

1. Introduction:

The regional microwave radio engineering course hosted by the Government of Kenya and cooperated by the Government of Japan under its Third Country Training Programme had its 6th session from 6th October to 5th December in 1986.

This report summarizes the performances of the course and participants, interim and final evaluations on the course by participants, questionnaires distributed to ex-participants including the present course participants, and opinion or comment upon all of them by a JICA expert for this course.

2. Performance of the course:

2.1 Invited countries:

14 countries were invited to send a participant to this course. They are Uganda, Tanzania, Malawi, Nigeria, Liberia, Sudan, Ethiopia, Zambia, Somali, Lesotho, Zimbabwe, Swaziland, Ghana and Botswana.

The invitation letters were sent directly from the Central Training School to the relevant organizations in the invited country under the name of Chief Instructor of the Central Training School (CTS)

Simultaneously these invitation letters were sent through diplomatic channel of Kenya and through JICA Kenya office

2.2 Participants:

11 non-Kenyan participants were accepted for the course. from Uganda, Tanzania, Ghana, Nigeria, Liberia, Ethiopia, Sudan, Malawi, Swaziland, Zambia and Zimbabwe.

The communications necessary for acceptance of the said participants were conducted directly from the CTS and through JICA Kenya office.

8 Kenyan participants were accepted for the course. As a total, the course had 19 participants.

### 2.3 Attendance:

8 non-Kenyan participants and 7 Kenyan participants attended the course in the morning of 6th October. 1 Kenyan participant showed up in the afternoon of the same day. 2 non-Kenyan participants appeared in the morning of 7th October because of their flight schedules.

1 non-Kenyan participant came on 21st October because of lack of sufficient communications between the participant and his organization.

The attendance to classes were fairly good as shown in Annex 1.

Although the non-Kenyan participants arrived mostly in the first and second days of the course this year as a result of exhaustive effort of CTS and JICA Kenya office, still remains a room to be improved in advance notice of the course to relevant organization.

### 2.4 Reception and sending-off of participants:

Reception and sending-off of non-Kenyan participants were treated solely by CTS administration. However, the CTS necessitated assistance from JICA Kenya office in order to get flight schedule information of the non-Kenyan participants especially for reception.

This was caused by lack of adequate communication media like international telex service and sufficient telephone lines. This point seems to be improved in the future. Otherwise, almost all arrangements were perfectly implemented by CTS.

## 2.5 Course conduct:

Actual schedule of the course is shown in Annex I, four ad-hoc half-day classes had to be conducted in order to avoid vacant classes caused by by assigned instructors. 1 out of 4 was conducted by Mrs. Omukuba and 3 out of 4 were done by the reporter Yamazaki. These ad-hoc classes were on 9th, 17th and 29th of October, and 10th of November.

This suggest at first that it had to be decided from the beginning whether the special lectures were half-day or full-day lectures. The timetable adopted by the steering committee at the beginning implied them as full-day lectures, while they actually were half-day lectures.

Secondly, Kenyan participants went to town to get travel allowance on 17th October leaving non-Kenyan participants unoccupied. This arrangement happened only on 17th, and it was improved completely for other trips. However, this first arrangement caused a great effect on conduction of power supply system. As the instructor could not have sufficient time to explain the subject, his evaluation by the participants was unfavourable.

Thirdly, as the opening ceremony was basically cancelled, a vacant class was caused on 9th of October fundamentally. Unfortunately, unavoidable leave of the related instructor came on the same day, and the reporter took over the class. This resulted again in an unfavourable evaluation for the instructor.

All other classes were conducted smoothly.

## 2.6 Sports games:

2 sports games were conducted on 31st October and 20th November by squeezing out the necessary time under permission of the relevant instructors. These were planned to refresh the participants, and seem to have achieved their objective.

## 2.7 Study trips:

Observations on some Saturdays and study trips are shown in Annex I. Moreover, the details of the study trips are shown in Annex II.

