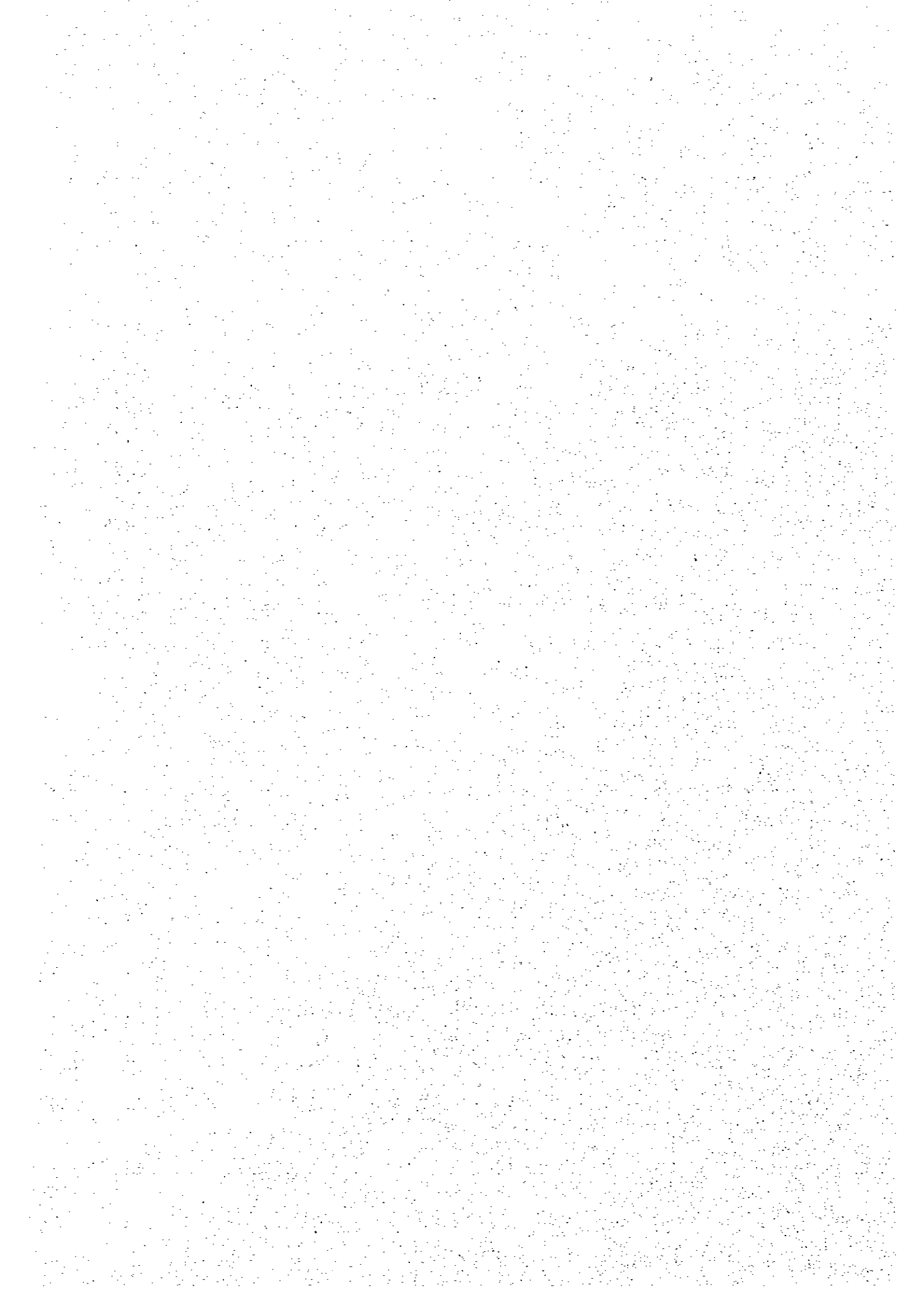


VII. 添 付 資 料





REPUBLIC OF ZAMBIA

OFFICE OF THE PRESIDENT

PUBLIC SERVICE MANAGEMENT DIVISION

DEPARTMENT OF HUMAN RESOURCE DEVELOPMENT
P.O. BOX 50340
LUSAKA

24th June, 1997

The Resident Representative,
JICA,
LUSAKA

Dear Sir,

FOLLOW UP MISSION FROM JAPAN

I refer to your letter reference JICA/23/97 dated 16th June, 1997 in which you informed us that JICA will receive a follow up Mission from 29th July to 5th August, 1997.

I am pleased to forward to you a completed questionnaire which perhaps would assist the visitors when they visit our country. I am sure the questionnaire will be sent to Japan with your blessing.

Yours Faithfully,


M.L. Nacidze
A/SENIOR HUMAN RES. DEV. OFFICER
for/DIRECTOR
DEPARTMENT OF HUMAN RESOURCE DEVELOPMENT

/wk.

A BRIEF OVERVIEW OF THE DEPARTMENT OF HUMAN RESOURCES DEVELOPMENT

The Department of Human Resources Development which was created in 1983 is the overall authority in the training of all government personnel.

Its main role is to formulate appropriate policies relating to human resource development in the Public Service as well as co-ordinate the implementation of these policies in order to contribute to the improvement of public service employee performance. The department supervises the identification of training needs of the Public Service as well as monitor the implementation of both government financed and donor agency supported human resources development plans.

Following government decision to reduce the size of the Public Service, the Department of Human Resources Development has undergone major changes in terms of size, roles and management systems. These changes have been necessitated following the development of the 1996 training policy whose main goal is to provide guidelines for the efficient and effective training and utilisation of Human Resources so as to achieve individual and organisational performance.

Two main objectives of the policy have been put forward:

- i) training is to be relevant, systematic, co-ordinated and evaluated so that it meets the needs of the Public Service
- ii) trained personnel are to be efficiently and effectively utilised

It is hoped that by having such a comprehensive Training Policy, Government intentions with regard to the training and development of staff in the Civil Service will be fulfilled.

CURRENT SITUATION

The development of the national training policy has meant that implementation of training has now become a responsibility of various Ministries. With the new mandate given to DHRD, it has posed a challenge for the Department to provide Human Resources policies that will guide Ministries on how training in the Public Service should be implemented.

STRUCTURE OF THE DEPARTMENT

The Department of Human Resources Development has been restructured from a hierarchical structure to a small more flatter structure having only two levels of control. It is headed by a Director who is assisted by two Assistant Directors. Below the level of Assistant Directors are six positions of Senior Human Resources Development officers who are professionals in this area.

MAJOR SECTIONS AND RESPONSIBILITIES

The Department is divided in two major sections being Planning and Research and Scholarships and Technical Assistance.

The Planning and Research section which is headed by an Assistant Director is responsible for conducting and supervising research in Human Resources Development related fields as well as monitoring GRZ funded training programmes in the Public Service. Other functions include co-ordination of Human Resource Development activities among national development Institutions as well as supervising the development and maintenance of Instruments and guidelines for evaluating training in the Public Service.

The functions of the Scholarships and Technical Assistance sections mainly include supervising the timely co-ordination of donor assistance in Human Resources Development in the Public Service in order to maximise benefits delivered from these scholarships. It also monitors training programmes being run in the various projects within Ministries and the Public Services as a whole, as well as supervising daily the processing of applications and offers of training in order to meet deadlines.

(1) 援助窓口に対する質問内容

Questionnaire to the organization which nominates participants
(Please type)

1. How do you evaluate the group training course in "Advanced Medical Radiological Technology" from the view point of the national policy?

(当該分野に関する政策)

The Health Reform Programme currently in place in all health institutions emphasises on the need to take health care closer to the community. As a result of this process, it is government policy to multiply all the necessary skills and knowledge. A person who has been trained in Advanced Medical Radiological Technology is expected to train others in order for the programme to have a multiplier effect. Therefore evaluation is mainly based on the multiplier effect performance audit. This is however dependant on the availability of working equipment.

2. Is it difficult to choose appropriate organizations to which GIs (General Information ; course brochures of this training) are distributed?

(人選機関)

A. Difficult

B. not so difficult

If you choose A, give the reason of it.

B. Not so difficult.

3. Please describe the process of nomination to JICA in detail

(窓口機関での最終人選)

When DHRD receives offers from JICA, they are advertised to Ministries/Organisations who nominate candidates. The nominations are normally based on national needs, targeting the districts because of their proximity to the communities.

Then DHRD scrutinises the nominations through the scholarship committee and forwards them to JICA for selection.

4. How do you evaluate the training in which participants from your country attended?
(帰国後、窓口機関での研修成果の確認)

Evaluation is done through participant's course reports and performance appraisal being carried out from time to time.

5. Are there any other similar training opportunities rendered by other foreign countries or international organizations?

A. Yes B. No

If you choose A, give an outline of the training.

(他機関主催の研修との比較)

B. No

6. How does this course help your country promote the related policy?

(本研修が当国の政策にどのような形で役立っているか)

As explained in question 1 since focus is on health reforms, Advanced Medical Radiological Technology Programme has enhanced the delivery of health services.

資料 2

(1) 援助窓口に対する質問内容

Questionnaire to the organization which nominates participants
(Please type)

1. How do you evaluate the group training course in "Advanced Medical Radiological
Technology" from the view point of the national policy?

(当該分野に関する政策)

VERY USEFUL

2. Is it difficult to choose appropriate organizations to which GIs (General Information :
course brochures of this training) are distributed?

(人選撥関)

A. Difficult

B. not so difficult

If you choose A, give the reason of it.

3. Please describe the process of nomination to JICA in detail

(窓口撥関での最終人選)

SEE ATTACHED FLOWCHART

4. How do you evaluate the training in which participants from your country attended?

(帰国後、窓口接関での研修成果の確認)

1. COURSE COMPLETION REPORT SUBMITTED BY PARTICIPANT. ■

2. PERIODIC VISITS TO WORKPLACE OF EX-PARTICIPANT TO ACCESS HOW
S/HE IS UTILIZING KNOWLEDGE AND SKILLS LEARNT DURING THE COURSE.

5. Are there any other similar training opportunities rendered by other foreign countries or
international organizations?

A Yes

B. No

If you choose A, give an outline of the training.

(他機関主催の研修との比較)

6. How does this course help your country promote the related policy?

(本研修が当国の政策にどの様な形で役立っているか)

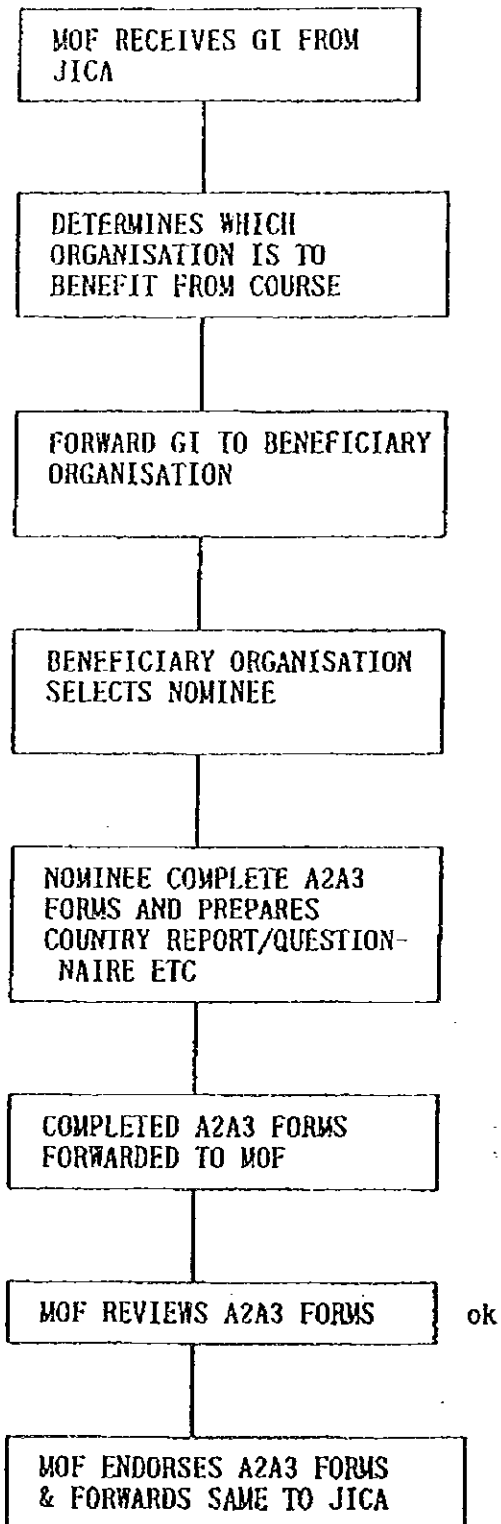
THE PROGRAMME IS A VERY POSITIVE CONTRIBUTION TO THE
GOVERNMENT'S POLICY OBJECTIVE OF "HEALTH FOR ALL BY THE
YEAR 2000".



