

## ANNEXES

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THE RECORD OF DISCUSSIONS  
 BETWEEN THE JAPANESE IMPLEMENTATION SURVEY TEAM  
 AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF  
 THE REPUBLIC OF ZAMBIA  
 ON THE JAPANESE TECHNICAL COOPERATION FOR  
 THE UNIVERSITY OF ZAMBIA: VETERINARY EDUCATION PROJECT (PHASE - II)

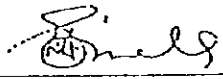
The Japanese Implementation Survey Team (hereinafter referred to as the Team) organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Prof. Hiroshi Kanagawa, Professor of the School of Veterinary Medicine, Hokkaido University, visited the Republic of Zambia from June 30, 1992 to July 9, 1992 for the purpose of working out the details of the technical cooperation program concerning the University of Zambia Veterinary Education Project (Phase - II).


During its stay in the Republic of Zambia, the Team exchanged views and had a series of discussions with the Zambian authorities concerned in respect of the desirable measures to be taken by both Governments for the successful implementation of the above-mentioned project.

As a result of the discussions, both parties agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Lusaka, July 8, 1992

  
 Prof. Hiroshi Kanagawa  
 Leader,  
 Implementation Survey Team,  
 Japan International Cooperation  
 Agency, Japan

  
 Prof. Andrew A. Sirela  
 Acting Vice-Chancellor,  
 University of Zambia,  
 Republic of Zambia

  
 Mr. M. C. Soko  
 Director,  
 Economic and Technical Cooperation  
 Department,  
 Ministry of Planning and Development  
 Cooperation,  
 Republic of Zambia

## THE ATTACHED DOCUMENT

### I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of Japan and the Government of the Republic of Zambia will cooperate with each other in implementing the technical cooperation program concerning the University of Zambia: Veterinary Education Project (Phase - II) (hereinafter referred to as "the Project") for the purpose of establishing the postgraduate education programme in order to produce Zambian academic staff, while strengthening the veterinary research and extension activities.
2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

### II. DISPATCH OF JAPANESE EXPERTS

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense services of the Japanese experts as listed in Annex II through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The Japanese experts referred to in 1 above and their families will be granted in the Republic of Zambia the privileges, exemptions and benefits as listed in Annex III and will be granted privileges, exemption and benefits no less favourable than those granted to experts of third countries or international organizations performing similar missions.

### III. PARTICIPATION OF JAPAN OVERSEAS COOPERATION VOLUNTEERS

Japan Overseas Cooperation Volunteers to be sent under the Exchange of Notes between the Government of Japan and the Government of the Republic of Zambia on April 19, 1970 may participate in the Project. For this purpose the schedule referred to in I of the said Notes will be separately agreed upon by the authorities concerned of the both Governments.

#### IV. PROVISION OF MACHINERY AND EQUIPMENT

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense such machinery, equipment and other materials necessary for the implementation of the Project as listed in Annex IV, through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The articles referred to in 1 above will become the property of the Government of the Republic of Zambia upon delivery c.i.f. to the Republic of Zambia authorities concerned at the ports and/or airports of disembarkation, and will be utilized exclusively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.

#### V. TRAINING OF ZAMBIAN PERSONNEL IN JAPAN

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive at its own expense the Republic of Zambia personnel connected with the Project for technical training in Japan through the normal procedures under the Technical Cooperation Scheme of Japan.
2. The Government of the Republic of Zambia will take necessary measures to ensure that the knowledge and experience acquired by the Zambia personnel from technical training in Japan will be utilized effectively for the implementation of the Project.

#### VI. SERVICES OF ZAMBIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. In accordance with the laws and regulations in force in the Republic of Zambia, the Government of the Republic of Zambia will take necessary measures to secure at its own expense necessary services of Zambia counterpart and administrative personnel as listed in Annex V.

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2. The Government of the Republic of Zambia will allocate the necessary number of suitably qualified personnel corresponding to each Japanese expert to be dispatched by the Government of Japan as specified in Annex II for the effective and successful transfer of technology under the Project.

VII. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF ZAMBIA .

1. In accordance with the laws and regulations in force in the Republic of Zambia, the Government of the Republic of Zambia will take necessary measures to provide at its own expense:
  - (1) Services of the Zambian counterpart personnel and administrative personnel as listed in Annex V ;
  - (2) Land, buildings and facilities as listed in Annex VI ;
  - (3) Supply or replacement of machinery, equipment, instrument, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than those provided through JICA under IV-1 above;
  - (4) Transportation facilities and travel allowance for the Japanese experts for the official travel within the Republic of Zambia;
  - (5) Suitably furnished accommodations for the Japanese experts and their families.
  
2. In accordance with the laws and regulations in force in the Republic of Zambia, the Government of the Republic of Zambia will take necessary measures to meet:
  - (1) Expenses necessary for the transportation within the Republic of Zambia of the articles referred to in IV-1 above as well as for the installation, operation and maintenance thereof;
  - (2) Customs, duties, internal taxes and any other charges, imposed in the Republic of Zambia on the articles referred to in IV-1 above;
  - (3) All running expenses necessary for the implementation of the Project.

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## VIII. ADMINISTRATION OF THE PROJECT

1. The Vice-Chancellor of the University of Zambia (hereinafter referred to as "UNZA") will bear overall responsibility for the implementation of the Project.
2. The Dean of the School of Veterinary Medicine, UNZA, as the Head of the Project, will be responsible for the administrative and managerial matters of the Project.
3. The Dean of the School of Veterinary Medicine, UNZA, will coordinate the implementation of the Project. Collaboration with the Ministry of Agriculture, Food and Fisheries and the national veterinary and agricultural research institutions will be encouraged for the smooth implementation of the Project.
4. UNZA will coordinate the activities of the Project with those of other governments or international organizations.
5. The Japanese Team Leader and Coordinator will provide necessary recommendation and advice on technical and administrative matters concerning the implementation of the Project to the Head of the Project.
6. The Japanese experts will give necessary technical guidance and advice to the Zambian counterpart personnel on matters pertaining to the implementation of the Project.
7. For the effective and successful implementation of the Project, a Joint Committee will be established with the function and composition as referred to in Annex VII.
8. The Japanese experts will observe regulations of UNZA, however, when any differences occur between the two sides within the framework of the technical cooperation project, the Joint Committee will deal with the matter.

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#### IX. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the Republic of Zambia undertakes to bear claims, if any arise, against the Japanese experts engaged in the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Republic of Zambia except for those arising from the willful misconduct or gross negligence of the Japanese experts.

#### X. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

#### XI. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be five(5) years from July 22, 1992.

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## ANNEX

### I. MASTER PLAN

#### 1. OBJECTIVES OF THE PROJECT

The objectives of the Project is to develop livestock industry with increased number of Zambian trained veterinarians, thus to lead to an improvement in the overall standards of human health and well-being.

#### 2. OBJECTIVES OF JAPANESE TECHNICAL COOPERATION

The Project will aim, through technical cooperation, at establishing the postgraduate education programme in order to produce Zambian academic staff, while strengthening the veterinary research and extension activities.

At the same time, the Project will also aim at maintaining and strengthening the undergraduate education programme which has already been established.

#### 3. ACTIVITIES OF THE PROJECT

To attain the above-mentioned objectives, Japanese technical cooperation will be rendered in the form of the dispatch of Japanese experts and volunteers, Zambian counterpart training in Japan and equipment supply necessary for pursuing the activities in the areas listed below:

- (1) Establishment of postgraduate education programme
- (2) Strengthening of research activities
- (3) Maintenance and strengthening of undergraduate education programme
- (4) Strengthening of extension services

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## II. JAPANESE EXPERTS

1. Team Leader
2. Coordinator
3. Experts in the fields of Paraclinical Studies and Disease Control.  
with a title of such as:
  - (1) Professor
  - (2) Associate Professor
  - (3) Senior Lecturer
  - (4) Lecturer
  - (5) Technician

### Note:

- i. The Team Leader may serve concurrently as an expert in any field listed in II-3 above.
- ii. Long-term Experts to be dispatched including the Team Leader, Coordinator and Experts from among the fields mentioned in II above will not exceed eight (8) in total at any given time. "Long-term" is defined as one year and over.
- iii. Short-term Experts in the relevant fields may be dispatched not exceeding six (6) annually when necessity arises for the smooth implementation of the Project. "Short-term" is defined as less than one year.
- iv. Experts will be involved both in undergraduate and postgraduate education programmes at an early stage of the Project. However, their workload on undergraduate education programme and departmental administrative work will be gradually reduced in the course of the Project and shifted to postgraduate education programme and research supervision.
- v. JOCV volunteers will be assigned as lecturer III to give lectures and/or practicals for undergraduate education programme

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#### III. PRIVILEGES, EXEMPTIONS AND BENEFITS

1. Exemptions from income tax and charges of any kind imposed on or in connection with the living allowances remitted from abroad.
2. Exemptions from import duties and any other charge in respect of personal and household effects including one motor vehicle per expert which may be brought into the Republic of Zambia from abroad.
3. In the case of accident or emergency, the Government of the Republic of Zambia will extend assistance with all its available means to obtain the medical and other necessary assistance to the Japanese experts and their families.

#### IV. LIST OF MACHINERY AND EQUIPMENT

1. Equipment includes machines, tools, spare parts and other materials necessary for the activities of the Project referred to in 1-3 above. A list of items and specifications of the equipment will be made in close consultation with the Japanese Experts.
2. Vehicles for use in field activities

#### V. LIST OF ZAMBIAN COUNTERPARTS AND ADMINISTRATIVE PERSONNEL

1. Head of the Project (Dean of the school of Veterinary Medicine)
2. Counterpart personnel in the academic fields of the School of Veterinary Medicine, with a title of such as:
  - (1) Professor
  - (2) Associate Professor
  - (3) Senior Lecturer
  - (4) Lecturer
  - (5) Staff Development Fellow
  - (6) House Surgeon
  - (7) Chief Technician

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(3) Technician

3. Administrative Personnel  
UNZA administration

#### VI. LIST OF LAND, BUILDINGS AND FACILITIES

1. Land for the school of Veterinary Medicine, Great East Road Campus of UNZA
2. Buildings and facilities
  - (1) All buildings and facilities established in Phase-I
  - (2) University Fara (Liempe)

#### VII. THE JOINT COMMITTEE

##### 1. Functions

The joint committee will meet at least once a year and whenever necessity arises, and work:

- (1) To draw the Annual Work Plan of the Project in line with the Tentative Schedule of Implementation formulated under the framework of this Record of Discussions;
- (2) To review the achievements of the above-mentioned Annual Work Plan as well as the overall progress of the Project; and
- (3) To review and exchange views on major issues arising from or in connection with the Project.

