1957.02.15	Ministry of Equipment and Transportation	Instructor on Road Maintenance
16	Mohamed Abderrahman HAIDARA	Male	624	Mauritania	1957.02.15	Ministry of Equipment and Transportation	Engineer
17	Amadou HAROUNA	Male	633	Niger	1959.12.16	Ministry of Equipment and Transportation	Director of Public Work Improvement Center
18	Ahikou LOKOSSOU	Male	648	Togo	1961.11.02	General Directorate of Public Works	Head of the Road Maintenance Division
19	Amnat Soto RAMDANE	Male	578	Tchad	1967.01.09	National Company of Road Maintenance (SNER)	Chief of Work Yard Terracing and Art Work
20	Mahamat Bourkou KADI	Male	578	Tchad	1964	Directorat of road (Ministry of Public Work)	Chief of the Road Service

INSTITUT DE FORMATION AUX ENGINES ET A L'ENTRETIEN ROUTIER (FJY2001)

Course Title : MAINTENANCE OF CONSTRUCTION MACHINES From 2001/01/01 To 2001/10/26 (IFEER-SKHIRAT)

N°	Name	Sex	Country Code	Country Name	Date of Birth	Name of Employment	Title of Present Job
1	Ludovic OUEDRAOGO Lamoussa	Male	563	Burkinafaso		General Directorate of Road	Head of Equipment Service
2	Adama BYEN	Male	563	Burkinafaso		General Directorate of Road	Mechanic
3	Pierre OUBANGUE	Male	575	Central African Republic	1958.02.02	Ministry of Equipment and Transportation (Directorat of Public works equipment)	Chief of Section
4	Dominique PONZIA	Male	575	Central African Republic	1957.08.04	Ministry of Equipment and Transportation	Foreman
5	Said Miguil SABAN	Male	603	Djibouti	1977.11.23	Ministry of Equipment and Transportation (Directorate of Public Works)	Mechanic-engines
6	Ahassagne SYLLA	Male	612	Guinea Conakry	1957.04.13	Ecole Nationale des Arts et Métiers (ENAM)	Trainer in mechanical diesel-vehicle

LIST OF PARTICIPANTS

N°	Name	Sex	Country Code	Country Name	Date of Birth	Name of Employment	Title of Present Job
7	Monson KOULIBALY	Male	612	Guinea Conakry	1960.03.03	Ecole Nationale des Arts et Métiers (ENAM)	Chief of Mechanical Maintenance channels
8	David RAMAROVAHOAKA	Male	618	Madagascar	1962.03.23	Regional Directorate of Public Works	Chief of mechanical Shop
9	Souleymane DIARRA	Male	621	Mali	1958	Mali National Directorate of Public Works	Foreman
10	Mahamar Abdoulaye HAIDARA	Male	621	Mali	1957	Mali National Directorate of Public Works	Foreman
11	Mohamed LEMINE Mohamed	Male	624	Mauritania	1958.12.25	Ministry of Equipment and Transportation	Director of terrestrial transports
12	Nahri OULED JEID	Male	624	Mauritania	1958	Ministry of Equipment and Transportation	Technical Responsible of ASP Projects
13	Oumarou OUSSEINE MAIGA	Male	633	Niger	1958	Public Works Development Centre	Mechanic-monitor
14	Garba MAMANE	Male	633	Niger	1959	Ministry of Equipment and Transportation	Chief of Engin Section
15	Madiop NIANG	Male	642	Senegal		Ministry of Equipment and Transportation (Directorate of Public Works)	Foreman /Responsible of Park
16	Mamadou Doudou GUEYE	Male	642	Senegal		Ministry of Equipment and Transportation (Directorate of Public Works)	Chief of Motor Works
17	Ngaroug DIMADOUNDOUJI	Male	578	Tchad	1967.08.16	Société Nationale d'Entretien Routier	Chief Mechanic
18	Tsangata BOLDA	Male	578	Tchad	1963	Société Nationale d'Entretien Routier	Mechanic
19	Kossi Houetchehou AFIDEIGNON	Male	648	Togo	1965.06.20	Société de Location de Matériel (General Directorate of Public Works)	Team leader
20	Mokomwe BAWOUM	Male	648	Togo	1960.04.14	Société de Location de Matériel (General Directorate of Public Works)	Team leader