AGNES BATSA (MRS)

HEAD, BILATERAL UNIT
INTERNATIONAL ECON. RELATIONS DIV.
MIN. OF FINANCE & ECONOMIC PLANNING
P. O. BOX 11, 40
ACCRA

FLOW CHART



MOF: Ministry of Finance
BO: Beneficiary Organisation
GI: General Information

研修員所属先に対する質問内容

Questionnaire to the organization of the ex-participants
(Please type)

Name of Organization: CIVILIA GENERAL HOSPITAL
Name of Respondent: DR MARTIN M. SILOMBRI
Position of Respondent: MEDICAL SUPERINTENDENT

1. Does your organization place any examinations to nominate the applicants?
A. Yes B. No

If so, please itemize the qualifications to be examined.
(選考方法)

2. Choose and answer on each item.
(コース・GIについて)

(1) Duration of the course

A. too long B. About right C. too short

(2) Qualification for application

A. too specific B. About right C. too wide

(3) General Information

A. too late B. About right C. too early

A. Unclear B. About right C. too precise (If you choose A, give the reason of it.)

3. Do you have any systems to disseminate the knowledge the ex-participants acquired in this training?

(研修結果の普及方法)

A. Yes B. No

If so, what kind of system is it?

A. Seminar

B. Reports to be delivered

C. Others

(Please describe the system in detail)

4. Does participation in the training have influence on promotion of ex-participants in your organization?

(研修参加と人事評価との関係)

A. No

B. somewhat

C. No

5. Do you think this training is beneficial to your organization?

(研修成果の効果)

A. very much

B. somewhat

C. No

If so, give the reason of it.

In what way? IT HAS IMPROVED DIAGNOSIS OF PATIENTS IN RADIOLOGY AND ULTRASOUND WHICH AS RESULTED IN PROPER MANAGEMENT OF THE PATIENTS AT THE HOSPITAL.

6. Please give brief information of your organization such as number of workers, relation to the national or municipal government etc. Attachment of the organizational chart with this Questionnaire is really appreciated.

(組織に関する情報)

THE HOSPITAL 1728

End of Questionnaire.

Thank you for your sincere cooperation.

研修員に対する質問書

Questionnaire to the ex-participants

(Please type)

Name in Full FREDERICK STUMBERG KATUNDA Age 35
 Present job SENIOR RADIOGRAPHER
 Present Post IN-CHARGE; RADIOLOGY DEPT.

1. Employment / Work Experience (研修前職歴)

a. Work experience: Before Training at JICA

Work / Job Position	Dates (from to)	Responsibilities
RADIOGRAPHER IN-CHARGE	01/11/85 - 01/07/94	PERFORMING RADIOGRAPHIC DUTIES, SUPERVISING STUDENT RADIOGRAPHERS AND OTHER RADIOLOGY DEPT. STAFF.

b. Work experience: After Training at JICA. (研修後職歴)

Work / Job Position	Dates (from to)	Responsibilities
SENIOR RADIOGRAPHER IN-CHARGE	01/07/94 - 1997 (to DATE)	PERFORMING RADIOGRAPHIC DUTIES, PLANNING & SPEAR HEADING DEPARTMENTAL POLICY CO-ORDINATING WITH OTHER RADIOLOGY DEPTS. ELSE WHERE, AND PERFORMING SUPERVISORY ROLES & RELATED DUTIES.

2. Evaluation of the JICA training programme. (JICA研修コース評価)

a. Can you apply the knowledge and technique acquired in the training to your present job?

Please check (X) one of those.

(研修コースの意義)

AD Most Some A little None

If you check 'Most', 'Some', or 'A little', please itemize applicable knowledge and technique in this training.

IN THE FIELD OF MEDICAL ULTRASOUND.

b. Do you think JICA training is beneficial to yourself and to your organization?

To yourself (研修員および研修員所属先にとっての有益性)

A Yes

B No

If yes, please check (X) the reason of it.

- Promotion of the position
- Responsibility
- Increase of salary
- Contents of work
- Professional recognition
- International contacts
- Others (Please give example)

If no, please state the reason of it.

To your organization

- A Yes B No

Please describe the reason of it in detail.

Patients whom our organization/hospital used to refer to other hospitals, are now being attended to with ultrasound equipment, also, improvement in the quality of radiological services being offered to patients by our department. Other members of staff have also acquired some knowledge from me. @-participa

3. After participating JICA training, what knowledge do you want to acquire from Japan NOW?

Please give us your suggestions for further improvement of this training.

① Acquiring further practical knowledge in ultrasound i.e. for three (3) months at a hospital specializing in liver & kidney disease.

② Appropriate Technology for Introduction of Radiology Information System (RIS) with Centre at Radiology Dept. university teaching Hospital Lusaka.

suggestions: Extending period of attachment for practicals for those participants whose work in their countries is practical oriented.

4. Please attach a detailed chart of the organization where you belong now and indicate your position

in it as well as the number of persons in each department, division, section, work team, etc.

(研修員所属先の組織図)

(個人公模)

End of Questionnaire.

Thank you for your sincere cooperation.

STAFFING SITUATION

The table below shows the staffing situation compared to the required number of staff needed to run Choma General hospital in the first quarter 1997.

STAFF SITUATION

CATEGORY	PRESENT	REQUIRED
MEDICAL DOCTORS	6	24
NURSING SERVICES	109	129
CLINICAL OFFICER	15	21
PARAMEDICALS	8	15
SUPPORT SERVICE	59	59
TOTAL	197	248

The above tables clearly shows that staffing was a problem at the hospital in the first quarter of 1997, though recommendations were made to Central Health Board by the Hospital Management to sort out the problems of staff at Choma Hospital in the 1996 annual report, nothing has been done. The reasons for the shortage of staff remains the same:

- Lack of staff accommodation
- High rate of staff turn over
- Professional prefer working in towns to rural areas
- Medical personnel leave the country for greener pasture in the neighbouring countries where conditions of service are better compared to Zambia's.

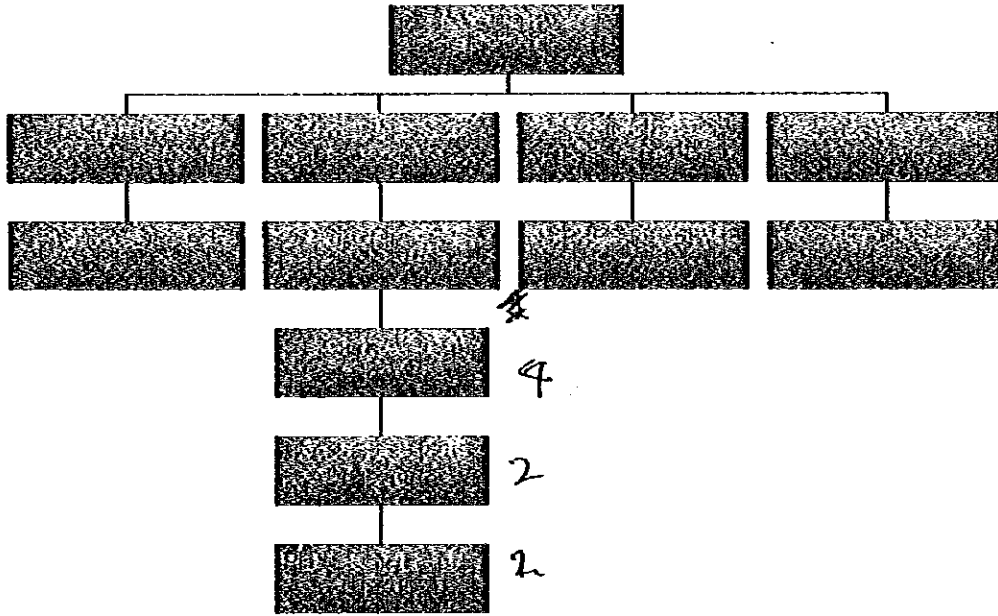
ORGANISATION STRUCTURE

The hospital is headed by the hospital Executive director and assisted in the day to day management of the hospital by the following:

- Hospital Manager, in charge of support services
- Principal Nursing Officer, in charge of nursing services
- Principle Clinical Officer, in charge of the clinical offices
- Technical Support heads

The above forms the Choma General Hospital Management team. The hospital is accountable to the Hospital Board.

HOSPITAL ORGANOGRAM



HEALTH NEEDS AS SEEN AT THE HOSPITAL

THE TOP TEN CAUSES OF HOSPITAL MORBIDITY AND MORTALITY

MORBIDITY			MORTALITY		
DISEASE	NO OF CASES	%	DISEASE	NO OF CASES	%
Malaria	2,028	26.6	Malaria	39	20.3
URI	1,417	18.6	URI	37	19.3
Diarrhoea diseases	718	9.4	Diarrhoea diseases	28	14.5
Accidents and injuries	690	9.1	Accidents and injuries	14	7.3
Skin diseases	328	4.3	Skin diseases	14	7.3
Gastro intestinal	233	3.1	Gastro intestinal	11	5.7
Other pulmonary diseases	207	2.7	Other pulmonary diseases	5	2.6
Pneumonia	191	2.5	Pneumonia	3	1.6
Anaemia	158	2.1	Anaemia	3	1.6
All other diseases	1,649	21.6	All other diseases	38	19.8
TOTAL	7,619	100	TOTAL	192	100

Most of the ten causes of morbidity and mortality as seen in the above table in the first quarter at Choma General Hospital could have been prevented by measures such as: vaccination, antenatal care, control of epidemics, screening of TB and STDs at the health centre level. In case where preventive measures such as vaccination were not available for some of the diseases, appropriate delivery of basic clinical interventions by using chemotherapy at the first level of care could have reduced the burden of diseases seen at the hospital and the cost of treating them.

The lack of adequate care at the first level of care made Choma General Hospital (Referral Hospital) in the district to provide most of the basic services with little or nothing to function as the apex of a referral hospital in the District. This is a clear indication that there are some problems at the health centres and community levels in the delivery of basic clinical services in Choma District which needs to be addressed urgently by both the Hospital Management and the District Health Management.

Choma General Hospital received referral cases from the following districts.

- Choma district (Rural Health Centres)
- Maamba (Sinazongwe district)
- Namwala district
- Kalomo district

Below is the table showing referred cases treated at the hospital during the first quarter of 1997 from above four named districts.

NAME OF THE DISTRICT	NUMBER OF CASES	%
Choma	772	78
Sinazongwe	135	14
Namwala	7	1
Kalomo	69	7
TOTAL	983	100

Choma refers most of its cases to University Teaching Hospital .

CLINICAL CARE

The table below show cases treated at the hospital during the quarter under review

OPD ATTENDANCE	TOTAL ADMISSIONS	TOTAL DEATHS	CHILD MORTALITY	MATERNAL MORTALITY
7,919	2,223	192	74	4

It should be noted that the four maternal death could have been avoided if they were referred early to the hospital, but they were in labour for more than 24 hours at their homes before seeking medical attention.

The major cause of death for the children under the age of five was malaria. Therefore there is an urgent need to have preventive measures instituted in the district such as: house spraying at a minimal fee, educate people to have their children sleep under mosquito nets, drainage of stagnant water, chloroquine should be made available for each and every household

HEALTH NEEDS AS SEEN AT THE HOSPITAL

CLINICAL CARE

The table below show cases treated at the hospital during the second quarter under review

OPD ATTENDANCE	TOTAL ADMISSIONS	TOTAL DEATHS	CHILD MORTALITY	MATERNAL MORTALITY
7719	2711	267	141	5

THE TOP TEN CAUSES OF HOSPITAL MORBIDITY AND MORTALITY

MORBIDITY			MORTALITY		
DISEASE	NO OF CASES	%	DISEASE	NO OF CASES	%
Malaria	2380		Malaria	72	27
URI	1512		URI	41	15.4
Diarrhoea diseases	846		Diarrhoea diseases	9	3.4
Accidents and injuries	546		Accidents and injuries	29	10.9
Skin diseases	207		Skin diseases	8	3
Gastro intestinal	203		Gastro intestinal	9	3.3
Other pulmonary diseases	347		Other pulmonary diseases	36	13.5
Pneumonia	131		Pneumonia	16	6
Anaemia	136		Anaemia	12	4.5
All other diseases	1411		All other diseases	35	13
TOTAL	7719		TOTAL	267	100

OUTPUT

PHYSIOTHERAPY DEPARTMENT

Physiotherapy activities takes place in an improvised small room and the equipment is inadequate. Dispite the above mentioned problems the following activities were done during the quarter under review see the table below.