##### 2. Composition

###### (1) Chairman:

Vice-Chancellor of UNZA

###### (2) Members:

###### 1) Zambian side:

- i) Dean, School of Veterinary Medicine
- ii) Assistant Dean (undergraduate), School of Veterinary Medicine
- iii) Assistant Dean (postgraduate), School of Veterinary Medicine
- iv) Departmental Heads, School of Veterinary Medicine

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- v) Representative of Ministry of Planning and Development  
Cooperation
- vi) Representative of Ministry of Education
- vii) Director, Department of Veterinary and Tsetse Control Services,  
Ministry of Agriculture, Food and Fisheries

2) Japanese side:

- i) Team Leader
- ii) Coordinator
- iii) Other Experts and personnel appointed by the Team Leader
- iv) Resident Representative of JICA Zambia Office

Note: Officials of the Embassy of Japan and those of the Government of Zambia may attend the Joint Committee as observers.

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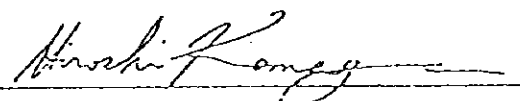
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TENTATIVE SCHEDULE OF IMPLEMENTATION  
OF THE JAPANESE TECHNICAL COOPERATION FOR  
THE UNIVERSITY OF ZAMBIA: VETERINARY EDUCATION PROJECT (PHASE - II)  
IN THE REPUBLIC OF ZAMBIA

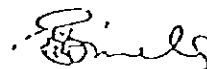
Within the scope of the Record of Discussions signed on July 8, 1992, the Japanese Implementation Survey Team and the authorities concerned of the Government of the Republic of Zambia have jointly formulated the Tentative Schedule of Implementation for smooth implementation of Technical Cooperation for the Veterinary Education Project (Phase - II) (hereinafter referred to as "the Project" as annexed hereto.

This Tentative Schedule of Implementation is subject to the condition that the necessary budget will be allocated for the Project and also subject to change in the course of project implementation within the framework of the Record of Discussions.

Lusaka, July 8, 1992



Prof. Hiroshi Kanagawa  
Leader,  
Implementation Survey Team,  
Japan International Cooperation  
Agency, Japan



Prof. Andrew A. Sivela  
Acting Vice-Chancellor,  
University of Zambia,  
Republic of Zambia

PROVISORY SCHEDULE OF IMPLEMENTATION FOR THE UNIVERSITY OF ZAMBIA: VETERINARY EDUCATION PROJECT (PHASE - II)

1. USZA ACTIVITIES

Item	1st year	2nd year	3rd year	4th year	5th year
1. Under Graduate Education Programme (1) Programme development (2) Student enrolment	July 21, 1992				July 21, 1997
2. Postgraduate Education Programme (1) Master Course Programme 1) Programme development 2) Student enrolment					
(2) House Surgeon Programme 1) Programme development					
(3) Staff Development Fellow (SDF) Programme 1) Programme development					
(4) Ph.D. Course Programme 1) Programme development					
3. Continuing Professional Development (CPD) 1) Programme development					

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11. PROJECT ACTIVITIES

Item	1st year	2nd year	3rd year	4th year	5th year
1. Postgraduate Education Programme					
(1) Programme development for Master's courses					
(2) Establishment of Master's courses					
(3) Programme development for Ph.D courses					
(4) Supervision of House Surgeon and SDF Programme					
(5) Participation in Continuing Professional Development Programme					
Research activities					
(1) Research on diseases of domestic animals and wild life in Zambia					
(2) Research on Public Health Aspects					
3. Maintenance and strengthening of undergraduate education programme					
(1) Programme development					
(2) Lecture/practice to the students					
(3) Development of teaching materials					
4. Strengthening of extension services					
(1) Development of diagnostic laboratory					
(2) Organizing veterinary conference and seminars					
(3) Publication of Zambia Veterinary Journal etc					

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III. JAPANESE CONTRIBUTION

Item	1st year	2nd year	3rd year	4th year	5th year
1. Dispatch of Long-Term Experts (2 persons) (1) Team Leader (2) Coordinator (3) Academic and Research Staff (4) Technician					
2. Dispatch of Short-Term Experts, incl. attending (onsite)					
3. Dispatch of JOCV personnel					
4. Provision of machinery, equipment and materials					
5. Zambian Counterpart Training in Japan (Maximum 5 persons per year)					
6. Dispatch of Survey Missions	Plan Con- sultation	Technical Guidance	Technical Guidance (Mid-term Evaluation)	Technical Guidance	Evaluation

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IV. ZAMBIAN RESPONSIBILITY

	1st year	2nd year	3rd year	4th year	5th year
<p>1. Counterparts</p> <p>(1) Head of the Dept. (The Dean).</p> <p>(2) Academic Staff</p> <p>1) Professor</p> <p>2) Associate Professor</p> <p>3) Senior Lecturer</p> <p>4) Lecturer</p> <p>(3) Technical Staff</p> <p>1) Chief Technician</p> <p>2) Technician</p> <p>(4) Others</p> <p>1) Teaching Assistants</p> <p>2) House Surgeon</p> <p>(5) Postgraduates</p> <p>1) Staff Development Fellows</p> <p>2) Students in Master's course</p> <p>3) Students in Ph.D course</p> <p>(6) Undergraduate Students</p> <p>1) 2nd-year students</p> <p>2) 3rd year students</p> <p>3) 4th year students</p> <p>4) 5th year students</p> <p>5) 6th year students</p>					

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Item	1st year	2nd year	3rd year	4th year	5th year
(7) Administration 1) Office of the Vice Chancellor 2) Office of the Dean 3) Staff Development Office 4) Planning Office 5) Office of the Registrar 6) Dursat 7) Office of the Dean of Students Affairs 8) The School of Agricultural Sciences 9) The School of Natural Sciences 10) The School of Graduate Studies					
2. Provision of Running Expenses of the Project including 1) All buildings and facilities established for Phase I 2) University farm (Kicempe)					
3. Provision of Land, Building etc. 1) Land 2) Building 3) Facilities 4) Other related facilities					

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ITEMS	PROJECT ACTIVITIES	OUTPUTS(Goal of Achievement)
<p><u>1. Postgraduate Education Programme</u></p>	<p>(1) Course Master Programme                      i) Programme Development for M.Vet.Med.                      ii) Lecture, Practice and Seminar to the Postgraduates                      iii) Research Guidance to Postgraduates                      (2) Other Postgraduate Education Programme                      i) Advice to SDF Programme                      ii) Technical Guidance to Students under Research Master and Ph.D. Programme                      i) Collaborative research                      ii) Augment Zambian Academic Staff                      ii) Cooperative Lecturing in order to Develop Skill and Competent of Zambian Academic Staff                      i) Advice to Activities for Diagnostic Laboratory                      i) Transfer Basic Techniques of Maintenance of Major Laboratory Equipment.</p>	<p>i) Curriculum is established and can be reviewed regularly.                      ii) M.Sc. and Ph.D. degree holders are created.                      iii) M.Sc. and Ph.D. degree holders are created. Adequate and relevant research can be implemented.                      i) SDF Programme is carried out in the School properly.                      ii) M.Sc. and Ph.D. degree holders are created. Adequate and relevant research can be implemented.                      i) Research subjects are appropriately selected. Zambian Academic Staff are able to formulate Research Programme and implement, evaluate them by themselves.                      i) Curriculum are improved and developed.                      ii) Acquiring appropriate lecturing methods by Zambian personnel for maintenance and strengthening of Undergraduate Education Programme.                      i) Establishment of the academic linkage between Diagnostic Laboratory and the Veterinary Research Activities.                      i) Maintenance of Major Laboratory Equipment by Zambian personnel became possible.</p>
<p><u>2. Related Veterinary Research Activities with Veterinary Education Programme</u></p>		
<p><u>3. Maintenance and Strengthening of Undergraduate Education Programme</u></p>		
<p><u>4. Extension Service</u></p>		
<p><u>5. Technical Transfer for Maintenance of Major Laboratory Equipments</u></p>		

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The Annual Work Plan (Revised)

ITEMS (PROJECT ACTIVITIES)	3rd Year	4th Year	5th Year
1. <u>Postgraduate Education Programme</u>			
(1) Course Master Programme			
i) Programme Development			
ii) Lecture, Practical and Seminar to the Postgraduates			
iii) Research Guidance to the Postgraduates			
(2) Other Postgraduate Education Programme			
i) Advice to SDF Programme			
ii) Technical Guidance to Students under Research Master and PhD Programme			
2. <u>Related Veterinary Research Activities with Veterinary Education Programme</u>			
i) Collaborative Research			
3. <u>Maintenance and Strengthening of Undergraduate Education Programme</u>			
i) Augment Zambian Academic Staff			
ii) Cooperative Lecturing in order to Develop Skill and Competent of Zambian Academic Staff			
4. <u>Extension Service</u>			
i) Advice to Activities for Diagnostic Laboratory			
5. <u>Technical Transfer for Maintenance of Major Laboratory Equipment</u>			
i) Transfer Basic Techniques of Maintenance Major Laboratory Equipment			

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Japanese Contribution

	3rd Year	4th Year	5th Year
1. Dispatch of Long-Term Experts			
1) Team Leader			
2) Coordinator			
3) Academic staff			
i) Vet. Pathology			
ii) Vet. Public Health			
iii) Vet. Virology			
iv) Vet. Clinical Pathology			
v) Vet. Microbiology including Immunology			
vi) Vet. Epidemiology			
vii) Others (When necessity arises)			
2. Dispatch of Short-Term Experts	When necessity arises.		
3. Dispatch of JOCV			
4. Counterpart training in Japan			
(1) JICA Programme			
(2) JOCV Programme			
5. Provision of Machinery and Equipment			
6. Dispatch of Survey Mission	When necessity arises.		