INSTITUT DE FORMATION AUX ENGIN ET A L'ENTRETIEN ROUTIER (FJY2002)

Course Title : MANAGEMENT AND MAINTENANCE OF MACHINE CONSTRUCTION From 2002/10/07 To 2002/11/01 (IFEER-SKHIRAT)

N°	Name	Sex	Country Code	Country Name	Date of Birth	Name of Employment	Title of Present Job
1	Gbenou Alphonse LOKOSSOU	Male	560	Benin	1963	Ministry of Public Works	Controller of Public Work
2	Guibré LAZARE	Male	563	Burkinafaso	22.07.1955	Company of renting equipment (S.L.M)	Foreman
3	Thimbiano DESIRE	Male	563	Burkinafaso	19.04.1958	Company of renting equipment (S.L.M)	Chief of the Material Service
4	Amidou NDAM	Male	569	Cameroun	15.01.1962	National park of Civil Genius Material	Chief of DOUALA Coastal operation services
5	Emmanuel FOUNKE	Male	569	Cameroun	03.10.1958	Ministry of Transport and Infrastructures	Chief of Engin Parks
6	Eduardo M. LOPES	Male	572	Cap-Vert	08.08.1959	Ministry of Transport and Infrastructures	Chief Mechanic to the Hydraulic and Contraption Shop
7	Basile LABALY	Male	575	Central African Republic	14.07.1960	Ministry of Equipment	Chief Mechanic of the Road Maintenance Unit
8	Alain Serge ISSA	Male	575	Central African Republic	15.03.1966	Ministry of Equipment, Transports and Housing	Chief of the Material Parks Subdivision
9	Abdallah Houmed ASSOU	Male	603	Djibouti	13.05.1961	Ministry of Equipment and Transport	Responsible of the Exploitation Material
10	Jean-Claude YEMBI YEMBI	Male	609	Gabon	01.01.1958	Ministry of Public Works, Directorat of tooling	Chief of the Regional Shop
11	Faustin EDZANG MORO	Male	609	Gabon	05.06.1954	Ministry of Public Works, Regional Directorat	Chief of the GAO Public Works Subdivision
12	Guilherme MALATCHE	Male	615	Guinea Bissau	15.05.1962	Ministry of Public Works, General Directorat of Roads and Bridges	Chief of the Mechanical Department
13	Takou BAGNA MAIGA	Male	621	Mali	15.02.1956	Training Institute of Equipment and Transportation (INFET)	Chief Mechanic to the Hydraulic and Contraption Shop
14	Soussouyou COULIBALY	Male	621	Mali	14.07.1960	Training Institute of Equipment and Transportation (INFET)	Deputy of the Chief Center
15	Issiaka Ladjan CHAIBOU	Male	633	Niger	11.12.1958	Training Centre of Public Works (CPTP)	Team leader
16	Rabioru ELHADJI SAIDOU ANGO	Male	633	Niger	12.04.1964	Technical Centre of Control Vehicles	Foreman by Interim
17	Bakary TRAORE	Male	642	Senegal	1952	Ministry of Equipment and Transport	
18	Payaki ATAWO	Male	648	Togo	1968	Company of renting equipment (S.L.M)	
19	D.Kossignan DIMAKE	Male	648	Togo	29.10.1965	Company of renting equipment (S.L.M)	

INSTITUT DE FORMATION AUX ENGIN ET A L'ENTRETIEN ROUTIER (FJY2003)

Course Title : OPERATION AND MAINTENANCE OF MACHINE CONSTRUCTION From 2003/09/29 To 2003/10/24 (IFEER-SKHIRAT)