CASES TREATED IN THE DEPARTMENT

DIAGNOSIS	NUMBER OF CASES	ABOVE 5 YEARS	UNDER 5 YEARS
FRACTURE UPPER LIMB	77	22	55
FRACTURE LOW	55	18	7

LIMB			
FRACTURE CLAVICLE	10	4	6
OSTEOMYELITIS	5	3	5
TALIPER	2	0	2

CONSTRAINTS

The room is too small and there is no privacy

Equipment for electrotherapy and exercisetherapy are lacking

RECOMMENDATIONS

There is a need that the following should be procured:

infra red unit

ultrasound machine unit

short wave diathermy machine

hot pack unit

wax bath unit

New infrastructure for the department should be constructed

Community based programme should be established

医療施設調査票

*調査年月日：平成9年8月1日

名称	KABWE MINE HP 総ベッド数： 135	住所	〒05-24742	地区名	南河内 KAPVE
病院の 運営 機関	CENTRAL HOSPITAL・GENERAL HOSPITAL・DISTRICT HOSPITAL・RURAL HEALTH CENTRE (R.H.C) PRIVATE CLINIC (HOSPITAL) (Min系HOSPITAL)・CHURCH系HOSPITAL その他 (2ヶ所 政府系病院)				
医療 スタッフ	1. 医師数 4人 (内、日本 1人、韓国 1人、タイ 1人、中国 1人) 2. 外科 17人 (内、Registered 2人) 3. 助産婦 64人 (内、Registered 人) 4. 看護士 人 (内、Registered 人) 5. 検査技師 人 (内、7人) 6. 薬剤師 1人 (内、2人) 7. 理学療法士 人 8. その他 放射線科 3人、PT 5人				
管理者	MEDICAL SUPERINTENDANT: DR. B. CHITUWO (Ex-DIRECTOR) Dr. Y. PARI, DEPUTY, E.D HOSPITAL ADMINISTRATOR: MR. JOHN. C. ZIMBA NURSING OFFICER: MRS. LYDIA. H. PHIRI *案内:				
診療 各科 など	INTERNAL (MEDICINE, SURGERY, ORTHOPEDIC SURGERY, PEDIATRICS, OBSTETRICS, GYNECOLOGY, DERMATOLOGY, OPHTHALMOLOGY, OTOLARYNGOLOGY, UROLOGY, PSYCHIATRY その他 (ICU, ISOLATION WARD, (TB) MENINGITIS, MEASLES, LEPROSY, DIARRHOEA, OPERATION THEATRE, BLOOD BANK)				
放射線 科	単純撮影・その他 (X線機は、稼働・故障。現像はマニュアル、機械 (稼働・故障) その他 ()				
検査 科	HEMATOLOGICAL EXAMINATION, ESR, LIVER FUNCTION TEST (GOT, GPI, VDRL (RPR), HB.-Ag, HB.-Ab, HA-Ag, HA-Ab, HIV (URINE, STOOL) その他 ()				
薬 剤 部	トナソフ (スイチ)、IAI、アメリ、中国、CIDA、IDA 使用頻度の高い薬：① ② ③				
車 両	救急車 (1台、稼働・故障・燃料なし)、4WD車 (台、稼働・故障・燃料なし) 乗用車 (台、稼働・故障・燃料なし)、バイク (台、稼働・故障・燃料なし) トラック (台、稼働・故障・燃料なし)				
その他	(ランドリ)、(厨房) 保健指導室、患者食堂、売店、その他 ()				
環境 整備	リネン類 (OK) 病室の清掃状況 (OK) 病院全体 (衛生管理が徹底されている) その他 ()				
施設の 動き	増設の予定あり				
所 感	設備は 8000k 入札 10 6000k				

KABWE MINE HOSPITAL

NURSING STAFF RETURNS SUMMARY FOR JUNE 1997

Beds - 104
 Cots - 12
 Cribs - 14
 Incubators - 05
 Total Bed Capacity 135

POST	SD	NO	NIGHT SUPT	THEATRE SUPT	PHN	SISTER PNSC	NURSING SISTER	RN/TN	RN/RM	RM	SR ZEN	EN/EM	EM	TOTAL
ESTABLISHMENT	01	01	02	01	01	01	-	10	10	20	04	10	24	85
ACTUAL	01	0	02	0	0	0	09	02	08	10	0	20	12	64

REMARKS:

- THE ABOVE FIGURES INCLUDE THE FOLLOWING:
- SENIOR NURSING OFFICER ON SECONDMENT FROM KABWE GENERAL HOSPITAL
- NIGHT SUPERINTENDENT ACTING AS NURSING OFFICER
- ESTABLISHMENT FOR NURSING SISTERS NOT INCLUDED IN THE REGISTER
- NURSING SISTER ON STUDY LEAVE AT UNZA
- NURSING SISTER ACTING AS NIGHT SUPERINTENDENT
- 1 RN/TN & 1RN/RM ON SECONDMENT FROM GENERAL HOSPITAL
- 2 RN/RM ON STUDY LEAVE, THREATRE SCHOOL
- 1 EN/EM ON SECONDMENT FROM KABWE GENERAL HOSPITAL
- 1 EN/ ON STUDY LEAVE, MIDWIFERY

OFFICE OF THE MEDICAL SUPERINTENDENT
MINISTRY OF HEALTH
P.O. BOX 630063
CHOMA.

28th July, 1994.

The Permanent Secretary,
Ministry of Health,
P.O. BOX 30205,
LUSAKA.

Dear Sir,

re: ADVANCED MEDICAL RADIOLOGICAL TECHNOLOGY (A.M.R.T) COURSE
UNDERTAKEN BY FREDERICK SITUMBEKO KATUNDU RADIOGRAPHER, MINISTRY
OF HEALTH CHOMA GENERAL HOSPITAL.

May I take this opportunity to inform you sir about my return from Japan where I had gone for the above mentioned course. The duration of the course was six (6) months (from January 6th to June 29th 1994). It was organised by the Government of Japan through the Japan International Co-operation Agency (J.I.C.A) in conjunction with the faculty of Medicine, Osaka university. Infact this programme has been going on for the past twenty (20) years, as Medical Radiological Technology (M.R.T) but in 1993 when the university introduced the four (4) year BSC course, even the M.R.T programme changed to become Advanced Medical Radiological Technology (A.M.R.T), A post graduate programme as it were.

PARTICIPANTS

The course was a group training programm consisting of six (6) participants from different countries and continents;; one from Chile, One from Dominican republic, One from Indonesia, One from Phillippines, One from Thailand and myself from Zambia. All the participants were holding senior positions at their respective institutions or places of work and were involved in research, educational, radiation monitoring and control and medical (Diagnostic & Therapy) - but all were Radiological Technologists and Radiographers - from the different sections of Radiology.

PURPOSE OF THE COURSE:

The main purpose was to enhance the knowledge of Radiological Technologists (R.T.s) and to orient them towards research in the different sections of radiology, another purpose was to update the R.T.s with latest skills, latest equipment models and other medical technologies and ~~xxx~~ procedures currently being used in Japan with the view to applying such. Skills or techniques in the participants respective countries in order to contribute to the development of their radiological systems.

Radionuclear imaging and principles of lasers and their application.

The training programme for Radiological technologists in Japan is arranged in such a way that students learn everything from general radiography, magnetic resonance imaging (M.R.I.) computerized tomography (C.T) ultrasound radio nucleid imaging (R.I.) to Radiotherapy. There is no specialization. However we were asked to choose to be assigned to certain sections where we could learn something that can be applied in our respective countries. This was a challenge since we had to learn a lot of things within a short time.

BENNEFITS OF THE COURSE

There was a lot to learn; The way the Japanese health care system is run especially with reference to the radiology department; The training of radiological technologists and the programmes for reseach for already qualified radiological technologists. Quality control with emphasis on routine equipment maintanance and performance assessment. In general, these are some of the things that I was able to learn which could be applied here if the necessary equipment were available. During the ~~Six~~ ^{Six} weeks of practical training at osaka university hospital and Hyogo college of medicine I studied Echocardiography (ultrasound of the heart) and computerized tomography (C.T.). Iam not yet sure of how I will apply this knowledge beause we do not yet have the respective equipment for the two methods of examination. The equipment required here are; for Echocardiography, an ultrasound unit with sector scanner (transducer); frequencis ranging from 2.0-7.5 MHz. Having continous and pulsed wave doppler, colour flow mapping, spectral analysis and printer, video tape recorder and E.C.G facilities etc.. In Japan I was using HP (Hewllett parkard) SONOS 1000 and HP SONOS 1500. For computerized Tomography ~~CT~~ scanner - an ideal type being a helical scanner with necessary components together with a multi format camera - An ideal scanner could be Toshiba CT-900s or on shimadzu interlect C.T scanner.

OTHER ISSUES

We had the opportunity of talking to the cordinator for overseas medical equipment aid to developing countries - from J.I.C.A. We were told that J.I.C.A can donate equipment upon request to such developing countries. Such requests should however follow the normal procedures i.e The government agency or Ministry to J.I.C.A area office. We were further told that once equipment is donated the running expenses will have to borne by the respective organisation or hospital.

CONCLUSSION

I do realize that my training was very beneficial to me and to those of my country men whom I may have opportunity to attend to in future and even to others particularly radiography students whom I have all along been priviledged to provide with clinical instruction, and to work mates who may want to learn from me. Should I be called upon to serve where I can best apply my newly acquired knowledge, I shall accept.

May I now express my heart felt thanks to the Japanese Government and our Government for the opportunity that was given to me to undertake the above training. Iam equally thankful to all those who helped me in various ways. I thank you all.

RADIOLOGICAL SOCIETY OF ZAMBIA
NATIONAL SEMINAR 1ST TO 4TH AUGUST 1996
INTERCONTINENTAL HOTEL LUSAKA

THEME :Patient Management and Quality Control in Diagnostic Radiography

PAPER THEME :The Concept of " A Visiting Radiologist " for hospitals that do not have a Radiologist; How can he / she improve patient management in diagnostic Radiography?

F. S. Katundu In- Charge, Radiology Department- Choma Hospital.
D.D.R (E. H. C.), A.M.R.T. (OSAKA UNIVERSITY).

PURPOSE: To establish whether a visiting Radiologist can contribute towards improvement in the management of patients and quality control in Diagnostic Radiology Departments that don 't have resident Radiologists through;

1. Interpretation and diagnosis of Radiographs
2. Influencing decisions that affect the Radiology Departments of the hospitals visited.
3. And helping to standardise Radiography practice and procedure In such hospitals).

METHOD: Two sets of questionnaires were sent out to the major hospitals of Southern Province (Six hospitals in all). One set for Doctors and another set for Radiographers.

12 Questionnaires for Doctors (two for each hospital).
6 Questionnaires for Radiographers (one for hospital)

RESPONSE : Out of a total of 18 Questionnaires, 12 were responded to which was 66.6% response.

RESULTS: Average results are as follows. (percentage are also average response in percentages).

1. Number of beds 200. (Average for six hospitals)
2. Of the total number of patients seen, 30% of them were refer for Radiograph exams.
3. Interpretation of Radiographs 60%. (personal classification)
4. Results Influencing treatment/or decision making. 60%.
5. Consultation on difficulty Radiographs. 10% (in most cases no one to consult).
6. Referring difficult cases elsewhere for specialised Radiological exams. 2% (in most cases only University Teaching Hospital Lusaka)
7. Performance of local Radiology Department. 60%.
8. Benefit from services of a visiting Radiologist 100%. frequency of visits once a month.

RADIOLOGICAL SOCIETY OF ZAMBIA

NATIONAL SEMINAR 1st - 4th AUGUST 1996

PAMODZI HOTEL - LUSAKA.

THEME : Patient Management and Quality control in Diagnostic Radiography.

TITLE OF PAPER.

A visiting Radiologist for Hospitals without Radiologists (i.e country side Hospitals). How can he/she improve patient management and Quality control in Diagnostic Radiography?

TO BE PRESENTED BY : F.S. KATUNDU D.D.R A.M.R.T (OSAKA UNIVERSITY) In-charge, Radiology Dept. Choma Hospital Board of Management.

The concept of a visiting Radiologist for hospitals that are currently not being served by such specialists may or may not be relevant to most big hospitals in Zambia. This concept/programme has been adopted in other countries and even here in Zambia Z.C.C.M Hospitals are being served by a visiting Radiologist.

The purpose of the study is to determine how a visiting Radiologist can contribute towards improvement in the quality of health care to patients through improved Radiological services (interpretation and diagnosis); patient management and quality control in Diagnostic Radiography.

The questionnaire accompanying this , is intended to help in evaluation of the Radiological services at your Hospital; how you benefit from these services and to determine whether the services of a Radiologist visiting your Hospital periodically will be relevant.

Please complete this questionnaire and return it to the undersigned at the address indicated. You are requested to be very objective and the information you will provide through the questionnaire will be treated with strict confidentiality.

F.S. KATUNDU. RADIOLOGY DEPARTMENT.
CHOMA HOSPITAL BOARD. P.O.BOX 630063, CHOMA. FAX 21463.