Note : Japanese contributions will be, mainly, for the fields of Paraclinical Studies and Disease Control.

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## PROJECT DESIGN MATRIX

**THE UNIVERSITY OF ZAMBIA**  
**VETERINARY EDUCATION PROJECT PHASE II**

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTION
<p><b>GOAL</b></p> <p>To develop livestock industry with improved disease control, reproduction &amp; nutrition</p>	<ol style="list-style-type: none"> <li>1. Decrease of animal diseases</li> <li>2. Increase of livestock population and/or productivity</li> <li>3. Improvement of Veterinary Public Health</li> </ol>	<p>Annual Report (Ministry of Agriculture, Food and Fisheries)</p>	<ol style="list-style-type: none"> <li>1. Adequate Water supply</li> <li>2. Improvement of quality &amp; quantity of feed</li> <li>3. Improvement of supporting system for Veterinary Service</li> <li>4. Adequate supply of vaccines and other drugs</li> <li>5. Stability of climate</li> <li>6. Stability of attractive market price of meat and dairy products</li> </ol>
<p><b>PROJECT PURPOSE</b></p> <ol style="list-style-type: none"> <li>1. Zambianization of the School of Veterinary Medicine</li> <li>2. Zambianization of Veterinary Profession</li> </ol>	<p>Production of 21 academic staff, 50% of 42 academic staff by 1997</p> <p>Production of 150 Veterinarians, 50% of 300 (minimum - requirement), by 1997</p>	<p>School Hand Book School Annual report</p> <p>Register of Zambian Veterinarians (DAPH)</p>	<ol style="list-style-type: none"> <li>1. Retention of Zambian academic staff is to be maintained</li> <li>2. Retention of Zambian registered veterinarians is to be maintained</li> </ol>

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTION
<p><b>OUTPUT</b></p> <p><u>1. Establishment of Postgraduate Education Programme</u>  1) Course Master Curriculum is established and can be reviewed regularly</p> <p>2) M. Vet. Med., M.Sc and Ph.D. Degree holders are created</p> <p>3) Adequate and relevant research can be implemented</p> <p>4) SDF Programme is carried out in the School properly</p> <p><u>2. Strengthening of related Veterinary Research Activities with Veterinary Education programme</u></p> <p>1) Research subjects are appropriately selected. Zambian Academic Staff are able to formulate Research Programme and implement and evaluate them by themselves</p> <p><u>3. Maintenance and Strengthening of Undergraduate Education Programme</u></p> <p>1) Curriculum are improved and developed</p> <p>2) Acquiring appropriate lecturing methods by Zambian personnel for maintenance and strengthening of Undergraduate Education Programme</p> <p><u>4. Strengthening of Extension Service</u></p> <p>1) Establishment of the academic linkage between Diagnostic Laboratory and the Veterinary Research Activities</p> <p><u>5. Technical Transfer for Maintenance of Major Laboratory Equipments</u></p> <p>1) Maintenance of Major Laboratory Equipment is carried out by Zambian personnel</p>	<p>1) SDF Programme</p> <p>2) Number of Graduates</p> <p>3) Quality of theses</p> <p>4) Fields for SDF Programme</p> <p>1) Quality and Number of Research:  - Present Projects action and  - Publication</p> <p>1) Improvement of Curriculum</p> <p>2) Number of Graduates</p> <p>1) Number of Specimen</p> <p>1) Operation ratio of equipment</p>	<p>School Hand Book</p> <p>School Hand Book  Annual Research Report  Minutes of Research Committee</p> <p>School Hand Book</p> <p>Diagnostic Service Records  Clinic Records</p> <p>Maintenance records</p>	<p>1. Trained Academic Staff continue to work at the School</p> <p>2. Research contributes to Education and Staff Development</p> <p>3. Sufficient students are enrolled</p> <p>4. Results contributes to Education</p> <p>5. Equipment is utilized for Education and Research</p>

PROJECT ACTIVITIES	INPUT	ASSUMPTIONS
1. Establishment of Postgraduate Education Programme 1.1 Course Master Programme 1) Course Master Programme Development for M. Vet. Med. 2) Lecture, Practice and Seminar to the Postgraduate 3) Research Guidance to Postgraduates 1.2 Other Postgraduate Education Programme 1) Advice to SDF Programme 2) Technical Guidance to Students under Research Master and Ph.D. Programme 2. Strengthening of Related Veterinary Research Activities with Veterinary Education 1) Collaborative Research 3. Maintenance and Strengthening of Undergraduate Education Programme 1) Augmentation of Zambian Academic Staff 2) Cooperative Lecturing in order to Develop Skill and Competent of Zambian Academic Staff 4. Extension Services 1) Advice to Activities for Diagnostic Laboratory 5. Technical Transfer for Maintenance of Major Laboratory Equipment 1) Technical Transfer of Major Laboratory Equipment	1. Zambian Input 1) Personnel 2) Student Intake 3) Budget 4) Establishment of Facilities 2. Japanese input 1) Expert Assignment 2) Equipment Supply 3) Counterpart Training programme	1.1 Provision of adequate Postgraduate Scholarship 1.2 Dispatch of JICA Experts on time when required 2.1 Sufficient Research Facilities 2.2 Sufficient Research Funds 2.3 Satisfactory Technical Support 3.1 Appropriate budget for maintaining Undergraduate Teaching 3.2 Sufficient Technical Support 4.1 Adequate Facilities are available 5.1 Adequate Facilities and Funds are available ----- <u>PRECONDITIONS</u> ----- 1. Academic year is to be completed on schedule 2. Efforts to retain Zambian Academic Staff are to be continued 3. Adequate Funds should be allocated 4. Sufficient number of good students are to be enrolled



## Dispatch of Japanese Experts and Japan Overseas Cooperation Volunteers

## 2-1 Dispatch of Long-term Japanese Experts

No.	Name	Speciality	Period
1	Prof. Yoshiatsu TSUTSUMI	Leader & Parasitology	92/07/22--93/07/22
2	Prof. Takashi KAJI	Virology	92/07/22--93/04/13
3	Prof. Ichiro TAKATORI	Virology	92/01/27--97/01/26
4	Prof. Kosaku KOBAYASHI	Paraclinical	92/11/01--93/12/31
5	Mr. Osamu KOSEGAWA	Coordinator	92/07/07--92/08/26
6	Mr. Keizo EGAWA	Coordinator	92/08/11--94/10/11
7	Mr. Mitsuaki KADONO	Maintenance of Equipment	92/07/07--94/01/21
8	Prof. Eiichiro BABA	Clinical Pathology	93/12/12--94/12/11
9	Prof. Kiyoshi MATSUKAWA	Pathology	94/05/22--97/05/21
10	Prof. Takao FUJIKURA	Public Health	94/06/19--97/06/18
11	Prof. Toshihiko NAGABAYASHI	Bacteriology	94/09/15--97/01/14
12	Mr. Junichi HANAI	Coordinator	94/09/25--97/09/24
13	Prof. Kimetiko TCO	Clinical Pathology	94/11/29--95/11/28
14	Dr. Yusuke TADA	Leader	95/03/19--97/03/18
15	Dr. Mutsuyo KADOHIRA	Epidemiology	95/04/07--97/04/06
16	Dr. Hisanori HASHIMOTO	Clinical Pathology	95/04/02--97/07/21

## 2-2 Dispatch of Short-term Japanese Experts

No.	Name	Speciality	Period
1	Prof. Misao ONUMA	Parasitology	93/02/14--93/05/07
2	Prof. Tadao IMADA	Avian Disease	93/05/09--93/08/01
3	prof. Bunei SYUTO	Clinical Pathology	93/05/18--93/08/14
4	Prof. Takao KOTANI	Pathology	93/05/23--93/08/27
5	Prof. Syoji YAMAZAKI	Veterinary Education	93/05/18--93/08/20
6	Prof. Keiichiro KAWATA	Animal Reproduction	93/07/27--93/11/12
7	Prof. Hiroshi KITAKAWA	Veterinary Education	93/07/18--93/10/17
8	Prof. Toshikatsu HAGIWARA	Public Health	93/08/03--93/10/01
9	Prof. Nobuo HASHIMOTO	Public Health	94/02/06--94/03/31
10	Prof. Chihiro SUGIMOTO	Microbiology and Immunology	94/06/22--94/09/09
11	Prof. Kiyoshi TAKAHASHI	Clinical Pathology	94/07/19--94/09/30
12	Prof. Yoshiharu HASHIMOTO	Histology	94/07/19--94/08/29
13	Prof. Hiroyuki SUNAGAWA	Environmental Public Health	94/07/19--94/10/16
14	Prof. Hiroshi KODAMA	Poultry Diseases and Aquatic Animal Medicine	94/07/10--94/09/30
15	Prof. Mitsutoshi YOSHIDA	Reproduction	94/07/19--94/10/16
16	Prof. Jun YASUDA	Small Animal Medicine	94/09/20--94/12/08
17	Mr. Teruo HIRUTA	Maintenance and Management of Equipment	95/04/03--95/07/01
18	Prof. Choji KANEUCHI	Food Microbiology	95/06/02--95/08/30
19	Prof. Toshiyuki SAITO	Veterinary Pharmacology / Toxicology	95/07/11--95/10/01
20	Prof. Toshio TSUBOTA	Veterinary Reproduction (Theriogenology)	95/07/11--95/10/08
21	Prof. Ken KATAKURA	Veterinary Immunology	95/08/10--95/10/06
22	Prof. Hiroshi FUJISE	Veterinary Clinical Biochemistry	95/08/28--95/11/15
23	Prof. Hisanori HASHIMOTO	Small Animal Medicine	95/09/10--95/12/10
24	Prof. Shoichi FUJITA	Toxicology and Laboratory Animal	96/07/02--96/08/31
25	Prof. Kosuke OKADA	Immunopathology	96/07/02--96/09/27
26	Prof. Mitsugu HISHINUMA	Animal Reproduction and Theriogenology	96/07/02--96/10/04
27	Prof. Chiharu MORITA	Veterinary Public Health	96/07/14--96/09/06
28	Prof. Hiroshi KOIE	Clinical Biochemistry	96/08/20--96/11/01