N°	Name	Sex	Country Code	Country Name	Date of Birth	Name of Employment	Title of Present Job
1	Patrick Christian HOUADJETO	Male	560	Benin	1981.12.06	Directorat of Public works equipment	Inspector of public works equipments
2	Mellon Guy GBODOGE	Male	560	Benin	1962.10.22	Ministry of public works and transportation	Inspector in maintenance of machine construction
3	Pascal COMPAORE	Male	563	Burkinafaso	1970.03.20	Ministry of Infrastructure, Transportation and Housing	chief of section
4	Amboise SINKONDO	Male	563	Burkinafaso	1960.12.10	Ministry of Infrastructure, Transportation and Housing	Responsible of the follow-up repairs and insurance
5	Seydou TRAORE	Male	563	Burkinafaso	1965.02.11	Technical directorat of vocational training centre	mechanic and et chief of the outside intervention service
6	Emmanuel FOUNKE	Male	569	Cameroun	1958.10.03	Ministry of Transport and Infrastructures	Chief of the South/Ebolowa MATGENIE Regional Agency
7	Ousman GUENA	Male	569	Cameroun	1960.02.20	Ministry of public works	Provincial delegate of the extreme northern
8	Alain EBOU SAKAK	Male	569	Cameroun	1960.11.09	Directorat of Road	In charge of road project
9	Germaine BAHABA	Female	575	Central African Republic	1960.01.01	Ministry of Equipment and Transportation	Head of service
10	Daniel KHO MBUNGA MONET	Male	575	Central African Republic	1965.03.26	direction des bacs min equi et trans	Chief
11	Wawa Guillaume GNOPO*	Male	587	Côte d'Ivoire	1967.07.21	Ministry of Public Works	Public works engineer
12	Issa OMAR OUDINE	Male	603	Djibouti	1963.12.16	Ministry of Equipment and Transportation	Chief of Work Shop
13	Desire MEPEITIGUINO ANGUILET	Male	609	Gabon	1962.07.30	Ministry of public works	Chief of service

LIST OF PARTICIPANTS

14	Fode Mamadou SYLLA	Male	612	Guinea Conakry	1960.01.01	Ministry of Equipment (National Directorat of Road Maintenance)	Technician Responsible of ASP Projects
15	Alpha Kabine KOUROUMA	Male	612	Guinea Conakry	1959.01.30	Ministry of Public Works (National Directorat of Road)	Chief of NZETEKORE Regional Offices of Road
16	Ibrahim DIALLO	Male	621	Mali	1967.02.12	National Directorat of Road	Chief of Road Maintenance Section
17	Diate MANKA	Male	621	Mali	1962.09.28	National Directorat of Road	Chief of Road Maintenance Section
18	Nahi OULD JEID*	Male	624	Mauritania	1958	Ministry of Equipment and Transportation	Technician Responsible of ASP Projects
19	Alio Issa Christophe	Male	633	Niger	1962.09.13	Publics Works Centre	Trainer mechanician
20	Abiboulaye DIALLO	Male	642	Senegal	1975.03.09	Ministry of Infrastructure and Equipment of Public Works	Chief of NDIOUM work shop

100 Participants au total durant les cinq sessions

* ces stagiaires participent pour la 2ème fois

COURS N°1

6 - Programme de Formation :

JOURS	MATIN	APRES-MIDI
31/01/2000	Cérémonie d'ouverture du séminaire	Rapport National (M. SAADI)
01/02/2000	Sécurité (M. TAHAR)	
02/02/2000	Structure et fonctionnement des Engins	(mécanique) (M. HINANI)
03/02/2000	Structure et fonctionnement des Engins	(mécanique) (M. HABCHI)
04/02/2000	Maintenance (M. MAHFOUDI)	
05/02/2000	Visite touristique et culturelle RABAT (M. SAADI)	
06/02/2000	Libre (programmer navette entre skhirat et rabat)	
07/02/2000	Opérat. des machines de construction Niveleuse (M. HANAFI)	Bulldozer (M. CHAHBI)
08/02/2000	Pelle hydraulique (M. HADRAMI)	Pratique Opération
09/02/2000	Maintenance des engins (M. Mahfoudi)	
10/02/2000	Pratique Opération	
11/02/2000	Voyage d'étude : TRAFIC AFRIC (SAADI)	
12/02/2000	Visite touristique et culturelle	
13/02/2000	MARRAKECH	
14/02/2000	TRANSMISSION	(M. GUEMIH)
15/02/2000	Productivité des machines (M. BOURARACH)	
16/02/2000	Productivité des machines (M. BOULARACH)	
17/02/2000	Opérat. des machines de construction Chargeur compacteur (ZELMAT)	Opération PRATIQUE
18/02/2000	Opération des machines de construction PRATIQUE	
19/02/2000	Visite touristique	
20/02/2000	FES	
21/02/2000	Opération des machines de construction PRATIQUE	
22/02/2000	Voyage d'Etude : STOCKVIS (M. SAADI)	
23/02/2000	Caractéristiques, utilisation et choix des engins de terrassement (M.DIB)	
24/02/2000	Visite chantier Société SINFA (M. El M'kadmi)	
25/02/2000	Evaluation de fin de stage (M. SAADI)	Cérémonie de clôture
26/02/2000	LIBRE	Départ