QUESTIONNAIRE FOR MEDICAL OFFICERS

HOSPITAL : _____ NO OF BEDS : _____

DEPARTMENT: _____ DATE : _____

JOB TITLE/SPECIALITY : _____

- 1 * What percentage of the total number of your patients do you refer for Radiological examination? _____
- 2 * How would you classify your interpretation of your Radiograph, (Radiological diagnosis) in general (in percentage)? _____
- 3 * Do the Radiological examination results influence your decision on patient treatment? _____ If so to what extent (in percentage)? _____
- 4 * Do you consult other Doctors at your Hospital (or others elsewhere) for their opinion on certain Radiographs? If so how often? _____ (in percentage i.e 25% of your cases etc)
- 5 * Do you refer some patients from your hospital to bigger hospitals for Radiological examinations that cannot be done at your hospital? _____ if so what type of examination? _____
- 6 * Are you satisfied with the Radiology Department at your hospital? _____ How would you classify the performance (in percentage)? _____
- 7 * Do you think you can benefit from the services of a Radiologist- visiting your hospital periodically? _____. If yes how often would you like such visits to be.

QUESTIONNAIRE RESULTS

TOTAL NUMBER OF QUESTIONNAIRE WORK ~~CHETS~~ SHEETS
SENT OUT = 12
DISTRIBUTED TO 6 DOCTORS AND SIX WARDS (SISTERS IN CHARGE)

NUMBER OF QUESTIONNAIRES RESPONDED TO/COMPLETED = 9
% RESPONSE 75%

ANALYSIS OF THE AND EVALUATION OF THE COMPLETED QUESTIONNAIRES
WERE AS FOLLOWS:

AVERAGE PERCENTAGE:

- 1 HOW ESSENTIAL ARE RADIOLOGICAL SERVICES
ESSENTIAL 70%
- 2 TYPE OF SERVICE UTILISED
BOTH 80% (X-Ry & US)
- 3 WHAT PERCENTAGE OF PATIENTS (OUT OF TOTAL NUMBER OF
PATIENTS) ARE REFERRED FOR RADIOLOGICAL EXAMINATIONS
60% (? TB CASES)
- 4 INFLUENCE OF RADIOLOGICAL RESULTS ON DECISION MAKING
TO ABOUT 60%
- 5 QUALITY OF SERVICE PROVIDED BY RADIOLOGY DEPT.
TO THE EXTENT OF ABOUT 75%
- 6 BENEFIT OF SERVICE TO PATIENTS
TO THE EXTENT OF ABOUT 90%
- 7 ARE SERVICES SATISFACTORY?
TO THE EXTENT OF 80%
- 8 HOW EFFICIENT ARE SERVICES
TO THE EXTENT OF 70%
- 9 APPROACH OF STAFF TOWARDS PATIENTS
GOOD 95%
- 10 APPROACH OF STAFF TOWARDS FELLOW STAFF
GOOD 95%

FURTHER COMMENTS/RECOMMENDATIONS

- 1 MOST OF THE RESPONDENTS WANT CONTINUOUS PROVISION OF RADIOLOGICAL SERVICES (UNLIKE COMPLAINTS OF SHORTAGE OF X-RAY FILMS, ENVELOPES, CONTRAST AGENTS ETC.) WHICH IS THE CASE SOMETIMES.
- 2 OTHERS MENTIONED/RECOMMENDED INCREASING NUMBER OF RADIOLOGICAL STAFF. TO IMPROVE EFFICIENCY.
- 3 ALSO MENTIONED WAS IMPROVEMENT IN THE FILING AND RETRIEVING OF RADIOGRAPHS.

CONCLUSION:

THE RESULTS OF THE QUESTIONNAIRE AND THE COMMENTS THAT ACCOMPANIED THESE WILL HELP THE RADIOLOGY DEPARTMENT TO MAKE ADJUSTMENTS IN THOSE AREAS THAT HAS BEEN COMMENDED ON. THEREFORE THE SECOND PURPOSE OF THE QUESTIONNAIRE (LIE TO ESTABLISH DEPARTMENTAL POLICY THAT SUITS THE NEEDS USERS;) CAN BE ACHIEVED BY APPLYING THE RECOMMENDATIONS.

QUESTIONNAIRE FOR RADIOGRAPHERS

HOSPITAL _____

NO OF BEDS _____

DATE _____

1. No of years since graduating from college _____
2. Number of qualified staff (Radiographers) in your Dept? _____
3. Number of X-Ray machines? _____
4. Type of X-Ray machine(s)? _____
5. What extra facilities does your X-Ray machines have? _____
6. What 'special' Radiological examinations does your Dept. conduct? _____
7. Does your hospital refer patients to other hospitals for some Radiological examinations that you are not able to do? _____ if so what type of examination? _____

Do you think that some of these examinations could be done in your Dept. given different circumstances/situations? _____
If so what kind of situations/circumstances? _____
8. Are you sometimes called upon to give your opinion on certain Radiographs of patients? _____ If so, how would you rate yourself? _____
9. Do you receive complaints about the quality of services your Dept provides? _____ If so which areas/aspects do people complain about? _____
10. Do you think your Dept. is progressive? _____
If so what progress has your Dept. made? _____
11. Are there plans to wide out or increase the services your Dept provides? _____ If so, what services do you want to include? _____
12. What influence do you have on policy making in your department? _____ (in percentage)
13. What influence does the head of Radiology Dept. have on your hospital's policy that affect the Radiology Dept? _____

GENERAL COMMENTS FROM RADIOGRAPHERS

- a. Many Radiographers have worked for a good number of years at the same hospital using the same type of machines without exposure to other Radiological technologies.
- b. Complaints about the performance of Radiology Departments were in most cases about shortage of materials; X - Ray films processing chemicals contrast agents and also due to break down of machines which are beyond the control of the Radiographers who usually have little say on expenditure of hospitals.
- c. Complaints about manpower shortage i.e Radiographers were mentioned.
- d. All Radiographers mentioned their desire to have additional Radiological facilities such as Automatic X - Ray film processors, Fluoroscopy units and Ultrasound.
- e. All Radiographers felt that a visiting Radiologist would contribute towards improvement in the Radiological services at their hospitals- and influence decisions that affect their departments.

CONCLUSION

An analysis of the questionnaire results clearly shows the importance of Radiologists in the delivery of Radiological services in hospitals. Since Directors or Medical Officers in charge at hospitals are fellow Doctors, it will be very easy for Radiologists to influence decisions that favour or are biased towards the Radiology Department. i.e. procurements of Radiological materials or repairs can be given priority. Since there are few Radiologists in the country- it will be worthwhile to consider the concept of a visiting Radiologist for certain regions. i.e. Southern Province may have one visiting Radiologist.

研修員所属先に対する質問内容

Questionnaire to the organization of the ex-participants

(Please type)

Name of Organization: Kabwe Mine Hospital
Name of Respondent: Dr Y Phiri
Position of Respondent: Deputy Director

1. Does your organization place any examinations to nominate the applicants?

A. Yes B. No ✓

If so, please itemize the qualifications to be examined.

(選考方法)

2. Choose and answer on each item.

(コース・G Iについて)

(1) Duration of the course

A. too long B. About right C. too short ✓

(2) Qualification for application

A. too specific B. About right C. too wide ✓

(3) General Information

A. too late B. About right ✓ C too early

A. Unclear B. About right C. too precise (If you choose A, give the reason of it.)

3. Do you have any systems to disseminate the knowledge the ex-participants acquired in this training?

(研修結果の普及方法)

A. Yes ✓ B. No.

If so, what kind of system is it?

A. Seminar

B. Reports to be delivered ✓

C. Others

(Please describe the system in detail)

4. Does participation in the training have influence on promotion of ex-participants in your organization?

(研修参加と人事評価との関係)

A. a lot

B. somewhat ✓

C. No

5. Do you think this training is beneficial to your organization?

(研修成果の効果)

A. very much ✓

B. somewhat

C. No

If so, give the reason of it.

In what way?

There are a few people currently available with techniques in recent advances in medical radiological technology.

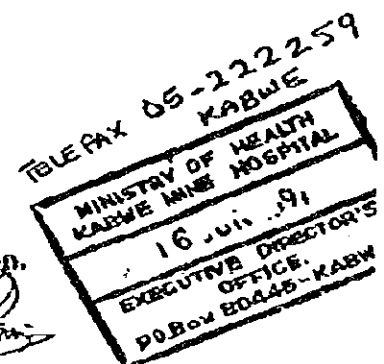
6. Please give brief information of your organization such as number of workers, relation to the national or municipal government etc. Attachment of the organizational chart with this Questionnaire is really appreciated.

(組織に関する情報)

Kabwe Mine Hospital is a 100 bed fully fee paying specialist hospital employing around 150 workers. It is run by the Ministry of Health of the Government of the Republic of Zambia.

End of Questionnaire.

Thank you for your sincere cooperation.



研修員に対する質問内容

Questionnaire to the ex-participants

(Please type)

Name in Full MAURICE MANDAYANO MTAWALE Age 40
Present Job SENIOR RADIOGRAPHER/SONOGRAPHER
Present Post SENIOR RADIOGRAPHER/SONOGRAPHER

1. Employment / Work Experience (研修前職歴)

a. Work experience : Before Training at JICA

Work / Job Position	Dates (from to)	Responsibilities
Radiographer	October 1985 to December 1995	Incharge of X-ray Dept. Taking x-ray pictures and ordering all xray supplies and requirements Also care of the patient e.g. Radiation safety in X-ray department.

b. Work experience : After Training at JICA. (研修後職歴)

Work / Job Position	Dates (from to)	Responsibilities
Radiographer/Sonographer	1 July 1996 to date	Incharge of X-ray Dept. taking x-ray pictures, scanning patients for ultra sound, also care of the patient during x-ray and scanning procedures planning for all x-ray & ultra sound require- ments

2. Evaluation of the JICA training programme. (JICA研修コース評価)

a. Can you apply the knowledge and techniques acquired in the training to your present job?

Please check (X) one of those.

(研修コースの意義)

All Most Some A little None

If you check 'Most', 'Some', or 'A little', please itemize applicable knowledge and technique in this training.

b. Do you think JICA training is beneficial to yourself and to your organization?

To yourself (研修員および研修員所属先にとっての有益性)

A Yes B No

If yes, please check (X) the reason of it.

- Promotion of the position
- Responsibility
- Increase of salary
- Contents of work
- Professional recognition
- International contacts
- Others (Please give example)

If no, please state the reason of it.

To your organization

A Yes

B No

Please describe the reason of it in detail.

Modern methods of investigations, especially non-invasive methods are of paramount importance in our Community and in our Country.

3. After participating JICA training, what knowledge do you want to acquire from Japan NOW ?
Please give us your suggestions for further improvement of this training.

I want to specialize further in Ultrasound Technology Information on latest developments in advanced Medical Radiological Technology is very welcome.

4. Please attach a detailed chart of the organization where you belong now and indicate your position in it as well as the number of persons in each department, division, section, work team, etc.

(研修員所属先の組織図)

In the X-Ray Department we are two Radiographers.

End of Questionnaire.

Thank you for your sincere cooperation.

M. Hawala
Senior Radiographer.

COUNTRY REPORT

I. Outline of country

- (1) Area (km²) 464,937
- (2) Population 3 million
- (3) Geographical features Zambia natural vegetation is made up of Savannas, woodland, Grassland and small amounts of forest and swampland, saxicum
- (4) Historical background height of land is 2000 mtrs above sea level. Zambia is a former British colony. It got its independence in 1964 October 24th
- (5) Medical situation of country Zambia is a third world country. In 1990 Zambia had an average of 10 doctors for every 100,000 people. Population is increasing.
- (6) Authorized radiological license (procedure to obtain, legally authorized professional activity) In Zambia any Radiological practitioner is authorized by the medical council of Zambia

The Japanese law concerning radiology stipulates the kind of radiation to be handled by radiological technologists. The license allows radiological technologists to expose patients to radiation under the supervision of medical doctors and dentists.

II. Situation of applicant's organization

Describe the following items according to type of organization.

- (1) Hospital Petauke District Hospital

Indicate number of:

Employees, Beds, Outpatients (per day), Outpatients in Radiology Dept. (per day), Doctors (in hospital and in Dept.), Nurses (in hospital and in Dept.), Radiological Technologists in Radiology Dept., Radiographers in Radiology Dept., Assistants in Radiology Dept.