Although a kind of mis-scheduling was observed in the study trip to Mombasa area, other 2 trips were well scheduled and also well implemented.

However, to explain a part of participants' evaluation in advance, some want to be accommodated in the same place to enhance interaction between Kenyan and non-Kenyan participants. Although this implies a little raise in travel allowance for Kenyan participants in some cases, due consideration upon this matter should be taken by authoritative organizations.

## 3. Performance of participants:

Performances of participants were evaluated by behaviors in and reports for the class of digital microwave radio link design practice. The results of evaluation are shown in Annex III.

Assessment 1 shows the evaluation of the behaviors of participants in class by the main instructor, Mr. Odhiambo. Assessment 2 shows the evaluation of their reports by the reporter.

The evaluation of reports dwells on rather severe side in the sense that any participants marked only 50 if they failed to submit reports in promised time.

As the evaluation was severe, finally they were appraised that they had completed the course successfully.

4. Interim and final course evaluations: (Annex IV).

4.1 Objectives:

Concerning the awareness of objectives of the course, Kenyan participants have much to be improved. Some complains they were not informed properly.

All participants felt that the course objectives were achieved rather completely, and also they think that their expectations for the course were fulfilled rather perfectly.

From the above, it can be concluded the course achieved the objectives sufficiently, excluding lack of information to Kenyan participants.

4.2 Curriculum design:

(1) Coverage, etc

Although the Interim evaluation insists the re-allocation of time for subjects, the final evaluation does not demand so strongly as the former. Slight re-allocation of time seems sufficient.

The same tendencies are observed in relation to coverage, level, discussions, exercises, observations, intensity and duration as an average and percentages.

Majority of participants, i.e. from 64.7% to 94.4% of participants are satisfied by the present arrangement finally.

(2) Programming

Majority of the participants consider that the course subjects were fairly or sufficiently systematically organized. This means there is still room to improve. Especially, the practical measurements on FDM systems could have been placed just after the explanations on FDM - FM theories and principles of measurements. This will reduce greatly the participants' complaints claiming few exercises in the interim evaluation.

Digital switching system, too, had better be placed in the earlier part of explanations on digital systems. Transmission system planning can come later part.

(3) The most interesting topics.

4 or 5 highest positions in the ranking were occupied by digital subject in the interim and final evaluations. This shows that the participants reflect the trend of technology obviously, and their preference seems to be respected.

(4) The least interesting topics.

Management & Maintenance and Power Supply System are enlisted because of the way they were presented. As the participants seem to evaluate politely, this evaluation indicates the necessity of improvement in the way of presentation.

Other enlisted items are rather diversified, and it should be noted that many participants stated that all topics were very important, beneficial and interesting.

**4.3 Course conduct:**

**(1) Evaluation of each subject matter.**

**(a) Necessity of subject**

If the lecture is conducted in the same way as in this year, Power Supply System and Management & Maintenance can be omitted.

**(b) Importance of subject.**

If the content of the subject is not revised, Power Supply System does not have much importance.

**(c) Length of lecture hours.**

Telephone transmission, Principles of Measurements, Transmission system planning and Practical Measurement on FDM - FM system can reduce the lecture hours.

Optical fiber transmission system and Digital Microwave radio link design practice need more time to be allocated.

As the Management & Maintenance is an important subject, it should be explained with more time.

**(d) Understandability of instructor's explanation.**

Telephone transmission, Principles & Measurements Power supply system, Optical fiber transmission system and Management & maintenance are to be improved.

**(e) Communication language of instructor.**

Japanese instructors need improvement.

**(f) Background knowledge and experience of instructor.**

A few Kenyan instructors need improvement.