### 2-3 Dispatch of Japan Overseas Cooperation Volunteers (JOCV) Members

No.	Name	Speciality	Period
1	Dr. Kei HIROWATARI	Public Health	92/07/22--93/12/09
2	Dr. Miyako HIRAI	Clinical Pathology	92/07/14--94/07/13
3	Dr. Tsutomu KAKUTA	Parasitology	92/07/14--94/07/13
4	Dr. Masami HASEGAWA	Virology	92/12/08--94/12/07
5	Dr. Masayuki YOSHIMA	Pathology	93/07/13--95/07/12

## Training of Zambian Personnel in Japan

No.	Name	Subject	Period	JICA/JOCV
1	Dr. J. MULEYA	Small Animal Medicine	92/07/01--93/03/14	JICA
2	Dr. E. T. MWASE	Entomology	92/07/13--92/10/29	JICA
3	Mr. H. SINSUNGWE	Lab. Diagnostic method in Parasitology	92/07/27--93/03/31	JICA
4	Dr. A. NAMBOTA	Vet. Parasitology	93/06/21--94/03/21	JICA
5	Dr. L. M. TSUCHILI	Poultry Diseases	93/06/21--94/03/21	JICA
6	Mr. F. CHITONDO	Pharmacology	93/06/21--94/03/21	JICA
7	Mr. A. CHOTA	Lab. Diagnostic method in Parasitology	93/06/21--94/03/21	JICA
8	Mr. G. SIKAZWE	Vet. Physiology and Pharmacology	93/07/12--94/04/20	JICA
9	Mr. T. F. MPHANDE	Breeding, Hygiene and Management of Large Animal	94/10/13--95/02/18	JICA
10	Mr. C. M. MUBITA	Vet. Bacteriology	94/10/22--95/02/25	JICA
11	Mr. G. KAWILA	Vet. Pharmacology	94/10/22--95/03/31	JICA
12	Mr. L. N. ZULU	Vet Virological Technology	95/01/05--95/04/30	JICA
13	Mr. G. HIMUNZOWA	Repairing Technology of Electronic Equipment	95/02/15--95/07/23	JICA
14	Dr. L. TUCHILI	Poultry Diseases	95/06/26--95/12/02	JICA
15	Mr. G. S. NAWA	Clinical Biochemistry	95/06/27--96/02/03	JICA
16	Mr. B. SAKALA	Vet. Physiology	95/07/10--96/03/30	JICA
17	Mr. E. MWACHINDALO	Vet. Pharmacology	95/07/11--95/11/26	JICA
18	Dr. A. NAMBOTA	Parasitology	96/02/27--96/07/28	JICA
19	Mr. L. NGOMA	Histology	96/08/12--97/3/30	JICA
20	Dr. L. CHITI	Small Animal Surgery and Clinical Management	(96/12/01--97/05/31)	JICA
21	Mr. S. TINGIYA	Vet. Clinical Technology	92/06/05--93/03/31	JOCV
22	Mr. M. NYAMBE	Vet. Medicine	94/06/01--95/03/31	JOCV

( ) Proposed

ANNEX 4 Provision of Equipment by JICA

(Equipment worth more than ¥1.6 million)

JFY No.	NAME OF EQUIPMENT	VALUE in ¥	QTY.	LOCATION	FREQUENCY	CONDITION	REMARKS
1992 1	Mitsubishi Pick Up Truck (MITSUBISHI - L200)	1,760,000	1	Transport yard	A	B	AAL7367
1992 2	Mitsubishi Pajero Station Wagon (MITSUBISHI)	3,100,000	1	Experts Team	A	A	AAL5993
1992 3	Microscope (OLIMPUS - BHT-1232)	2,700,000	5	P(D56,52)	A	A	3 in use
1992 4	Photocopy Machine (RICOH - FT-4490)	2,690,000	3	G(A57), 8(D14), CS(106)	A	B	
1992 5	Cold Room (HOSHIZAKI - PR-22EE-3.75)	3,060,000	1	D(F75)	A	A	

\* Abbreviations

- B: Biomedical Sciences Department
- C: Clinical Studies Department
- D: Disease Control Department
- P: Paraclinical Studies Department
- CS: Central Services Department
- G: General Office
- OO: Dean's Office
- IAF: Infectious Animal Facility

\* FREQUENCY: Frequency of use (A-E)

\* CONDITION: Condition of Maintenance (A-D)

(Equipment worth between ¥100,000 and ¥1.6 million)

JFY	No.	NAME OF EQUIPMENT	IN	OUT	BAL.	FREQUENCY	CONDITION	REMARKS	DEPT.	ROOM No.
1992	1	Toyota Hilux 4x4 Pick Up (TOYOTA 4WD)	1	0	1	A	B	AAL7366	Common	/
1992	2	Blood Color Tester (FHK · FM370)	5	0	5	A	A		D	F70
1992	3	Ultrasonic Homogenizer (IUCHI · 250)	1	0	1	A	A		D	F64
1992	4	Panacopy Slide Film (NATIONAL · KV-15FM)	10	10	0	/	/	Consumables	D	/
1992	5	Photomicrographic System (OLIMPUS · PM-10ADS-2)	1	0	1	B	A		D	F71
1992	6	High Speed Microcentrifuge (TOMY SEIKO · MCM-150)	1	0	1	B	A		D	F68
1992	7	Rota for Microcentrifuge (TOMY SEIKO · TMA-4)	1	0	1	B	A		D	F68
1992	8	Cover Glass (SANKO · 863-14-01-08)	10,000	5,000	5,000	B	B		D	F75
1992	9	Microtome Knife (FETHER · S35)	2,000	1,200	800	B	A		D	F75
1992	10	Cover Glass (HATSUNAMI)	5,000	3,000	2,000	B	A		D	F75
1992	11	Photocopy Machine Spare Drum (RICOH)	6	1	5	D	A		CS	101
1992	12	Photocopy Machine (RICOH)	3	0	3	E	A		CS	101
1992	13	Refrigerator (SANYO · SRR-E781 · 41.5l)	1	0	1	A	A		CS	101
1992	14	Brushes (SANKO · DA-25)	20	20	0	/	/	Consumables	CS	101
1992	15	Lone Star Ear Tags (FHK · 500)	10	10	0	/	/	Consumables	CS	101
1992	16	Automatic Syringes (FHK · 30ml)	10	10	0	/	/	Broken	CS	101
1992	17	Video Cassette Recorder (JVC · BR-6400TR)	1	0	1	B	A		B	D02
1992	18	Vacuum Oven LHV	1	0	1	C	B		B	D04

(Equipment worth between ₹100,000 and ₹1.6 million)

1992	19	Cooling Waterbath (ADVANTEC · LP-3200)	1	0	1	B	B	B	D04
1992	20	Magnetic Stiller (SHIBATA · 5066-06)	1	0	1	B	B	B	D04
1992	21	Shorline V-top Operating Table (FHK · CA-600)	1	0	1	A	A	C	G03
1992	22	Obstetric Instrument Set (FHKFG-1)	1	0	1	D	A	Few cases	C F29
1992	23	Mobile Shadowless (FHK · 500CH)	3	0	3	D	A		C F29
1992	24	Digital Thermometer for Animals (JINEI · TRH-CZ)	3	3	0	/	/	Out of order	C I01
1992	25	Boiling Sterilizer (FHK · F L-11)	1	0	1	A	A		C F10
1992	26	Refrigerator (NATIONAL · NR-F41K2-W)	1	0	1	A	A		Common I01
1992	27	Break Pad (NISSAN PATROL SHORT BODY)	20	4	16	A	A	Spare parts	Common I01
1992	28	Disk Break (NISSAN PATROL SHORT BODY)	10	8	2	A	A	Spare parts	Common I01
1992	29	Nissan Cabstar Engine (NISSAN MBH40)	1	1	0	A	A	Installed	Common /
1992	30	Sodium Chlorite (500g)	10	3	7	A	A	Consumables	Common I01
1992	31	Thionine (1g)	50	49	1	A	A	Consumables	Common I01
1992	32	Ethanol (18l)	3	2.5	0.5	A	A	Consumables	Common I01
1992	33	Cholela AD (50 SAMPLES)	10	10	0	/	/	Consumables	Common /
1992	34	Dry Complement (1ml X10)	5	3	2	A	A	Consumables	Common I01
1992	35	CF Test Antigen for Johne's Disease (1ml)	10	2	8	A	A	Consumables	Common I01
1992	36	Personal Computer (IBM · PS/VP)	3	1	2	A	A	1 stolen	G.D AS7.F57

(Equipment worth more than ¥1.6 million )

JFY	No.	NAME OF EQUIPEMENT	VALUE IN ¥	QTY.	LOCATION	FREQUENCY	CONDITION	REMARKS
1993	1	Ultrashort Wave Wireless Telephone (NIHON MUSEN)	1,760,000	5	CS(101)	E	A	
1993	2	Inverted Microscope (NICON · TMS-F11)	2,300,000	5	D (F63,64,67)	B	A	
1993	3	Spectrum Photometer (SHIMADZU · UV-160A)	3,040,000	1	D (F70)	B	C	
1993	4	Incubator (NIHON IKAKI · TG-100-ADCT)	2,390,000	2	D (F69,70)	A	A	
1993	5	Photocopy Machine (XEROX · 5332)	4,480,000	3	DO(A63)1. Exp. Team2	A	A	
1993	6	Mitsubishi Rosa Micro Bus (MITSUBISHI · ROSA)	3,570,000	1	Transport yard	A	A	AAM7387
1993	7	Mitsubishi Canter (MITSUBISHI · CANTER)	3,760,000	1	Transport yard	A	A	AAM8138
1993	8	Nissan Patrol Station Wagon (NISSAN)	4,430,000	1	Exp. Team	A	A	AAM8925