- i) Employees: 265
- ii) Beds: 97 + 24 cots
- iii) Out patients(per day): average of 110 patients
- iv) Outpatients in Radiology Dept(per day): Average of 10 patients.
- v) Doctors in Hospital: 2
- vi) Doctors in Radiology department: Nil
- vii) Nurses in Hospital: 75
- viii) Nurses in Dept: Nil
- ix) Radiological Technologists in Radiological Dept: Nil
- x) Radiographers in Radiological Dept: One
- xi) Assistant in Radiology Dept: Nil

- (2) Educational Institution *Zwallya Rose College of Applied Arts & Science*
- type of institution *Department of Technical Education & Vocational Training*
 - year established *1970*
 - number of teaching staff, number of students *Teaching staff: 30 students: 300*
 - years of operation *3-4 yrs*
 - applicant's area of responsibility *X-Ray Dept: Diagnostic Radiography.*
 - other details (e.g. special features) *Administration and Management of any X-Ray dept in Zambia.*
- (3) Others (public organization or other organization, etc.)
- outline of institution *National Institute of Public Administration.*
 - institution's areas of activity *Public administration.*

III. Current Situation and Problem Areas.

- problems in the healthcare system on a national level
- problems in radiological treatment system of applicant's country
- current situation and problems of radiological technologist training system
- current situation and problems in radiology department of applicant's hospital
- reasons for applying for this training course
- expected benefits from the course

a) Problems in the health care system on a national level:

If only Zambia could grow more food, blessed with good rainfall, There would be many fewer people suffering from disease. The World Health Organisation (WHO) in conjunction with the Zambia Government are trying their best to control diseases through:-

1. Immunization, 2. Distribution of drugs. 3. Improving water supplies and draining or spraying breeding grounds. 4. providing money to help train Doctors, Radiographers, Nurses etc. Malnutrition, high birth rate, high infant mortality rate.

b) Major problem in radiological treatment system is shortage of X-Ray films and lack of modern X-Ray machines.

c. Training materials are lacking in the radiological technologist training system.

d) At Patauke Hospital the radiology dept is facing a shortage of films and X-Ray envelopes and a darkroom artistic maricor.

e) Reasons for applying for this training course are many. It will open my mind especially concerning the modern techniques and equipment and thus equip me to manage my department well. If not better after the course.

f) Expected benefits are many: The nation will benefit at large with the new knowledge. Seminars will be conducted. Many Radiographers will learn a lot about the modern technology which is advancing almost everyday.

③ Ghana, Mr. Stephen Kwaku Dzah
COUNTRY REPORT

I. OUTLINE OF COUNTRY

1. Area

The area of Ghana is 238,537 km²

2. Population:

The last census taken in Ghana was in 1984. The population of the country by the 1984 figures was 12,296,018. In 1990 the United Nation (UN) estimated it to be 15,028,000 with population growth rate estimated at 3.4%. As at now there is no accurate figure service census has not been taken recently.

3. Geographical Features:

Ghana is divided into ten regions:-

Greater Accra Region, central Region, Western Region, Eastern Region Volta Region, Ashanti Region, Brong Ahafo Region, Northern Region, Upper West, Upper East.

It is situated in the West African sub-region and therefore it has a tropical climate with temperatures ranging between 21°C and 32°C. It is generally hot throughout the year. There are two major seasons - dry season and rainy season.

The dry season usually lasts from November to April whilst the rainy season lasts from May to October.

Major part of the dry season (November to February) is characterized by the blowing of dry wind from the Sahara Desert in North Africa across the West African sub-region.

They are either covered by forests or grassland inhabited by wild animals such as lion, tiger, leopard, elephant, reptiles, birds etc. Some of these areas are declared as game reserves by the government.

4. Historical Background

The country now known as Ghana was the merger of the former Gold Coast and the British Mandated Togoland. The Gold Coast was a British Colony whereas the British Mandated Togoland was part of Togo and therefore a German colony until the defeat of Germany in the Second World War. When Germany was defeated in the war, Togoland was divided into two, the eastern part was ruled by the French and the western part became a British territory. As a result, the Gold Coast and the British Mandated Togoland which shared common boundaries came to be ruled by the British. The natural tendency was that they should become one country.

In the late 1940s some key personalities in the Gold Coast began political activities geared towards self government. These personalities included - Dr. Kwame Nkrumah, Paa Grant, Dr. Jones, Ofori Atta, J. B. Danquah and others. Most of the political activists were imprisoned by the British authorities. However in 1952, Dr. Kwame Nkrumah was released from prison to form a government. He became the first Prime Minister.

The British authorities intending to grant the Gold Coast independence wanted to find out if the people of the British Mandated Togoland wanted to merge with the Gold Coast or be granted self rule on their own. Consequently a plebiscite was organised and the result indicated agreement to merge.

During the period of harmattan, the atmosphere looks very hazy because of dust particles borne by the wind, and this reduces visibility drastically. Usually it does not rain during the harmattan so that vegetation in the grassland areas get dried up leading to wide spread bush fires. Most small rivers also dry up during the harmattan.

The rainy season usually brings very heavy rains some of which are torrential. This season is marked by farming activities.

The vegetation is broadly divided into two - the Savanna grassland in the north and middle belt, and the tropical rain forest in the south and part of the middle belt. Most of the crops grown include cocoa, banana, coffee, cassava, kola nuts, shear nuts, oil palm, coconut. Much timber is obtained from the rain forests.

The longest river in the country is the Volta River which happens to be the second longest river in West Africa. On the River Volta is the Akosombo Hydroelectric dam which is the largest man-made lake in the whole world. It serves as a tourists' attraction. There are three water falls in the country.

Ghana is bounded in the north by Burkina Faso, in the east by Togo, west by Ivory Coast and in the south by the Atlantic Ocean. The country is rich in minerals such as gold, manganese, diamond, bauxite, iron ore.

Located in the middle belt is a long mountain range extending from Ghana into the Republic of Togo in the east. Apart from the mountain range there are isolated mountains scattered here and there in the middle portion of the country.

Thus the two territories merged under the name Ghana and became independent on 6th March 1957 with Dr. Kwame Nkrumah as the Prime Minister. Ghana then became the first independent country in sub-Saharan Africa. On 1st July 1960 it became a republic with Dr. Nkrumah as the first executive President.

Politically, however, Dr. Nkrumah was socially inclined and therefore leaned towards the east. The then Union of Soviet Socialist Republic (USSR) became his major trading partner and source of ideology.

Shortly, after declaring the country a republic, Nkrumah created a one-party state to the chagrin of his political opponents who were capitalists. No doubt, this cost him his rulership. In order to curb the anti-socialist activities of his opponents, he embarked upon detention without trial.

Consequently Nkrumah's government was ousted on 24th February, 1966 by the Military whilst he himself was away in far away Hanoi.

The new military government was termed National Liberation Council (NLC). The NLC was in power until 1st October 1969 when it handed over to a popularly elected civilian government under Dr. K.A. Busia who became the Prime Minister.

The second republic under Dr. Busia was a capitalist government. Nevertheless certain, policies including deportation of illegal aliens made his government unpopular. Hence his government was toppled in January 1972 by the military led by Colonel I. K. Acheampong. Acheampong held onto power until 1978 when he was ousted in a palace coup by his member.

All this while, the junior ranks of the military were dissatisfied with the members of the senior rank. This led to a mutiny in June, 1979 by the junior ranks. The coup was led by Ft. Lt. J.J. Rawlings who formed a government called Armed Forces Revolutionary Council (AFRC). The AFRC ruled for three months and handed over power to popularly elected government under Dr. Hilla Limann. Thus the third republic was born.

Members of Dr. Limann's government were generally believed to be corrupt although the president himself was said to be 'clean.' Ft. Lt. Rawlings seized power for the second time after Dr. Limann has been in power for only twenty seven months.

The Provisional National Defence Council (PNDC) formed by Rawlings ruled from December 1981 to January 1993 when he returned the country to civilian rule, he himself being elected president of the fourth republic.

The fourth republic is nearing its end and by January 1997 another civilian government will hopefully be sworn in.

4. Medical situation in the country

The health care delivery system in Ghana is mostly run by the central government. Unfortunately, continued political instability, mismanagement and shortage of foreign exchange adversely affects health care delivery. In particular, importation of vital drugs and medical equipment, especially radiological equipment and accessories has experienced serious set-backs over the years.

In general medical services are provided in hospitals, clinics, health centres and health posts. Hospitals and clinics are manned by Medical Officers whereas health posts by Medical Assistants. By 1990, there were 293 hospitals, health centres and health posts in the public sector. On the other hand there were 60 hospitals and clinics in the private sector. By 1991 figures the estimated total number of beds in all hospitals and clinics in the public sector was 18,477.

It was also estimated that the total number of physicians in the public sector by 1991 was 1,200 making the doctor/patient ratio very high.

As at present there are only two medical schools in the country so that the turn out of doctors per year is very small. In order that the doctor/patient ratio may be reduced medical officers from Cuba are brought in to fill the gap.

With regard to nursing the situation is better. Nurses Training Schools are scattered all over the ten regions. The number of nurses is thus large as compared to the technical staff. Medical Laboratory and Radiography each has only one training school whereas physiotherapy has no training school in the country. As a result the ratio of technical staff to patients is very large.

Owing to the shortage in number of qualified health personnel patients waste a lot of time at the hospitals. Work load also affects staff/patient relationship. Another important fact which cannot go unmentioned is the frequent shortage of medical supplies as well as break down of or lack of expensive medical equipment.

It is not uncommon to see major hospitals unable to provide services such as radiography due to equipment breakdown.

With regard to radiology there are only six radiologists in the whole country and this tends to deprive most of the hospitals of radiological services

6. Authorised radiological license

In Ghana there was no law requiring radiographers to be licensed before practising until recently, when a Radiation Protection Board was formed. The Board is requiring radiographers to be licensed as a law was recently passed to that effect. However, the licensing is yet to begin. In any case, all who use radiation in Ghana (radiographers/technicians) have been duly trained and therefore are bound by the professional and radiation protection ethics of the profession.

It is hoped that in the not distant future the licensing process will begin.

II. Situation of applicant's organization

(1) Hospital

The hospital is a regional hospital serving a population of about 750,000. The total number of employees is 450 and it has a total of 300 beds. The average number of out-patient per day at the OPD is approximately 300. In the Radiology Department the out-patient number per day is approximately 35. There are 12 doctors at the hospital but there is none resident in the department.

In all there are 320 nurses in the hospital out of which two are resident in the Radiology Department.

There are two radiographers but no radiological technologists in the Department. There are two Technical Assistants.

b. Problems in Radiologist treatment system

Over the years the need for radiological treatment in Ghana has been acknowledged. Nevertheless, shortage of funds made acquisition of needed equipment impossible. No doubt, therefore the country has no radiation treatment facilities at the moment. The good news however is that three radiotherapy departments are under construction and will be operational from October 1996, since personnel have been sent abroad for training.

Hitherto patients requiring radiotherapy services have to travel to Nigeria, a sister West African country.

c. Current situation and problems of radiological technologist training system

In Ghana training in radiography dated as far back as colonial days when technicians were being trained on the job. At present intake into the only X-Ray Training School requires five credits at GCE 'Ordinary Level' including English, Science and mathematics and two passes at GCE Advance Level in the Sciences. It is noteworthy that entry requirements for the X-Ray Training School is periodically adjusted to match that of the British Schools of Radiography.

The reason is that after the local training one or two people are picked from time to time to go to Britain for the DCR. The local training is recognized only internally. Here too, scarcity of foreign exchange makes it difficult to send more people abroad for diploma or degree courses. For some reasons it has been difficult to upgrade the school to diploma or degree level. Thus personnel development and research activities are unknown. There is general dissatisfaction among staff for lack of educational opportunities. However, recent news have it that the University of Ghana will begin a degree programme in radiography as from October 1996. There is therefore the need to train the trainers for a successful take off of the degree programme.

d. Current Situation and problems in radiology department of applicants hospital

Radiology Department of the Ho Government Hospital is relatively busy as it is the only X-Ray department at Ho and serves an average population of about 750,000 people. There are two radiographer in the department assisted by two nurses and two technical assistants and also a cleaner.

The main problems of the department (in fact a national problem) have been procurement of modern radiological equipment and accessories, frequently interrupted supply of films and chemicals, and maintenance of existing equipment.

There are no radiologists in the department therefore certain examinations are not done.

Reading of radiographs is left to medical officers some of whom are newly qualified. One needs to travel for over one hundred kilometers to get access to a radiologist hence radiographs are scarcely reported on. Thus the radiographer is called upon to give his opinion on radiographs at times. It stands to reason that radiographers need higher education to be of greater use to physicians as well as patients.

e. Reasons for applying for this training course.

In the first place radiology is fast advancing therefore we in the developing countries also need to update our knowledge from time to time. In this region of Ghana (Volta Region) there are only two of us who are radiographers the rest are locally trained technicians. Therefore I occupy a supervisory position both in my department as well as in the whole region so I need to be knowledgeable enough in the field of modern radiography to be able to offer useful suggestions to medical doctors as well as my hospital management. Apart from this, I recently did education at the University of Cape Coast at a post graduate level and will soon be going into teaching at the X-Ray Training school and so this training course will be of much benefit to me.

f. Expected benefits from the course

The course will help me to improve and update my technical skill in modern radiology. It will help me acquire quality control techniques as well as managerial skills. It will help me to offer useful advice to management on radiography matters.