**SEMINAIRE SUR LE THEME
« LES TECHNIQUES DE L'ENTRETIEN ROUTIER »**

Du 08/01/2001 au 02/02/2001

**Emploi du temps
Coordinateur : EL MKADMI Med**

<u>Jour</u>	<u>Matinée</u>	<u>Après - Midi</u>	<u>Accompagnateur</u>
06 et 07/01/00	Arrivée des stagiaires		M. SAADI M. EL MKADMI
08/01/2001	Ouverture du séminaire	Rapport national	M. BIHMANE
09/01/2001	Ent.routier courant (M. Belaïch)	Ent. routier courant (M. El Attar)	M. Ben Daoued
10/01/2001	Ent.routier courant (M. Belaïch)	Ent. routier courant (M. El Attar)	M. Mahfoudi
11/01/2001	Visite touristique de la ville de Rabat		MM. Hinani et Hanafi
12/01/2001	Tracé routier (M. Jahid)		M. Hadrami
13/01/2001	Visite touristique et culturelle de Casa		MM. Zelmat et Tahar
14/01/2001	Libre		-
15/01/2001	Ent. routier périodique (M. Alaoui)		M. Habchi
16/01/2001	Ent. routier périodique (M. Alaoui)		M. Chahbi
17/01/2001	Méthode HDM4 (M. IMZIL)	Ent. routier courant (M. El Attar)	M. Guemieh
18/01/2001	Ent.routier courant (M. Belaïch)	Essai de laboratoire (M. Flayou)	M. Morsadi
19/01/2001	Visite de chantier de l'Autoroute (M. El Mkadmi)		M. Flayou
20/01/2001	Visite de la ville de Marrakech (M. SAADI)		M. ZAIZ
21/01/2001			
22/01/2001	Entretien des pistes (M. Ris)	Essai de labo (M. Flayou)	M. Mahfoudi
23/01/2001	Entretien courant (M. Belaïch)	Essai de labo (M. Flayou)	M. Chahbi
24/01/2001	Ent.routier courant (M. Belaïch)	Visite CATERPILLAR (M. Saâdi)	M. Hinani
25/01/2001	Essai de laboratoire (M. Flayou)	Visite BITUMA (M. Janati)	M. Hadrami
26/01/2001	Compt. Analytique (M. Bellehçen et M. Fahim)		M. Zelmat
27/01/2001	Visite de la ville de Fès (M. El Mkadmi))		M. Himri
28/01/2001			
29/01/2001	Essai de laboratoire (M. Flayou)	Analyse du Trafic (M. Himmi)	M. Tahar
30/01/2001	Essai de laboratoire (M. Flayou)	Ent. routier courant (M. El Attar)	M. Habchi
31/01/2001	Visite de chantier du Barrage (M. Harim)		M. Attar
01/02/2001	Visite du CNER (M. Bellehçen et M. Fahim)	Evaluation	M. Morsadi
02/02/2001	Cérémonie de clôture		M. Biħmane
03/02/2001	Départ		MM. Saâdi, El Mkadmi et Guemieh
04/02/2001			

COURS N°3

DIRECTION DES ROUTES ET DE CIRCULATION ROUTIERE
INSTITUT DE FORMATION AUX ENGINES ET A L'ENTRETIEN
ROUTIER

PROGRAMME DU SEMINAIRE

Thème : Maintenance des Machines de Construction
Du 01 Octobre au 26 Octobre 2001