(Equipment worth between ¥100,000 and ¥1.6 million)

JFY	NO.	NAME OF EQUIPMENT	IN	OUT	BAL.	FREQUENCY	CONDITION	REMARKS	DEPT.	ROOM No.
1993	1	HF transceiver System (YAESU · FT-80CH F)	3	0	3	E	A		Common	101
1993	2	Overhead Projector (ELMO · HP-A30SSQ)	4	0	4	A	A		Common	101
1993	3	Slide Projector (ELMO · Omni graphic 233AF)	4	3	1	A	A	3 broken	Common	101
1993	4	Dissoled Oxygen Meter (HORIBA · OM-14-L1)	2	0	2	B	A		D	F69
1993	5	BOD Tester (SHIBATA · 371-80-72-028053-02)	2	0	2	B	A		D	F69
1993	6	High Speed Micro Centrifuge (HITACHI CF15D)	1	0	1	B	A		D	F75
1993	7	Chromato-View Portable Dark Box (UVP · 38-9572-01)	1	0	1	B	A		D	F75
1993	8	Serum Tybe (IWAKI · 25704VIAL2)	2,000	1500	500	A	A	Consumables	D	F63
1993	9	Fraction Collector (ADVANTEC · SF-2120)	1	0	1	D	A		D	F70
1993	10	Mix-Rotor W/Transformer (IUCHI 11-336-06MR-5)	1	0	1	B	A		D	F67
1993	11	Data Plate (IUCHI · 11-253-01-PMC-720)	1	0	1	B	A		D	F70
1993	12	Shaker Both (TGK · 692-61-74-05FS-003)	1	0	1	B	A		D	F68
1993	13	Buret (TGK · 834-11-35-05)	20	0	20	B	B		D	F69
1993	14	(COSMO BIO · 3201-0201 · 2ml)	4	3	1	B	A	Consumables	D	F64
1993	15	Anti Sheep IgG (H+L)/FITC (COSMO BIO)	4	3	1	B	A	Consumables	D	F64
1993	16	Anti Bovine IgG(L+L)/FITC (COSMO BIO)	4	3	1	B	A	Consumables	D	F64
1993	17	Ultrasonic Pipet Washer (YAMATO · 291704AW-31)	2	0	2	B	A		D	F64
1993	18	Ultrasonic Cleaner Desktop Type (BRANSON)	2	0	2	A	A		D	FS2
1993	19	Low Temperature Incubator (ALPU · ILD-120HM)	2	0	2	B	A		D	FS1
1993	20	Fixing for Rabbit (OKAZAKI · OA-535)	4	0	4	B	A		CS	101
1993	21	Cage for Rabbit (TOKIWA · TB-251 A SIZE)	10	6	4	B	A	6 broken	CS	101
1993	22	Slab Electrophoresis Apparatus(ADVANTEC · EP-155)	1	0	1	A	A		D	F70
1993	23	Transfer Brothing Apparatus (ADVANTEC · ETB15W)	1	0	1	B	A		D	F61
1993	24	Power Supply for Brothing Apparatus (ADVANTEC)	1	0	1	B	A		D	F70

(Equipment worth between ¥100,000 and ¥1.6 million)

1993	25	CO2 Incubator (HIRASAWA · CPD-170EX)	1	0	1	A	A	D	F67
1993	26	Ventilator (MELCO)	2	0	2	E	A	P	D58
1993	27	Photo Panel (FUJI)	100	0	100	D	A	P	D52
1993	28	Enlarger (LUCKY · VR70)	1	0	1	E	A	P	D58
1993	29	Surgical Instruments for Large Animal (FHK · FC)	1	0	1	E	A	C	F29
1993	30	Hemolyzer (MEDICAL · QLY-200A)	10	10	0	/	/	Consumables	/
1993	31	Rotary Operation table, Fabricatable (FHK · FF10)	2	0	2	E	B	C	G11
1993	32	Pregnancy Detector for Pigs (FHK · FA1496)	1	0	1	D	B	C	F10
1993	33	Test Tube Washer (UCHI · 74-036-01400)	2	0	2	A	A	B	D03.06
1993	34	Overhead Projector (UCHIDA YOKO · 203-5500)	1	0	1	B	A	B	D02
1993	35	Laboratory Animal Operation Set (UCHI · 22-S21-01)	2	0	2	D	A	B	D02
1993	36	Vacuum Oven (SHIBATA · VOS-300)	1	0	1	D	A	B	D02
1993	37	Pharmaceutical Refrigerator (SANYO · MPR-S10)	1	0	1	A	A	B	D02
1993	38	Container (TERAKA 400)	4	0	4	A	A	B	F
1993	39	Digital Multichannel Pipette (DAIICHI · 96)	1	0	1	B	A	B	D02
1993	40	Chemical Cabinet (TGK · 644-57-05-10FH-180)	3	0	3	A	A	B	D01.02
1993	41	Buret (TGK · 371-17-53-45)	20	1	19	A	A	B	D19
1993	42	Sodium Chloride (WAKO · 197-01667 · 20Kg)	40	10	30	A	A	B	D02
1993	43	Phosphoric Acid (MERC · 552-1M · 250ml)	2	2	0	/	/	B	/
1993	44	Albumin (Bovine Serum) (SIGMA · A8022 · 100g)	2	0	2	A	/	B	/
1993	45	Hot Plate (ADVANTEC · HPA-2244M)	1	0	1	B	A	B	D02
1993	46	Magnetic Stirrer (SHIBATA · MGM-66)	2	0	2	E	A	B	D02
1993	47	Magnetic Stirrer (ADVANTEC · SR-306)	2	0	2	E	A	B	D02
1993	48	Laboratory Mill (KEMOTO)	1	0	1	B	D	B	D01
1993	49	Ethyl Carbonate (KANTO · 43012-01 · 500g)	5	3	2	A	A	CS	I01

(Equipment worth between ¥100,000 and ¥1.6 million)

1993	50	Submersible Pump (SHINMEIWA · CVSSOT(F50) · 0.4Kw)	2	0	2	A	A	CS	101
1993	51	Submersible Pump (SHINMEIWA · CNSO(F50) · 0.4Kw)	2	0	2	A	A	CS	101
1993	52	Submersible Pump (TSURUMI/SQ2-4TY/0.4KW)	3	0	3	A	A	CS	101
1993	53	Tool Kit for Electricians (NAKAMURA)	5	0	5	A	A	CS	101
1993	54	Miter saw Blade (HITACHI · 959000)	10	0	10	E	A	CS	101
1993	55	Grinder with Dust Collector (HITACHIGR31)	1	0	1	A	A	CS	101
1993	56	Duplicator (Rex rotary RR830)	2	0	2	A	A	G	AS7
1993	57	ELISA READER (78-525-00)	1	0	1	B	A	D	F71
1993	58	8 Multi-tip Pipette (5~50 µl)	2	0	2	A	A	D	F58.67
1993	59	8 Multi-tip Pipette (50~300 µl)	2	0	2	A	A	D	F58.67
1993	60	Suction Pump for Blood and Film	2	0	2	B	A	D	F67.69
1993	61	Ultrasonic Bath for UL230-35	2	0	2	A	A	D	F52
1993	62	Anesthetic Gun	1	0	1	C	A	D	F75
1993	63	Slab Gel Electrophoresis Apparatus (IWAKI)	1	0	1	A	A	D	F61
1993	64	Disc Gel Electrophoresis Apparatus (IWAKI)	1	0	1	A	A	D	F61
1993	65	Semi Dry Transfer Electrophoresis Apparatus (IWAKI)	1	0	1	A	A	D	F61
1993	66	Electrophoresis Power Supply Unit (IWAKI)	1	0	1	A	A	D	F61
1993	67	TRANS ILLUMINATOR/ CAMERA (FUNAKOSHI)	1	0	1	A	A	D	F61
1993	68	Program Temperature Control System (Astec)	1	0	1	A	A	D	F62
1993	69	UV Trans Illuminator (UVP · TDM-20)	1	0	1	A	A	D	F62
1993	70	Polaroid Camera Auto M (POLAROID · M-085)	1	0	1	A	A	D	F62

(Equipment worth more than ₹ 1.6 million )

JFY	No.	NAME OF EQUIPEMENT	VALUE IN ₹	QTY.	LOCATION	FREQUENCY	CONDITION	REMARKS
1994	1	Selum Na/Ca Testing plate Appartus (HORIBA)	2,600,000	1	D (F70)	A	A	
1994	2	Microscope Colour TV Unit with Accessories .	1,600,000	1	D (F75)	A	A	
1994	3	Steam Heating Type Sterilizer (HIRASAWA)	5,740,000	1	IAF	E	A	IAF not utilized yet
1994	4	Mitsubishi Lancer Station Wagon (Mitsubishi)	2,100,000	2	Exp. Team	A	A	AAN9019,AAN9020

(Equipment worth between ₹100,000 and ₹1.6 million)