- (g) Trainee's involvement and participation in lecture.  
Participants want more involvement in some subjects.
- (h) Instructor's answers to trainee's questions.  
A few instructors do not respond sufficiently.
- (i) Adequacy of contents of text books.  
Power supply system and Optical fiber transmission system need revision.
- (j) Usefulness of contents of text books.  
In addition to the above two, text book of Digital multiplexing equipment is listed because it mainly explains PCM - 24 hierarchies.
- (k) Understandability of presentation in text book.  
Some need review.

Note: Although the evaluation of each subject matter is summarized from Annex IV, the summary exaggerates slight flaws. As is clear in the Annex, those flaws are not so important from the view point of average.

Therefore, as a whole, all instructors can be said to be good enough. However, text books should be revised in some cases.

- (2) Study trips.  
Majority of participants consider the study trips were well scheduled, planned in adequate frequency, and useful. Further, they think observation sites were interesting, and the itineraries were just good.



Out of all observation sites, San Marco tracking & control station of ESA was listed as the most interesting. However, participants wanted to see Longonot Earth Station, Nairobi telephone house if possible. Some participants complain about intolerable repetition of observing same equipment.

The above comments of the participants seem to be quite reasonable.

(3) Sports and recreation.

All participants welcomed sports and recreation naturally, and almost all of them requested for more frequency. However, their request in this case needs not be satisfied in order to place more emphasis upon studying.

Twice in the whole period seems to be adequate.

(4) Application of techniques and knowledge.

Almost all participants felt they were going to have fairly good chance of application of acquired technology and knowledge.

4.4 Administration and Management"

Concerning coordination, pre-course information, housing and food accommodations, transportation, social program, and communication among the participants, majority of the participants are satisfied or more than satisfied. However, the same majority think the allowance was tight or too tight.

Further, there is an outstanding comment that foreigners and Kenyan should be accommodated in the same place to make interaction more active.

These comments seem to have to be taken into account upon planning any future course. In addition, the reporter observed in certain social programs that the management of KPTC and CTS did not enter among the participants to discuss or have chats with them. This behavior of the management seems better to be improved.

#### 4.5 Training outcomes:

(1) Attainment of techniques and knowledge.

All participants have attained techniques and knowledge more or less, or better than that. More than a half of the participants felt they had attained them fairly fully.

(2) Subjects to be included.

A trend towards digital technology is observed here, too. In addition, cellular radio systems including rural radio system and mobile radio system are requested to be discussed in class in more details.

#### 4.6 Comments on course evaluations:

Judging from what the participants said in the course evaluation, it can be said that the course of this year was a quite success, even though there are many points to be improved. This improvement is ordinarily requested from the participants side for any course.

It is true that we should not neglect their requests for any possible future improvement of the course, but we need not always bow to their requests.

5. Ex-participants' questionnaire (Annex V)

Although we have collected 24 ex-participants questionnaire formats, 19 out of 24 were filled by the participants in the present course.

5.1 General evaluation of the course:

95.8% of ex-participants felt the course was useful. And 79.2% of them consider the duration of the course is just right.

Many ex-participants understood and liked Kenya and Japan, and their people.

5.2 Intemized evaluation of the course:

Many ex-participants think the course orientation was useful.

Their preference to the subjects shows again tendency to digitalization.

Ex-participants require more improvement in the quality of instructors, and more improvement in the ability of language of Japanese instructors.

5.3 For future courses:

Almost all ex-participants think their organizations wish strongly to send their personnel to this course.

A few ex-participants could not answer this question.

6. Overall comments of the reporter:

This course is achieving its final target to have close relationship among people, as well as its technical objectives. In this sense, this course is now helping all related nations and people.

The tendency to digitalization is observed in every country in Africa now, as is clearly shown even from the participants' preference. This course, to this effect, should be modified with continuous efforts. The upgrading of instructors knowledge and language should not be put aside, either. Improvement in teaching materials, too, seems indispensable.

This course should be fortified not only from technical side, but also from administrative side. A full-time coordinator should be nominated. Medical insurance should be covered unlike this year. Communications media should be expanded for this course.

15th December 1986

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