Nb	Jours	Désignation des sujets	Intervenants
01	Lu	Cérémonie d'ouverture / Présentation I.F.E.E.R.	DRCR/JICA/IFEER
02	Ma	Maintenance / Sécurité	M. :Mahfoudi / Tahar
03	Me	Visite touristique et culturelle a Casablanca	
04	Je	Electricité des engins (G1) Opération et Conduite des engins (G2)	M. Morsadi /M. Hadrami-Hanafi- Chahbi-Zelmate
05	Ve	Electricité des engins (G2) Opération et Conduite des engins (G1)	M. Morsadi /M. Hadrami-Hanafi- Chahbi-Zelmate.
06	Sa	Visite touristique et culturelle de la ville de Rabat	
07	Di	Libre	
08	Lu	Etude du train de roulement du bulldozer (G1) Maintenance des transmissions hydrauliques (G2)	M. Gmeih M. Mahfoudi
09	Ma	Etude du train de roulement du bulldozer (G2) Maintenance des transmissions hydrauliques (G1)	M. Gmeih M. Mahfoudi
10	Me	Visite technique de l'usine Caterpillar	
11	Je	Maintenance des moteurs diesels (G1) Maintenance des organes hydrauliques (G2)	M. Hinani M. Habchi
12	Ve	Maintenance des moteurs diesels (G2) Maintenance des organes hydrauliques (G1)	M. Hinani M. Habchi
13	Sa	Visite touristique et culturelle de la ville de Tanger	
14	Di		
15	Lu	Maintenance des moteurs diesels (G1) Maintenance des organes hydrauliques (G2)	M. Hinani M. Habchi
16	Ma	Métallurgie et usure pièces / Choix du Matériel	M.Bourarache / Dib
17	Me	Visite technique de l'usine SINFA	
18	Je	Métallurgie et usure pièces / Calcul de la productivité	M.Bourarache / Dib
19	Ve	Etude des pompes d'injection en ligne	M. Amekrane
20	Sa	Visite touristique et culturelle de la ville de	
21	Di	Fes	
22	Lu	Etude des pompes d'injection rotatives	M. Amekrane
23	Ma	Maintenance des moteurs diesels (G2) Maintenance des organes hydrauliques (G1)	M. Hinani M. Habchi
24	Me	Usure des pièces / Productivité du materiel	Bourarache/ Dib
25	Je	Evaluation	
26	Ve	Cérémonie de Clôture du Séminaire .	DRCR/JICA/IFEER

COURS N°4

Séminaire Régional sur le thème : "Gestion de la Maintenance des machines de construction" du 07 Octobre au 1er Novembre 2002