JFY	No.	NAME OF EQUIPMENT	IN	OUT	BAL.	FREQUENCY	CONDITION	REMARKS	DEPT.	ROOM No.
1994	1	VETRAL 100MG 64115 · 20ml (VDC)	40	37	3	A	A		C	F20
1994	2	IMIZOL 35610 · 100ml (VDC)	20	18	2	A	A		C	F20
1994	3	ROMPUN DRY SUBSTANCE · 5x500mg (VDC)	10	3	7	A	A		C	F20
1994	4	ROMPUN 2% INJ · 2.5ml (VDC)	100	71	29	A	A		C	F20
1994	5	INTRAVAL SODIUM 5GM · single (VDC)	100	31	69	A	A		C	F20
1994	6	SYRINGE TERUMO · 100X5ml (VDC)	100	92	8	A	A		C	F29
1994	7	SYRINGE TERUMO · 100X10ml (VDC)	100	90	10	A	A		C	F29
1994	8	4.5mm INSTRUMENT SET (VDC)	1	0	1	A	A		C	F29
1994	9	FINE SURGERY SET · single (VDC)	6	0	1	D	C		C	F29
1994	10	TRIMAX T8 RARE EARTH SCREWS (VDC)	4	0	4	E	B		C	F39
1994	11	SONADENT SD 3A ULTRASONIC SCALER (VDC)	1	0	1	E	B	No staff to use	C	F29
1994	12	Personal Computer (IBM · PS/VP 6382-KVO)	2	0	2	A	A		P, DO	D64, A63
1994	13	Typewriter (OLIVETTI · ET2250)	2	0	2	A	A		G	A57
1994	14	Photocopy Machine (XEROX · S310)	1	0	1	A	A		G	A57
1994	15	DUPLICATOR (REX · ROTARY RR830)	1	0	1	E	A	No stencil	G	A57
1994	16	43LT · LIVESTOCK TRAILER (BATESON · 2200KG)	1	0	1	D	A	Few cases	Common	/
1994	17	FILTER HOLDER 142MM STAINLESS (Millipore)	1	0	1	A	A		D	F64
1994	18	DISPENSING PRESSURE VESSEL (D.P.V.) (Millipore)	1	0	1	A	A		D	F64
1994	19	D.P.V. QUICK COUPLING 1/4" NPTM (Millipore)	8	0	8	A	A		D	F64
1994	20	SWINEX DISC FILTER HOLDER-25MM (Millipore)	10	0	10	A	A		D	F64
1994	21	SWINEX DISC FILTER HOLDER-47MM (Millipore)	10	0	10	A	A		D	F64
1994	22	MEMBRANE FILTER DURAPORE (Millipore)	10	0	10	A	A		D	F64
1994	23	String Bars Assortment, 13 EGG-SHAPE (Sigma)	6	0	6	E	A		B	D2
1994	24	WASHER UC25SN2 (James Armstrong)	2	0	2	E	B		P	E14

(Equipment worth between ¥100,000 and ¥1.6 million)

1994	25	LYNMOUTH LEATHER SURGEON CASE (VDC)	5	0	5	B	A	P	D56
1994	26	GELE ELECTRODFORETIC UNIT (H28001-00)	1	0	1	A	A	B	D3
1994	27	Vacuum Cleaner (IUCHI · 78-344-02)	3	0	3	A	A	B	D2
1994	28	Electrical Trade Plate	16	0	16	A	A	B	D2
1994	29	Automatic Mortar (NITTO · ANM-200DX)	1	0	1	E	A	B	D2
1994	30	Pipet Aid (FUNAKOSHI · PA200)	4	0	4	A/E	A	B	D2
1994	31	Shaker with holder (TGK · 569-63-45-01)	1	0	1	B	A	B	D4
1994	32	Microscope (NICON · SEI-T)	7	0	7	E	A	B	D2
1994	33	Drier for Decycator (TGK · 40S-22-87-22)	1	0	1	A	A	B	D2
1994	34	Methanol (UGRS00ml)	60	0	60	A	/	B	D2
1994	35	Ethanol (3L)	16	0	16	A	/	B	D2
1994	36	Surgery Scissors for Ophthalmology (IKEMOTO)	40	0	40	D	A	CS	I01
1994	37	Surgeon Scissors for Ophthalmology (IKEMOTO)	40	0	40	D	A	CS	I01
1994	38	Surgeon Knife (FUJIHIRA · FC611)	20	0	20	D	A	CS	I01
1994	39	Shaker (IKEMOTO · 40-333-AH-2)	1	0	1	A	A	D	I01
1994	40	Liquid Nitrogen Vessel (MVE · SC20/15)	1	0	1	A	A	D	F13
1994	41	Liquid Nitrogen Vessel (FUJIHIRA · F1960, DC-30)	1	0	1	A	A	D	F63
1994	42	Slide Glass (MATSUNAMI · 2-152-03)	100X50	0	100X50	B	A	D	F75
1994	43	"Sonojueli" for Microsomic Medication (TOSHIBA)	50	0	50	A	A	C	F20
1994	44	Suture Needle (FUJIHIRA · FC327-1)	100	10	90	A	A	C	F29
1994	45	Photo Camera Unit (OLIMPUS · PM-10M-M3-35A)	1	0	1	A	A	C	F01B
1994	46	Mercury lamp (OLIMPUS · HBO 100W)	20	0	20	A	A	CS	I01
1994	47	Halogen Lamp (OLIMPUS · HAL-L)	50	0	50	A	A	CS	I01
1994	48	Ethanol 99.5 (18L)	10	0	10	E	A	CS	I01
1994	49	Formalin (20Kg)	10	0	10	E	A	CS	I01

(Equipment worth between ¥100,000 and ¥1.6 million)

1994	50	6N Hydrochloric Acid (500ml)	60	0	60	E	A	Just received	CS	101
1994	51	Alcian Blue-8GS (25g)	4	0	4	E	A	Just received	CS	101
1994	52	1N Silver Nitrate Solution (500ml)	5	0	5	E	A	Just received	CS	101
1994	53	Hematoxylin (25g)	10	0	10	E	A	Just received	P	D55
1994	54	Anti-bovine Antibody Conjugate (1ml)	14	0	14	E	A	Just received	P	D52
1994	55	Bovine Serum, Albumin1024 (500g)	1	0	1	E	A	Just received	P	D52
1994	56	Cooked Meat MediumCM081 (500g)	3	0	3	E	A	Just received	P	D58
1994	57	Heparin Sodium (1g)	5	0	5	E	A	Just received	P	D58

## Provision of Local Running Costs by JICA

	1992	1993	1994	1995	1996	Total
General Local Running Cost	¥6,796,000	¥6,850,000	¥9,651,000	¥7,560,000	¥8,000,000	¥38,857,000
Emergency Expense Budget	¥1,460,000	¥2,530,000				¥3,990,000
Semminer Holding Budget	¥930,000					¥930,000
Project Infrastructure Budget			¥28,000,000			¥28,000,000
Security Expense Budget			¥3,389,000			¥3,389,000
Total	¥9,186,000	¥9,380,000	¥41,040,000	¥7,560,000	¥8,000,000	¥75,166,000

\*Emergency Expense Budget 1992 Purchase of a lifting gantry and a mobile operation table for the post-mortem room

ditto 1993 Building of an improved sewerage facility

\*Semminer Holding Budget 1992 Assistance for research seminars

\*Project Infrastructure Budget 1994 Building of the Infectious Animal Facility

\*Security Expense Budget 1994 Construction of a security wall fence

\*The amount of General Local Running Cost for 1996 is budgetary one.



## Speciality and Major Research Area of Academic Staff, School of Veterinary Medicine, UNZA.

## Biomedical Sciences

NAME	POSITION	DEGREE	NATIONALITY	POST	SPECIALITY, RESEARCH AREA	REMARKS
D.A. Hogg	Assoc. Prof.	BVMS, PhD	British	Anatomy	Embryology	ODA until Dec. 1997
N.C. Mowa	Lect. III	BVM, MVM	Zambian	Anatomy	Reproductive Anatomy	96-2000 Japan (PhD)
D. Liswaniso	Lect III	BVM MVM	Zambian	Anatomy	Avian Anatomy	95-96 U.K. (MSc)
C.E.A. Lovelace	Prof.	BSc. PhD	British	Biochemistry	Mycotoxins	
K. Choongo	Lect. III	BVM, MSc.	Zambian	Pharmacology	Pharmacology/ Toxicology	94-97 U.K. (PhD)
C. Bishonga	Lect. III	BVM, MSc	Zambian	Physiology	Reproductive and digestive physiology	95-99 Japan (PhD)
K. Makondo	Lect. III	BVM MVM	Zambian	Physiology	Reproductive physiology	95-96 U.K. (MSc)
N. J. Siulapwa	Lect I	BSc. MSc. PhD	Zambian	Nutrition	Nutrition	
P. Kumaravelu	Lect III	BSc. PhD	Sri Lankan	Biochemistry	Drug Metabolism	
W. Witola	SDF	BVM	Zambian	Biochemistry	Biochemistry	96-97 UNZA (MSc)
K. Muzandu	SDF	BVM	Zambian	Pharmacology	Pharmacology	96-97 UK (MVM)
I. Situmbeko	SDF	BVM	Zambian	Anatomy	Gross Anatomy	96-97 UK (MVM)

Speciality and Major Research Area of Academic Staff, School of Veterinary Medicine, UNZA

Clinical Studies

NAME	POSITION	DEGREE	NATIONALITY	POST	SPECIALITY, RESEARCH AREA	REMARKS
P.D. Sayer	Associate Professor	BVMS, FRCVS	British	Vet. Medicine	Companion Animals	ODA with January, 1997
L.A. Oladosu	Professor	DVM, MSc, PhD	Nigerian	Vet. Medicine	Equines	UNZAVNig. Tech Aid until July 1997
J.O. Omamegbe	Associate Professor	DVM, MVM	Nigerian	Vet. Surgery	Companion animals	UNZA
W.W. Lutz	Senior Lecturer	D.V.M, Vet. FTA tropical diseases	German	Vet. Medicine	Farm Animals	Dutch aid until Feb, 1997
O.V. Patel	Lecturer II	BVet Med, MVM, PhD	Zambian	Therogenology	Therogenology/Farm animals	UNZA
C. Hankanga	Lecturer III	BVet Med, MVM	Zambian	Vet. Medicine	Diagnostic imaging/companion animals	UNZA
K. Nalubamba	Lecturer III	B.Vet Med, MSc	Zambian	Vet. Medicine	Farm Animals	UNZA
M. Mumeka	Lecturer III	B. Vet Med, MSc	Zambian	Therogenology		UNZA
V. Zulu	Lecturer III	B. Vet Med MSc	Zambian	Therogenology	Therogenology/Farm Animals	UNZA
P. Meeus	Lecturer III		Belgium	Vet. Medicine	Farm Animals/Equine	Belgium Aid until 1998
I.K. Phiri	Lecturer II (SRF)	BVSc, MVSc Dip. Trop Vet Med Cert. Trop. Vet Med	Zambian	Vet. Medicine	Farm animals	UNZA - UK PhD, 1997