When I go into teaching the acquired knowledge will help me in lecturing students on the trends in modern radiology. The knowledge and skills acquired will be passed on to colleague radiographers by way of organizing workshops and seminars. It is anticipated that the standard of radiological science and technology as well as research will improve as a result of my undergoing the training course.

研修員所属先に対する質問内容

Questionnaire to the organization of the ex-participants

(Please type)

Name of Organization: TRUST HOSPITAL
Name of Respondent: DR. FIFI ELLIS
Position of Respondent: GENERAL MANAGER (MEDICAL)

1. Does your organization place any examinations to nominate the applicants?

A. Yes

B. No

If so, please itemize the qualifications to be examined.

(選考方法)

2. Choose and answer on each item.

(コース・G Iについて)

(1) Duration of the course

A. too long

B. About right

C. too short

(2) Qualification for application

A. too specific

B. About right

C. too wide

(3) General Information

A. too late

B. About right

C. too early

A. Unclear

B. About right

C. too precise (If you choose A. give

the reason of it.)

3. Do you have any systems to disseminate the knowledge the ex-participants acquired in this training?

(研修結果の普及方法)

A. Yes

B. No

If so, what kind of system is it?

A. Seminar

B. Reports to be delivered

C. Others

(Please describe the system in detail)

Weekly Continuous Education Programme at which various topics including Radiography are discussed

4. Does participation in the training have influence on promotion of ex-participants in your organization?

(研修参加と人事評価との関係)

A. a lot

B. somewhat

C. No

5. Do you think this training is beneficial to your organization?

(研修成果の効果)

A. very much

B. somewhat

C. No

If so, give the reason of it.

In what way :

It would be more beneficial if they were given more practical on the training.

6. Please give brief information of your organization such as number of workers, relation to the national or municipal government etc. Attachment of the organizational chart with this Questionnaire is really appreciated.

(組織に関する情報)

Quasi-Government institution operating on basis of cost recovery.
No subvention from Government.

Total staff strength is 190.

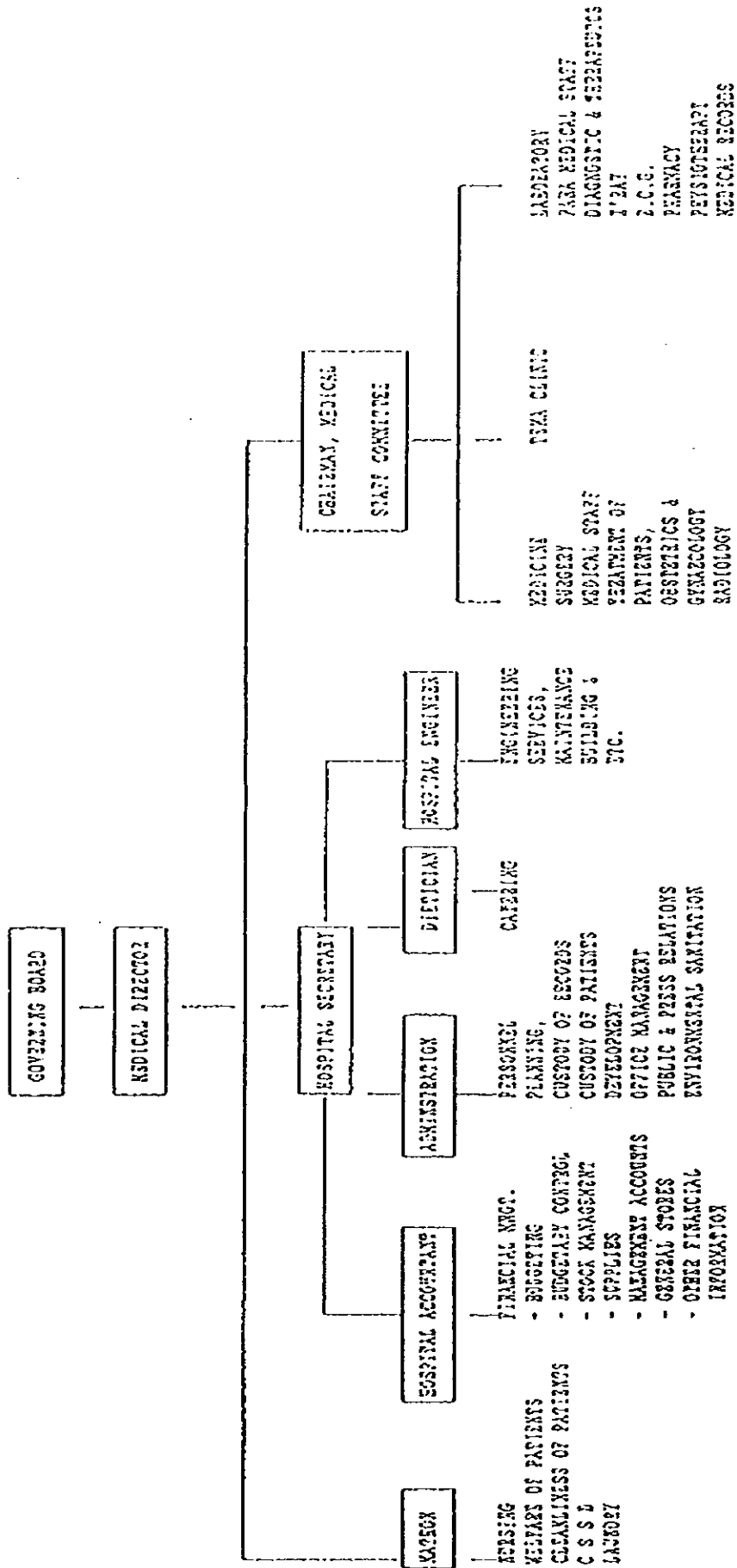
Organogram attached.

DR. S.F. ELLIS

End of Questionnaire.

Thank you for your sincere cooperation.

ORGANISATIONAL CHART ILLUSTRATING THE SERVICES PROVIDED AT THE TRUST HOSPITAL



研修員に対する質問内容

Questionnaire to the ex-participants

(Please type)

Name in Full PHILIP ETSE AVUMEGAH Age 42
Present job GENERAL RADIOGRAPHY
Present Post SNR. RADIOGRAPHER (OFFICER II)

1. Employment / Work Experience (研修前経歴)

a. Work experience : Before Training at JICA

Work / Job Position	Dates (from to)	Responsibilities
GENERAL RADIOGRAPHY	1992 TO 1994	GENERAL DUTIES, IN CHARGE OF DARKROOM (AUTOMATIC PROCESSORS) AND PROCEDURES

b. Work experience : After Training at JICA. (研修後経歴)

Work / Job Position	Dates (from to)	Responsibilities
1. GENERAL RADIOGRAPHY 2. ASSISTING RADIOLOGIST DURING ULTRASOUND SCANNING	1995 TO PRESENT	1. GENERAL DUTIES 2. IN CHARGE OF DARKROOM PROCEDURES AND ACCESSORIES 3. QUALITY CONTROL 4. ASSIST IN ULTRASOUND SCANNING

2. Evaluation of the JICA training programme. (J I C A 研修コース評価)

a. Can you apply the knowledge and technique acquired in the training to your present job?

Please check (X) one of those.

(研修コースの意義)

All Most Some A little None

If you check 'Most', 'Some', or 'A little', please itemize applicable knowledge and technique in this training.

1. ASSISTING AT ULTRASOUND
2. REORGANISING X-RAY FILMS (RADIOGRAPH) FILING SYSTEM
3. DARKROOM PROCEDURES AND ACCESSORIES AND QUALITY CONTROL

b. Do you think JICA training is beneficial to yourself and to your organization ?

To yourself (研修員および研修員所属先にとっての有益性)

A Yes

B No

If yes, please check (X) the reason of it.

Promotion of the position

Responsibility

Increase of salary

Contents of work

Professional recognition

International contacts

Others (Please give example)

X, - STRONG DESIRE FOR FURTHER STUDIES
IN MEDICAL ULTRASOUND IN ORDER
TO PRACTICE EFFECTIVELY, AND TO
GAIN PROFESSIONAL RECOGNITION.

If no, please state the reason of it.

To your organization

A Yes

B No

Please describe the reason of it in detail.

1. INSTRUMENTAL IN INTRODUCING MORE STAFF (5) FOR JICA GROUP TRAINING PROGRAMME WHICH IS BENEFICIAL TO THE HOSPITAL.
2. HELP IN THE ORGANISATION OF THE ULTRASOUND DEPARTMENT BUT CANNOT PRACTICE DUE TO INSUFFICIENT KNOWLEDGE AND RECOGNITION TO PRACTICE.
3. IMPROVEMENT IN DARKROOM PROCEDURES AND FILM FILING SYSTEM.

3. After participating JICA training, what knowledge do you want to acquire from Japan NOW ?

Please give us your suggestions for further improvement of this training.

1. COURSE COULD BE UPGRADED TO "POST GRADUATE DIPLOMA IN ADVANCED MEDICAL RADIOLOGICAL TECHNOLOGY. THIS WILL GIVE IT MORE PROFESSIONAL RECOGNITION AND INCREASE IN SALARY.
 2. THERE SHOULD BE FOLLOW UP EQUIPMENT TO SUPPORT KNOWLEDGE GAINED. EG. COMPUTER RADIOGRAPHY, CT SCAN, ULTRASOUND, ETC. AS APPLICABLE.
 3. THE NEED FOR UP-DATE OF KNOWLEDGE, AT LEAST FOR EVERY TWO (2) YEARS AT THE TRAINING SCHOOL SINCE RADIOGRAPHY IS NOW DYNAMIC.
4. Please attach a detailed chart of the organization where you belong now and indicate your position

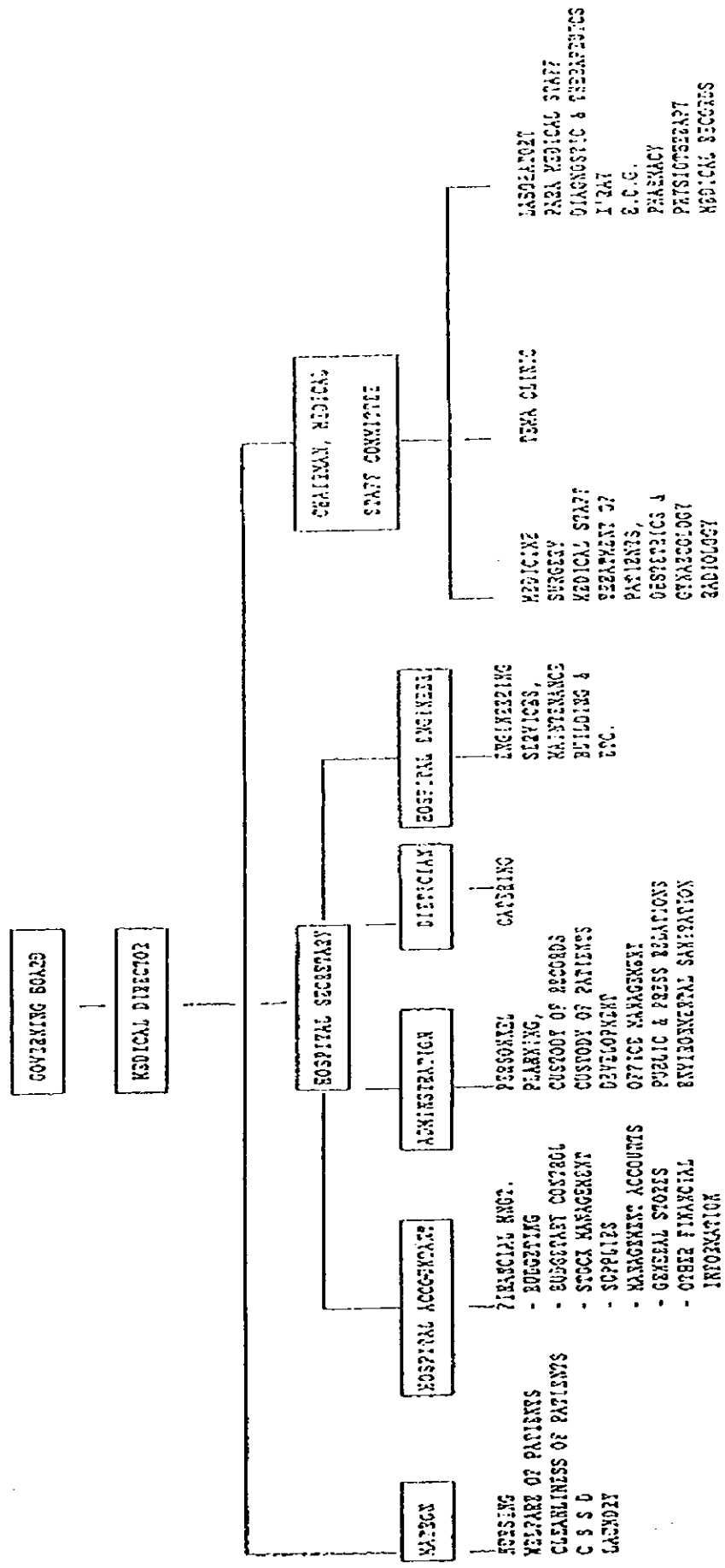
in it as well as the number of persons in each department, division, section, work team, etc.