PLANNING DE FORMATION

Jours		Matin	Après-Midi	Accompagnateurs
7	Lu	Accueil et Inscript ⁿ des stagiaires	Rapport national IFEER - JICA	M. TAHAR
8	Ma	Cérémonie d'ouverture	Visite de la DRCR et Ministère	M. MAHFOUDI
9	Mer	Productivité des Engins (M. BOURARACH)		M. ZELMAT
10	Je	Concept de la maint. (M. MAHFOUDI)	Sécurité (M. HMAD TAHAR)	MM. MAHFOUDI + TAHAR
11	Ve	Coût d'exploitation et choix des engins (M. DIB)		M. ATTAR
12	Sa	Visite du SLM de Casa		MM. HARIM + ZAIZ
13	Di	Libre		
14	Lu	Maintenance des Engins (MM. HINANI + HABCHI)		MM. CHAHBI + HANAFI
15	Ma	Maintenance des Engins (MM. MORSADI + GUEMIEH)		MM. HINANI + HABCHI
16	Mer	Opération et conduite des engins des Engins (MM. CHAHBI + HANAFI)		MM. MORSADI + GUEMIEH
17	Je	Maintenance des Engins (MM. MAHFOUDI + TAHAR)		MM. MAHFOUDI + TAHAR
18	Ve	Visite technique (TRACTAFRIQUE + SINFA)		MM. MAHFOUDI + TAHAR
19	Sa	Visite du SLM de Marrakech (MM. SAADI + HIMRI)		MM. SAADI + HIMRI
20	Di	Retour de Marrakech vers skhirat (MM. SAADI + HIMRI)		MM. SAADI + HIMRI
21	Lu	Organisation et coût de la maintenance des engins (M. BOUCHANA)		M. ATTAR
22	Ma	Opération et conduite des engins des Engins (MM. HADRAMI + ZELMAT)		MM. HADRAMI + ZELMAT
23	Mer	Visite de chantier de l'Autoroute Casa -Sté GTR		MM. HARIM + FATHALLAH
24	Je	Comptabilité Industrielle (M. AZHARI)		M. HADRAMI
25	Ve	Analyse des huiles (MM. MAHFOUDI + TAHAR)		MM. MAHFOUDI + TAHAR
26	Sa	Visite du Barrage Idriss 1er à Taounate		MM. El Mkadmi + Ohatmet
27	Di	Retour de Fès ver Skhirat		MM. El Mkadmi + Ohatmet
28	Lu	Gestion des stocks (M. MOUTCHOU)		M. ATTAR
29	Ma	Gestion des stocks (M. MOUTCHOU)		MM. MAHFOUDI + TAHAR
30	Mer	Evaluation du séminaire		MM. MAHFOUDI + TAHAR
31	Je	Préparatif du départ (MM. MAHFOUDI + TAHAR)		M. CHAHBI
1er	Ve	Cérémonie de clôture du séminaire		M. EL MKADMI

COURS N° 5

4- PROGRAMME DE FORMATION :

Jours	Matin	Après midi
Sam. 27/09/03	Arrivée des stagiaires	
Dim. 28/9/03	Arrivée des stagiaires	
Lun. 29/09/03	cérémonie d'ouverture	Rapport national
Mar. 30/09/03	Caractéristiques et choix du Matériel M.DIB	
Mer. 01/10/03	Gestion et coût de la maintenance M. BOUCHANA	
Jeu. 02/10/03	Gestion et coût de la maintenance M. BOUCHANA	
Ven. 03/10/03	Structure et fonctionnement du moteur M. HINANI	
Sam. 04/10/03	Stratégies de la maintenance M. SENE CHAL	
Dim. 05/10/03	Visites de la ville de RABAT MAHFOUDI	
Lun. 06/10/03	Opération des engins théorie HANAFAI/CHAHBI	
Mar. 07/10/03	Caractéristiques et choix du Matériel M.DIB	
Mer. 08/10/03	Opération des machines pratique HANAFAI/CHAHBI	
Jeu. 09/10/03	Electricité MORSADI	Transmission GUEMIEH
Ven. 10/10/03	Visite de chantier d'autoroute et Usine SINFA	
Sam. 11/10/03	Visite de chantier d'autoroute ET SLM Marrakech	
Dim. 12/10/03	Retour vers Rabat SAADI/HIMRI/MANSOURI	
Lun. 13/10/03	Opération des machines pratique HANAFAI/CHAHBI	Planification M. ZELMAT
Mar. 14/10/03	Productivité ds Engins DIB	Sécurité TAHAR
Mer. 15/10/03	Opération des machines pratique HANAFAI/CHAHBI	Hydraulique HABCHI
Jeu. 16/10/03	Maintenance des machines M. MAHFOUDI	
Ven. 17/10/03	Visite concessionnaire machines de construction TRACTAFRIC CASA M. HARIM	
Sam. 18/10/03	Visite de chantier (Meknes-Fes) M. MKADMI	
Dim. 19/10/03	Retour à Rabat	
Lun. 20/10/03	Opération de la pelle Théorie M. EL HADRAMI	Opération du chargeur Théorie M. ZELMAT
Mar. 21/10/03	Opération des machines pratique EL HADRAMI/ZELMAT	
Mer. 22/10/03	Comptabilité analytique d'exploitation du matériel Application de SLM de RABAT M. AZHARI	
Jeu. 23/10/03	Opération des machines pratique EL HADRAMI/ZELMAT	
Ven. 24/10/03	Cérémonie de clôture	