T. Mwanza	Lect III (SRF)	BVM, MSc	Zambian	Vet. Medicine	Companion Animals	UNZA, Japan PhD 1998/99
J. Muleya	Lect II (SRF)	BVet. Med. MVM	Zambian	Vet. Surgery	Companion Animals	UNZA, Japan PhD 2000
M. Muzyamba	SDF	BVet. Med.	Zambian	Vet. Med/Surgery	Equines	U.K. MSc/PhD 1998/99
T. Thomicroft	SDF	BVet Med	Zambian	Vet. Surgery	Companion Animals	U.K. MSc 1998/99
A. Mwanza	Lecturer II (SRF)	DVM, FRCVS	Zambian	Therigenology	Therigenology/Fam Animals	Sweden PhD; 1999/2000

Speciality and Major Research Area of Academic Staff, School of Veterinary Medicine, UNZA

Disease Control

NAME	POSITION	DEGREE	NATIONALITY	POST	SPECIALITY	REMARKS
G.S. Pandey	Assoc. Prof.	B.Sc.(Ag), DVM, MVSc.	Indian	Clinical Pathology	Clinical Pathology	
M. Syakalima	Lect. III	BVM, M.Sc.	Zambian	Clinical Pathology	Clinical Biochemistry	93-97 Japan (PhD)
R. Mulala	Lect. III	BVM, MSc	Zambian	Public Health	Food microbiology (Milk & Meat)	
A. Mweene	Lect. III	BVM, MSc.	Zambian	Virology		92-96 Japan (PhD)
L. Tuchili	Lect. I	DVM, MSc.	Zambian	Microbiology	Bacteriology	
A.M. Nambota	Lect. I	DVM, MSc	Zambian	Parasitology	Protozoology	
K. Samui	Senir Lect.	DVM, PhD.	Zambian	Epidemiology	Preventive Medicine	
P. Chilonda	Lect. III	DVM, MSc	Zambian	Epidemiology	Veterinary Edonomics	94-98 Belgium (PhD).
J. Mlangwa	Senior Lect.	BVM, PhD	Tanzanian	Epidemiology	Vet Epidemiology	
B. Ahnradu	Lect. I	BVM, MSc.	Nigerian	Epidemiology	Animal Production	

SPECIALITY AND MAJOR RESEARCH AREA OF ACADEMIC STAFF, SCHOOL OF VETERINARY MEDICINE, UNZA

DEPARTMENT OF PARACLINICAL STUDIES

NAME	POSITION	DEGREE	NATIONALITY	POST	SPECIALITY	REMARKS
M.M. Musonda	Senior Lecturer	BVM, Dip. Vet. Path. PhD	Zambia	Pathology	Oncology	In Service
R.N. Sharma	Professor	BVSc, PhD	Indian	Pathology	Avian Pathology	In Service
I. Bhaiyat	Lect. II	BVM, PhD	Zambian	Pathology	Avian Pathology	In Service
M. Mwase	Lect. III	BVM, Msc	Zambian	Pathology	Toxicology	In Service
E.T. Ngulube (Mwase)	Lect. I	BSc, MSc, PhD	Zambian	Parasitology	Entomology	In Service
A.M. Makumyavi	Professor	DVM, Dsc.	Zairian	Parasitology	Helminthology	Resigned
H. Chitambo	Lect. I	BSc Agr., Msc, PhD	Zambian	Parasitology	Protozoology	In Service
A. Mulenga	Lect. III	BVSc, Msc	Zambian	Parasitology	Theileriosis	94-98 Japan (PhD)
B. Namangala	Lect. III	DVM, Msc.	Zambian	Microbiology	Immunology	95-98 Belgium (PhD)
G. Anumagan	Lect. III	Bsc. Msc	Sri Lankan	Microbiology	Biotechnology	In Service

## BUDGET OF THE SCHOOL OF VETERINARY MEDICINE

	1991	1992	1993	APPROVED BUDGET 1994	ACTUAL EXP. 1994	APPROVED BUDGET 1995	ACTUAL EXP. 1995	ACTUAL EXP. 1996	
Dean's Office	Personnel	2,642,652	9,083,216	16,282,561	34,037,295	56,018,000	62,683,899	50,136,557	
	Fuel, Electricity	273,000	512,038	564,248	564,248	3,587,500	3,501,467	3,587,000	
	Materials	153,518	359,676	699,131	5,410,271	4,091,099	67,763,000	4,470,600	
	Others	3,716,022	1,186,419	5,887,096	1,175,956	1,924,034	7,142,100	2,611,786	
	Sub-Total	6,785,192	11,141,349	23,433,036	23,433,036	41,644,434	134,510,600	73,267,752	-
	Personnel	2,496,823	6,846,665	33,119,641	32,890,787	42,520,871	92,107,600	85,468,353	82,436,302
Biomedical Sciences	Material	23,975	170,695	737,804	565,304	5,425,000	344,106	51,000,000	
	Others	18,600	187,560	160,000	212,500	1,968,000	87,400	12,393,000	
Disease Control	Personnel	1,678,430	5,103,253	23,933,610	23,705,468	65,089,400	72,842,750	58,255,012	
	Material	26,065	285,256	1,386,617	822,750	6,913,000	143,492	80,336,400	
	Others	18,600	187,560	160,000	603,867	3,334,000	99,279,600	2,000,000	
	Personnel	1,889,924	5,995,754	36,022,743	36,014,601	48,719,547	90,881,393	88,855,243	
Clinical Studies	Maintenance							2,500,000	
	Material	111,727	1,176,140	1,908,055	756,196	10,348,899	1,488,304	106,983,600	
	Other	15,500	129,166	1,160,000	508,859	(7,580)	3,362,000	87,850	
Paraclinical	Personnel	1,546,576	5,185,354	21,481,708	21,413,566	56,876,700	69,934,269	56,876,700	
	Material	229,236	1,053,651	761,125	131,709	439,436	3,336,000	468,849	
	Others	18,600	131,292	11,250	591,466	487,680	2,362,000	2,300,000	
Central Services	Personnel	1,518,067	2,123,708	18,868,814	5,832,808	17,338,500	29,393,238	17,338,500	
	Material	-	-	4,040,611	2,194,772	691,707	385,000	21,520,711	
GRAND TOTAL	Others			160,000	11,705,839	5,594,000	2,608,750	7,858,200	
		16,377,315	39,717,403	161,383,528	167,245,014	259,793,928	498,216,400	427,401,485	750,833,625

SCHOOL OF VETERINARY MEDICINE  
RECEIPTS AND PAYMENTS FOR PERIOD  
JANUARY - OCTOBER, 1996

NO	MONTH	CLINICAL STUDIES		DISEASE CONTROL		FAIR		DEANS		PARACLINICAL		WORKSHOP	
		RECEIPTS	PAYMENTS	RECEIPTS	PAYMENTS	RECEIPTS	PAYMENTS	RECEIPTS	PAYMENTS	RECEIPTS	PAYMENTS	RECEIPTS	PAYMENTS
1.	Jan. 1996	1,484,000	636,823	55,000	-	163,400	5,000	-	-	22,000	-	NIL	NIL
2.	Feb. 1996	1,366,500	2,007,220	100,000	50,000	348,700	9,380	-	-	23,000	-	NIL	NIL
3.	Mar. 1996	1,115,900	2,011,348	-	-	253,600	686,660	-	-	39,500	-	NIL	NIL
4.	Apr. 1996	1,832,000	3,060,984	140,000	66,000	89,200	1,391,650	620,000	95,000	24,000	-	NIL	NIL
5.	May. 1996	1,842,900	1,651,680	-	237,180	295,800	1,142,680	431,800	663,500	44,000	-	NIL	NIL
6.	Jun. 1996	1,714,500	2,818,510	101,000	12,900	218,150	203,348	1,492,845	1,161,000	48,000	64,720	NIL	NIL
7.	Jul. 1996	2,533,400	595,916	51,500	-	33,500	491,250	-	38,000	65,500	-	NIL	NIL
8.	Aug. 1996	2,267,200	264,000	118,000	108,000	279,600	443,730	-	858,500	47,000	60,000	NIL	NIL
9.	Sept. 1996	2,487,200	2,539,262	63,500	-	391,500	809,176	2,706,140	2,081,000	44,500	36,200	NIL	NIL
10.	Oct. 1996	1,972,700	1,697,041	82,500	-	268,000	47,640	181,900	250,000	42,000	-	NIL	NIL
	TOTAL	18,616,300	17,302,784	711,500	474,080	2,341,450	5,230,714	5,502,685	5,147,000	399,500	160,920	-	-