(研修員所属先の組織図)

End of Questionnaire.

Thank you for your sincere cooperation.

INTERNATIONAL CLINIC: ILLUSTRATING THE SERVICES PROVIDED AT THE TEST HOSPITAL



STATISTICS FOR U.S SCAN

JANUARY - DECEMBER 1996

<u>MONTHS</u>	<u>NO. OF PATIENTS</u>
January -----	144
February -----	147
March -----	36
April -----	165
May -----	165
June -----	128
July -----	140
August -----	120
September -----	173
October -----	193
November -----	105
December -----	<u>104</u>
Total	<u>1620</u>

JANUARY - JUNE 1997

<u>MONTHS</u>	<u>NO. OF PATIENTS</u>
January -----	238
February -----	182
March -----	223
April -----	200
May -----	222
June -----	<u>202</u>
Total	<u>1,276</u>

STATISTICS - 1997

PART/ MONTH	CHEST	SPINE	SKULL	EXTREMITIES	ABD/PEL	BARIUM	I.V.U	SALP	INCOME
JANUARY	630	254	134	394	83	32	19	12	12,730,000.00
FEBRUARY	605	208	102	341	61	39	12	11	14,665,500.00
MARCH	476	220	120	340	86	30	12	10	13,165,500.00
APRIL	570	257	125	396	94	32	14	12	16,590,600.00
MAY	630	296	119	404	115	36	9	8	17,520,000.00
JUNE	663	257	118	346	99	39	11	7	15,954,000.00
TOTALS	3,574	1,489	718	2,221	538	208	77	60	79,168,600.00

TOTAL NO. OF PATIENTS (JANUARY - JUNE) ——— 8,792

STATISTICS - 1996

PART/ MONTH	CHEST	SPINE	SKULL	EXTREMITIES	PEL/ ABD	BA MEAL	I.V.U	SALP	INCOME
JANUARY	529	225	124	277	83	30	19	7	9,251,000.00
FEBRUARY	316	173	71	195	62	23	12	8	6,183,500.00
MARCH	359	265	116	250	98	20	12	5	7,694,000.00
APRIL	481	359	217	343	137	21	17	13	10,513,000.00
MAY	317	226	102	237	73	21	12	10	6,366,500.00
JUNE	468	347	178	276	115	23	15	8	8,743,500.00
JULY	569	380	209	329	126	34	14	10	10,753,500.00
AUGUST	469	413	222	306	138	32	9	11	10,572,000.00
SEPTEMBER	522	370	185	315	116	32	10	10	9,456,500.00
OCTOBER	511	419	238	393	114	39	12	9	10,837,500.00
NOVEMBER	481	277	139	399	105	37	16	13	9,178,000.00
DECEMBER	423	201	110	331	74	28	12	1	7,298,000.00

outpatient (costly)
400/day
2000/day
500/day
55 beds, 80%
malaya

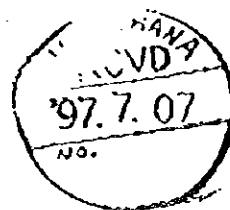
TOTAL NO. OF PATIENTS

CHEST	5,445
SPINE	3,655
SKULL	1,911
EXTREMITIES	3,651
PELVIS/ABDOMEN	1,241
BA	340
I.V.U	160
SALP	105
TOTALS	<u>14,858</u>

85



REPUBLIC OF GHANA



My Ref : GH/H/G - 286

Your Ref No.....

THE PRESIDENT ✓
(JICA) JAPAN INTERNATIONAL COOPERATION AGENCY (GH)
P. O. BOX 6402
ACCRA - NORTH

Dear Sir/Madam,

FOLLOW-UP FOR JICA EX-PARTICIPANTS ADVANCED MEDICAL RADIOLOGICAL TECHNOLOGY - MR. STEPHEN DZAH - RADIOGRAPHER HO GOVERNMENT HOSPITAL

Please find attached the duly-completed questionnaire in respect of the above-mentioned subject matter.

Your letter JICA/FT/73/Vol.2/70 dated 16th June, 1997, refers.

Also enclosed is a second questionnaire completed by the ex-participant, Mr. Stephen Dzah.

Inconveniences caused by delay in submitting the questionnaire are very much regretted.

Yours sincerely,

Ag. Medical Superintendent
(E. K. Akorli) [Dr]
Principal Medical Officer

RR	DRR	ARR	CO-ORDINATORS				PC
			1	2	3	4	

研修員所従先に対する質問内容

Questionnaire to the organization of the ex-participants

(Please type)

Name of Organization: HO GOVERNMENT HOSPITAL

Name of Respondent: DR. E. K. AKORLI

Position of Respondent: ACTING MEDICAL SUPERINTENDENT

1. Does your organization place any examinations to nominate the applicants?

A. Yes

B. No

If so, please itemize the qualifications to be examined.

(選考方法)

2. Choose and answer on each item.

(コース・G Iについて)

(1) Duration of the course

A. too long

B. About right

C. too short

(2) Qualification for application

A. too specific

B. About right

C. too wide

(3) General Information

A. too late

B. About right

C. too early

A. Unclear

B. About right

C. too precise (If you choose A, give

the reason of it.)

Notice of participation in the programme was received at this Hospital on 18th December, 1995, only when the Participant submitted his application with supporting documents through this Office for study leave in Japan.

Ministry of Health Headquarters' regulation stipulates a notice of three (3) months for processing of such application.

3. Do you have any systems to disseminate the knowledge the ex-participants acquired in this training?

(研修結果の普及方法)

A. Yes

B. No

If so, what kind of system is it?

A. Seminar B. Reports to be delivered C. Others
Presently, the only way knowledge and skills acquired could be disseminated by the Participant (Please describe the system in detail) is by on-the-job training of other colleague who has not benefitted from such a programme.

Summary of course contents as contained in Participant's report dated June, 1996, dissemination of knowledge and skills acquired could best be done at a well organised seminar of radiographers, X-ray technicians and of clinicians should funds be made available.

4. Does participation in the training have influence on promotion of ex-participants in your organization?

(研修参加と人事評価との関係)

A. a lot B. somewhat C. No

5. Do you think this training is beneficial to your organization?

(研修成果の効果)

A. very much B. somewhat C. No

If so, give the reason of it.

In what way?

This Hospital is not equipped with advanced imaging technology; but it is expected that the training would enable the participant to improve upon his work tremendously.

Besides, the New Regional Hospital now under construction is expected to be equipped with modern radiological equipment and would fully benefit from the Participant's newly acquired knowledge and skills.

6. Please give brief information of your organization such as number of workers, relation to the national or municipal government etc. Attachment of the organizational chart with this Questionnaire is really appreciated.

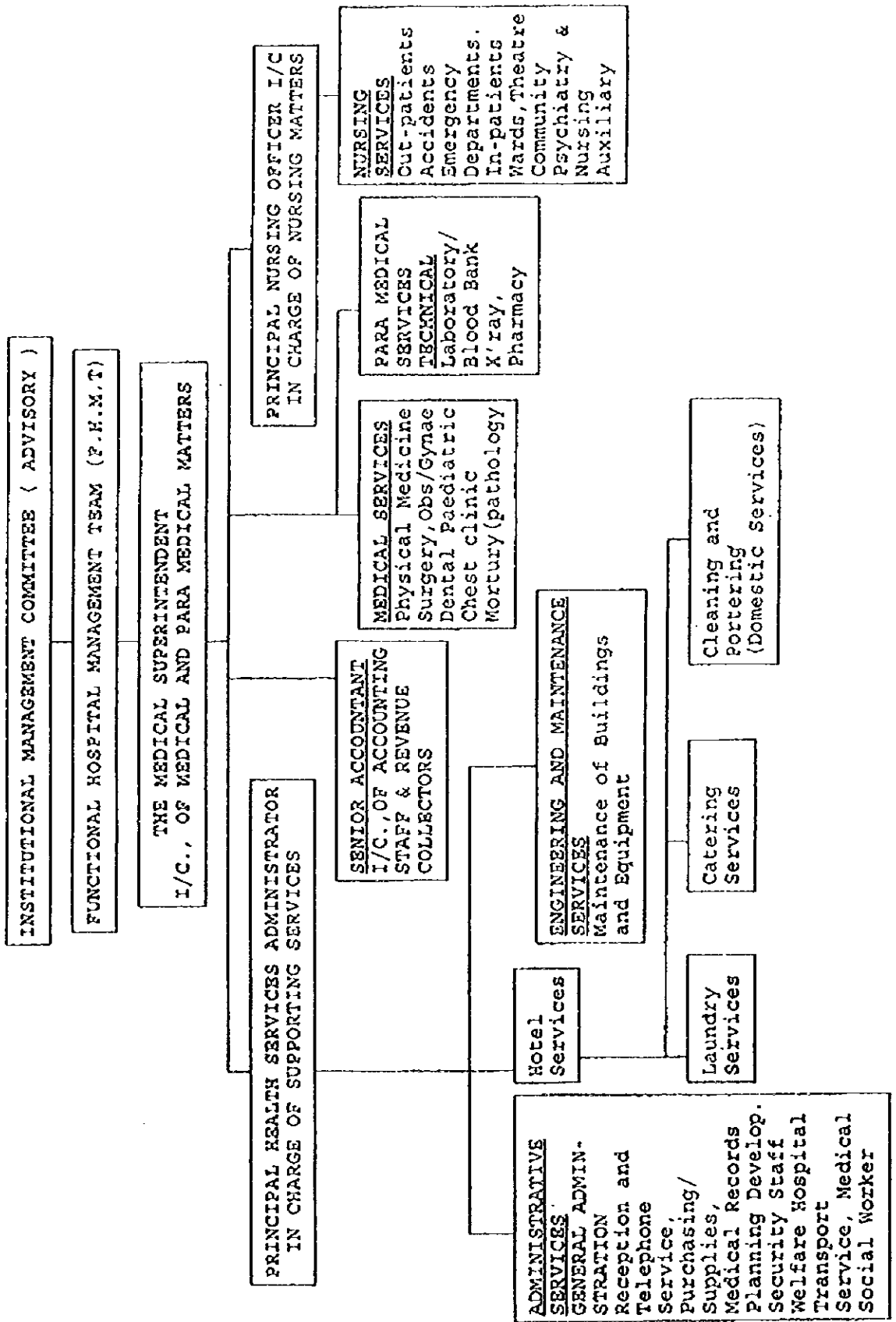
(組織に関する情報)

- 1) Number of workers -- 386 as at June, 1997.
- 2) A Regional Government Hospital within and accountable to Ministry of Health.
- 3) Organisational chart attached.

End of Questionnaire.

Thank you for your sincere cooperation.

ORGANISATIONAL CHART
REGIONAL GOVERNMENT HOSPITAL
VOLTA REGION, HO



資料12

研修員に対する質問内容

Questionnaire to the ex-participants

(Please type)

Name in Full STEPHEN KWAKU DZAH Age 41
 Present job GENERAL RADIOGRAPHY
 Present Post RADIOGRAPHER (2ND IN CHARGE OF THE DEPT.)

1. Employment / Work Experience (研修前履歴)

a. Work experience : Before Training at JICA

Work / Job Position	Dates (from to)	Responsibilities
RADIOGRAPHER (2ND I/C OF DEPT.)	OCT. 1990 -- JUNE 1990	GENERAL RADIOGRA- phy, SUPERVISION OF SUBORDINATE STAFF

b. Work experience : After Training at JICA. (研修後履歴)

Work / Job Position	Dates (from to)	Responsibilities
SAME AS ABOVE		THE DEPT. HAS NOT BEEN FUNCTIONING FOR THE PAST 2 YEARS DUE TO BREAK DOWN OF THE ONLY X-RAY EQUIPMENT.

2. Evaluation of the JICA training programme. (JICA研修コース評価)

a. Can you apply the knowledge and technique acquired in the training to your present job?

Please check (X) one of those.

(研修コースの意義)

 All X Most Some A little None

If you check 'Most', 'Some', or 'A little', please itemize applicable knowledge and technique in

this training. QUALITY CONTROL/QUALITY ASSURANCE OF GENERAL RADIOGRAPHIC WORK
 RADIATION PROTECTION MEASURES
 CARE OF EQUIPMENT
 CARE OF PATIENTS
 CARE OF SCREEN/FILM

b. Do you think JICA training is beneficial to yourself and to your organization ?

To yourself (研修員および研修員所属先にとっての有益性)

 X A Yes

 B No

If yes, please check (X) the reason of it.

_____ Promotion of the position

_____ Responsibility

_____ Increase of salary

X Contents of work

_____ Professional recognition

X International contacts

X Others (Please give example) eg. Expanded knowledge and general experience

If no, please state the reason of it.

To your organization

X A Yes

B No

Please describe the reason of it in detail.

This organization stands to gain a lot from my training at JICA. Even though the X-Ray Dept. has not been functioning since my return from Japan, due to equipment break down, the Dept. is soon to be equipped with modern equipment which will enable me put the knowledge and skills acquired to maximum use.

3. After participating JICA training, what knowledge do you want to acquire from Japan NOW ?

Please give us your suggestions for further improvement of this training. **MASTERS DEGREE IN RADIOLOGICAL TECHNOLOGY(RT) and Reporting on radiographs**

SUGGESTIONS FOR IMPROVEMENT

1. Specific syllabus for practical hospital training
2. Standard should be set for the end of course project work submitted by participants.
3. Procedure for applying for equipment should be made clear to participants during the course.
4. Masters programme should follow the AMRT

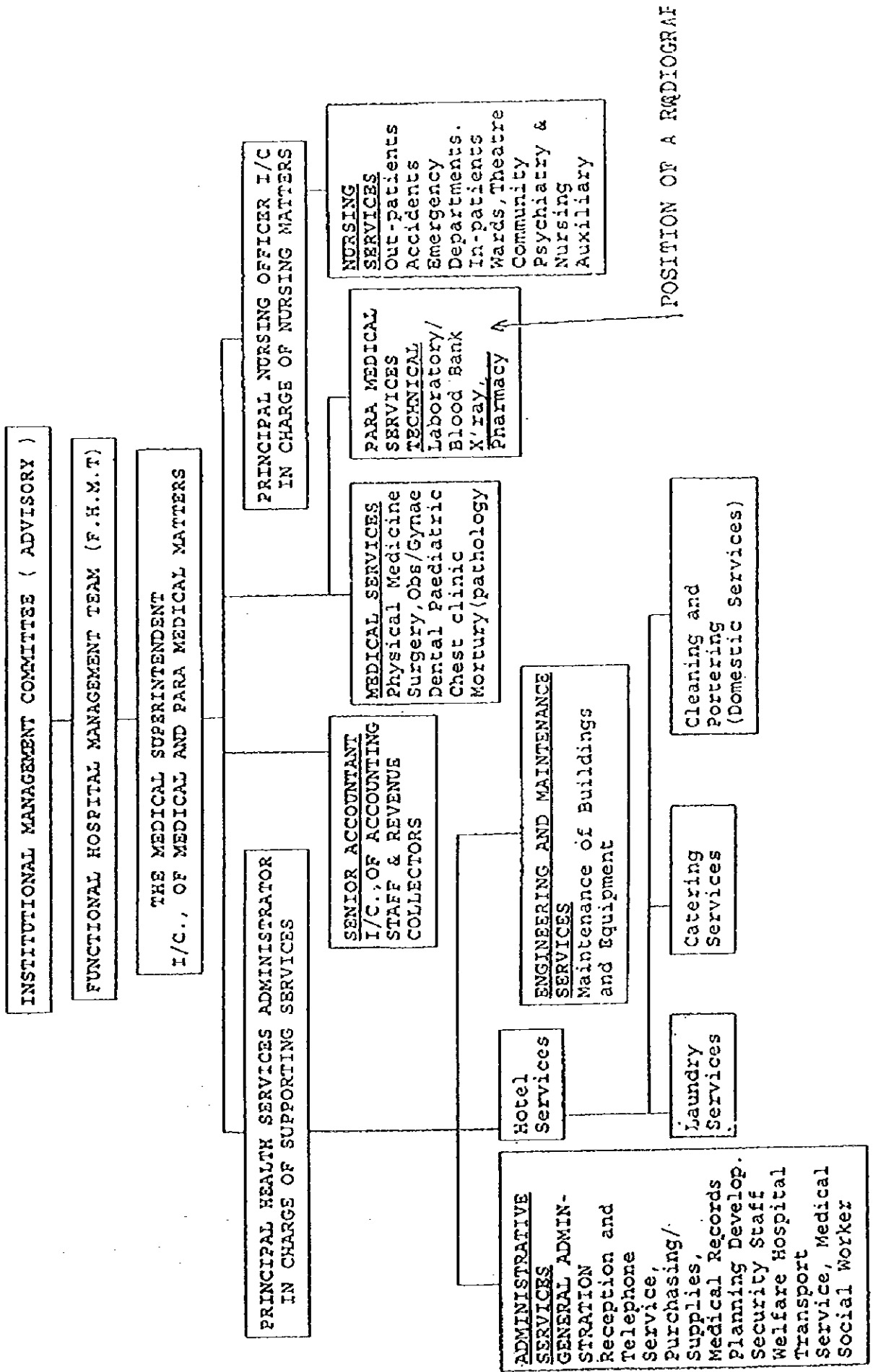
in it as well as the number of persons in each department, division, section, work team, etc.

(研修員所属先の組織図) THE TOTAL NUMBER OF WORKERS AT THE HOSPITAL IS 386..

End of Questionnaire.

Thank you for your sincere cooperation.

ORGANISATIONAL CHART
REGIONAL GOVERNMENT HOSPITAL
VOLTA REGION, HO



POSITION OF A RADIOGRAPHER

2. コース概要（平成8年度実施要領から抜粋）

1. コース名など

(1) コース名

和 文 : 医療放射線技術指導者

英 文 : Advanced Medical Radiological Technology

(2) 研修期間

a. 全体受入期間：平成8年9月 2日（月）～平成9年2月23日（日）

b. 技術研修期間：平成8年9月30日（月）～平成9年2月21日（金）

(3) 定 員

7名

2. コースの目的・背景

大阪大学医療技術短期大学部（現大阪大学 医学部保健学科）は国際協力事業団の委託を受け、昭和48年より20年間にわたり「医療放射線技術」集団研修コースを設定し、38カ国151名の放射線技師の研修を行い、途上国の技術水準向上を計る所期の目的を達成した。しかし、高度化・複雑化する放射線医療の現状に鑑み、単に技術者個人の技術能力だけでなく広く放射線技術科学全般を見渡せる指導的人材、放射線技師養成のための教育者、技術水準向上に寄与できる研究者の育成を計ってほしいとの途上国側の要望を受けて、「医療放射線技術」コースを改廃して「医療放射線技術指導者」集団研修コースを新たに設定し、平成5年度より大阪大学医学部保健学科が主管となり開始した。今年度からは放射線医療の特定分野を個別専門的に研修を行うようプログラムの一部を変更し、それにともない実施時期を従来の1月開始から9月開始へと変更した。

3. 到達目標

医療放射線技術の指導者としての職務を認識させ、そのための能力を開発し発展させることを到達目標とする。具体的には下記項目があげられる。

- (1) 日本の医療システムを知り、放射線診療の位置付けを認識する。放射線医療技術が日本の保健医療の改善に如何に寄与し、運用されているかを知る。
- (2) 日本の放射線技術科学の広さ、深さを理解する。その学術ならびに技術を学ぶとともにそれらの適切なる移転方法を考える。
- (3) 放射線技術分野での品質管理（QC）ならびに放射線被曝軽減の認識を深め、技術水準の向上を計る方法を学ぶ。

- (4) わが国の放射線技術ならびに研修員相互間の情報交換を通じ、各国の疾病構造の現状を知るとともに、その改善に如何なる放射線技術が役立つかを考えさせ、自国の保健医療の改善に資するようにする。
- (5) 自国の放射線医療の水準、資材の調達、修理能力の程度をかえりみて、その改善への途を検討させ、わが国の国際医療協力の実をあげる。
- (6) 放射線技術の指導者、教育者としての役割を認識させ、自国の技術水準向上に如何に参画すればよいかを考えさせる。

4. 研修項目

(1) 基礎的学科目

日本の医療システムと疾病構造・情報科学・医用物理学（放射線、温熱療法、超音波、核磁気共鳴）医用工学・画像の基礎・放射線診断技術学・放射線治療技術学、核医学技術学・放射線管理学、QC

(2) 臨床実習

放射線診断技術学・画像診断技術学（超音波、MRI）・放射線治療技術学・核医学技術学・保健管理学に関連した臨床実習

(3) 特別科目

放射線技術の教育・放射線機器のメンテナンス・業務の品質管理・自国に合った適性技術の研究などにつきゼミナール形式で行う。

5. 研修員参加資格要件

(1) 応募要件

本コースは医療放射線技術分野で指導的地位（技師長、医学物理学責任者、技師学校長など）または今後、指導的地位を目指すことができる者（副技師長、技術主任または相当する者、医学物理士、技師学校教官など）を対象とし、以下の要件を満たすものであること。

- a. 所定の手続きに基づき各国政府が推薦する者。
- b. 大学卒、または同等の学力を有する者。
- c. 5年以上放射線技師か医学物理士として診療に従事するか、放射線技師学校教官としての教育経験を有する者。（両者合算でも可）。
- d. 年齢45才以下の者。
- e. 十分な英会話および英文読解力を有する者。

- f.心身ともに健康な者（妊娠中の者は不可）。
- g.医者でない者。
- h.軍籍にある者は不可

(2) 割当国 （9ヶ国）

インドネシア、タイ、ウガンダ、トーゴ、ケニア、セネガル、ジャマイカ、ベリーズ、ドミニカ共和国

6. 研修方法

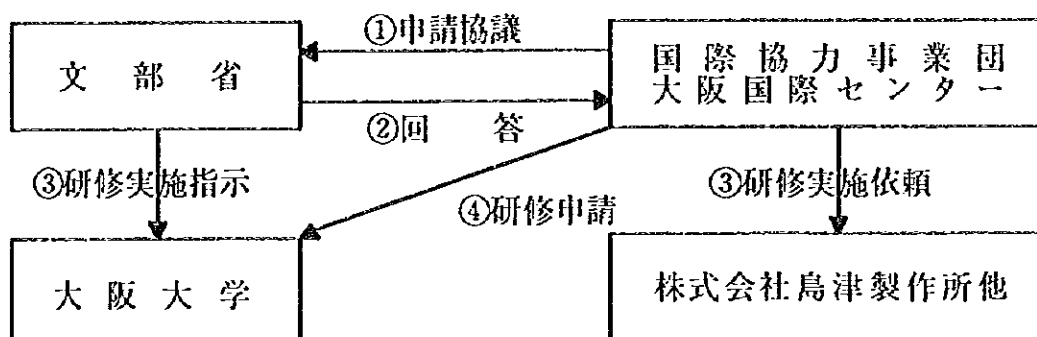
- (1) 基礎的学科目は大阪大学医学部保健学科が担当し、講義、演習を行う。
- (2) 臨床実習は医学部附属病院放射線部が担当し、放射線診断、画像診断、放射線治療、核医学に関連した技術を、研修目標として習得させる。また放射線技術管理者としての職務を実地に研修させ指導者としての認識を持たせる。
- (3) 指導者・教育者としての役割・適正技術についての講義・演習を医学部保健学科が担当して行う。一方的教育ではなくカンファレンス、ゼミなどを通じて、自国の状況をかえりみ、改善点を発見させるなど、指導者意識の向上に努める。
- (4) 研修員の希望により放射線医療の特定分野を選択させ、個別専門的に研修を行う。
- (5) 研修終了間際にシンポジウムを開催し、研修員各自の研修成果を発表させ討論を行う。
- (6) 日本放射線技師学会学術集会、他大学見学、その他の交流機会を通じ学術水準の向上に努める。
- (7) 日本放射線機器工業会の協力を得て放射線機器展示会の見学、機器メーカーの訪問、工場実習・製品紹介を通じて放射線機器についての知識を深める。
- (8) 研修には本コースのために作成したテキスト（Radiological Technology－臨床編）を使用する。

なお、参考図書として、以下の図書を購入し、配布する。

Pocket Atlas of Normal CT Anatomy

7. 研修実施体制

(1) コース運営の仕組み



財団法人日本国際協力センターの研修監理員を適宜配置する。

(2) 研修運営機関

a. 国際協力事業団 大阪国際センター

(OSIC : Osaka International Centre)

〒567 大阪府茨木市西豊川町25-1

電話：0726-41-6900

FAX：0726-41-6910

b. 大阪大学医学部保健学科

〒560 大阪府豊中市待兼山1-20

電話：06-855-1281

c. 大阪大学医学部附属病院放射線部

〒565 吹田市山田丘2-15

電話：06-879-6810

(3) 研修監理業務委託機関

(財) 日本国際協力センター

(JICE : Japan International Cooperation Center)

(財) 日本国際協力センターは、国際協力事業の実施に関する協力、国際協力に関する広報などにおいて、わが国の国際協力事業の推進に貢献するために昭和52年に設立された公益法人である。

同大阪支所

〒567 大阪府茨木市中穂積1-1-59 茨木田中ビル5階

電話：0726-24-8686

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