THE UNIVERSITY OF ZAMBIA  
SCHOOL OF VETERINARY MEDICINE

RESEARCH PROJECTS  
SUMMARY 1992-1996

YEAR	DESCRIPTION	RESEARCHERS	AMOUNT
1992 92-94	IgM dependent clearance of Ig-VSG complexes from the surface of trypanosomes	Z.M. Nkhungulu, C.E.A. Lovelace	EBC \$16750
89-93	Studies on coccidiosis in Zambian goats	C.E.A. Lovelace C.C. Amoo (M.Sc.)	UNZA P K50,000
91-93	Studies on the Reproductive Characteristics of Zambian Goats	C.E.A. Lovelace, J.C.N. Lungu, B. Sakala P.O.C.S. Masebe G. Sikazwe	UNZA P K45,000 IAEA \$50,000/3 years
91-94	Biological and nutritional data for Zambian indigenous goats related to age, season and diet	C.E.A. Lovelace V. Ramakrishna T.R. Ayliffe D.N. Kisauzi	Norw. Govt. P K630,000/3 years
90-92	In-vitro reticulo-rumen digestibility of foodstuffs fed to ruminants	D.N. Kisauzi T.R. Ayliffe K. Choongo	UNZA K5000.00
91-93	The anatomy of Zambian goats	V. Ramakrishna G. Muwanga	UNZA P (Dept funds)
91-95	Toxicity of <i>Albizia vesicolor</i>	T.R. Ayliffe K. Matsukawa M. Yoshima M. Mwase R.N. Sharma	UNZA P Norw. Govt. K216,000 12 years
91-93	Immuno-histochemical studies of Tumours in Animals	M.M. Musonda, J.O. Onamegbe	UNZA P K80,000.00
91-93	Immune response of calves and rabbits to ticks	E.T. Mwase, D.S. Misra	UNZA P K10,000.00
92-94	Effect of the Plant <i>Cassia abscess</i> on tick populations	E.T. Mwase	IFS \$5,000.00
92-94	Studies in sanitary quality and cell count of raw milk from dairy farms supplying milk to Dairy Produce Board in Lusaka	G.S. Pandey D.S. Misra D. M'ule C. Mubita	UNZA P
92	Studies on the taxonomy and treatment of coccidiosis in commercial crocodiles in Zambia	Y. Tsutsumi Y. Yamaguchi, H. Kodama	UNZA/JICA P
89-92	Ciliate protozoa in the rumen of wild ruminants in Zambia	Y. Tsutsumi S. Inai S. Yumura	UNZA/JICA P
89-92	Survey on toxoplasma antibody in man	Y. Tsutsumi S. Yumura H. Kobayashi	UNZA/JICA
91-93	Studies on pathogens from meat products in Zambia	G.S. Pandey	UNZA/Norw Govt. K290,000
91-93	Epidemiology of bovine dermatophilosis	K.L. Samui J.E.D. Mlangwa	UNZA P K180,000

Note: P = publication, thesis or oral presentation



92-93	Human and Bovine tuberculosis in Monze District of Zambia	A.J.C. Cook, L.M. Tuchili, G.S. Pandey, A. Bure, S.D. Foster, P.G. Fausset, K.P. McAdam (LSTMH)	ODA P
91-93	Chemotherapy of transmissible venereal tumor in dogs	J.O. Onamegbe	UNZA K40,000
92-93	Distribution and impact of theileria with special reference to the traditional sector in Zambia	K. deBalogh C.J. Siane A. Nambota P.D. DeGraaf L. Siawana	UNZA (Dept. funds)
90-92	Isolation and characterisation of local strains of Newcastle disease virus in Zambia	R. Elders., S. Inoue, J.C. Katongo	UNZA/ACIAR P Norw. Govt. K29,000/3 yr
1993	Aflatoxin residues in edible tissue of poultry in Zambia	S.M. Nalube (MSc) C.E.A. Lovelace,	UNZA P (Dept. funds)
93-95	The presence and maintenance of resistance of indigenous breeds of cattle to ticks and tick-borne diseases	E.T. Mwase M.M. Musonda H. Chitambo	UNZA P Norw. Govt.
92-94	A survey of salmonellosis in some hatcheries around Lusaka	L. Tuchili W. Ulaya G.S. Pandey H. Kodama	UNZA P K18,000
92-94	Detection of etiological agents of water borne diseases in environmental water	K. Hirowatara H.K. Kodama,	UNZA K161,000
93-96	Epidemiology of Gastrointestinal nematodes in goats in the traditional grasslands in Zambia	J. De Bont K. Nalabanba (M.Sc.)	(Belgian/ DANNIDA P \$10,000.00
93-94	Bacteriological flora of surgical wounds in domestic animals	J.O. Onamegbe, T. Mwanza	UNZA Dept. funds
93	A survey of porcine hernia in commercial piggeries in Zambia	I.G.K. Phiri J.O. Onamegbe	UNZA Dept. funds
91-93	Comparative studies of pyloric outflow surgeries in dogs and pigs	J.O. Onamegbe	UNZA Norw. Govt. K522,000/3 yr
93-94	Sanitary analysis of pasteurised milk in Lusaka	D.A. Kumar G.S. Pandey L.M. Tuchili C.M. Mubita	
92-95	Cattle schistosomiasis; host-parasite relationships	J. De Bont (PhD) J. Vercautysse	Belgium P Govt/UNZA
92-95	Epidemiology and transmission dynamics of schistosoma infections	J. De Bont J. Vercautysse	Belgium P Govt/UNZA
1994	Investigation of the role of trypanosome cysteine proteases in African trypanosomiasis	V. Konde Z.M. Nkhungulu C.E.A. Lovelace	EU. \$9000 P
94-96	Development of Blood spot ELISA for diagnosis of trypanosomiasis	J. Hopkin H. Chitambo	ZK1000,000 P (IPMI/RTT)
94-95	Bacillus anthracis in anthrax endemic and non-endemic areas in Zambia	T. Fujikura L.M. Tuchili R. Sakala J. Bwalya W.D. Ulaya G.S. Pandey	JICA P UNZA

94-95	Effect of enlargement of domestic animal pasture in wildlife	G.S. Pandey A.K. Suzuki T. Takahashi A. Nambota E.T. Mwase T. Kaji	JICA UNZA P
94-95	The epidemiology of gastro-intestinal hematomes in goats in the traditional grassland of Zambia	K. Nalubamba (Msc) J. De Bont	UNZA/ Belgium Govt/ DANIDA P
1995	Ultrasound study of bovine prenatal development	N.C. Mowa D.A. Hogg	UNZA (Dept.funds) P
on-going	Improvement of market-oriented small ruminant production systems and sustainable land use in arid and semi-arid regions of Southern Africa	C.E.A. Lovelace P. Chilonda K.L. Samui H. Chitambo	EU \$32,000/4 years
	Comparative analysis of the intestinal microflora in game and wild animals-(I) Difference of factors involved in the formation of the intestinal ecosystem, (II) Which bacterial species is/are in the indigenous and non-indigenous parts and play as a role of termed 'colonisation resistance' for non-immunogenic function.	T. Nagabayashi G. Arumugam C.M. Mubita D. M'ule J. Lungu B. Namangala	UNZA/JICA P
	Isolation of bacterial pathogens from dead-in-shell chicken embryos from local hatcheries in Zambia	S.Kabilika (MSc) R.N. Sharma T. Nagabayashi H. Chitambo	UNZA/NUFU P ZK2,550,237
	The use of Antigen-ELISA to detect trypanocide resistance in field isolates of trypanosomes	L. Sinyangwe J. Mubanga	UNZA (Dept.funds) P
	Validation of blood spot Ab ELISA for diagnosis of trypanosomiasis in the field	J. Hopkins H. Chitambo	K1000,000 EU/UNZA P
	Comparative prevalence of <i>T. congolense</i> , <i>T. vivax</i> and <i>T. brucei</i> infection in cattle in Petauke District of Zambia	C. Lubinga (MSc) H. Chitambo H.G.B. Chizyuka	UNZA/NUFU P ZK1,615,000
	Utility of immunohistochemical staining technique as a routine tool in rabies	M. Kalima (MSc). M.M. Musonda, O. Evensen	UNZA/NUFU £6,20,400
	The presence and maintenance of resistance of indigenous breeds of cattle to ticks and tick-borne diseases in Zambia	E.T. Mwase	UNZA
	Canine visceral leishmaniasis in Zambia	K. Matsukawa L. Chiti M. Yoshima P.D. Sayer	UNZA/JICA P
	Orchiepidydimitis due to Brucella species infection in Kafue Lechwe	K. Matsukawa M. Yoshima M. Yoshida	UNZA/JICA P
	Acute fatal theileriosis in a 3 month-old eland in Zambia	K. Matsukawa M. Yoshima M. Mwase R.N. Sharma	UNZA/JICA P
	Development of specific and sensitive method for detection of <i>S. gallinarum</i> from chickens using PCR technique	L.M.Tuchili (PhD) H. Kodama I. Takatori R.N. Sharma	ZK90,000 UNZA/JICA P

	The viability of <i>Mycobacterium bovis</i> in traditionally processed sour milk in Namwala district of Zambia and the prevalence of bovine tuberculosis	A. Sitima (MSc) J. Fujikura G.S. Pandey	UNZA/NUFU P ZK4,351.435
	Isolation and drug sensitivity from clinical cases of canine otitis externa	G.S. Pandey L.M. Tuchili G. Nyeleti L. Chiti	UNZA P (Dept.funds)
	Studies of Rift Valley Fever in Zambia	K.L. Samui A.S. Mweena J.E.D. Mlangwa	UNZA P
	Biochemical and serological study on health of traditionally managed cattle in Lusaka Province, Zambia	M. Kadohira	UNZA/JICA
	A pilot study on epidemiological parameters for investigating health and productivity of traditionally managed cattle in Lusaka Province, Zambia	M. Kadohira	UNZA/JICA P K100,000
	Isolation and characterization of bovine <i>Theileria</i> parasites in Zambia	A. Nambota (PhD)	UNZA P K4,030,000 JICA
	Studies on the effects of <i>trypanosoma congolense</i> infection on the reproductive events in indigenous Zambian goats.	B. Ahmadu	UNZA
	Surveillance and research in Veterinary Public Health, significance in traditional farming villages in Zambia	T. Fujikura R. Sakala J. Bwalya W.D. Ulaya H. Munang'andu	JICA/UNZA/ CVRI
	Ruminant Helminth Research Project	P. Meeus J. De Bont M. Ziela (M.Sc.) K. Nalubamba R.N. Sharma	US\$10,000.00/yr (DANIDA)
	Fasciola in cattle and sheep	P. Meeus M. Ziela	US\$6,000 (University of Ghent/EC)
	The role of hypobiosis in the faecal egg excretion during the rainy season and the effect of anthelmintic treatment prior to the onset of rains in naturally infected goats	K.S. Nalubamba	UNZA
	Age related immunity development in goats to artificial haemonchus infection	K.S. Nalubamba	UNZA
	Strategic use of a single larvicidal treatment with moxidectin under field conditions in Zambia	P. Meeus	Belgium, VLIR/UNZA
	Effect of vaccination with a <i>Fasciola gigantica</i> -derived Glutathione S-Transferase on experimental and natural <i>F.gigantica</i> infections in cattle	P. Meeus	Belgium, VLIR/UNZA
	Investigation of hepatotoxicity of plants and ruminants in Zambia	W.W. Lutz	UNZA
	Evaluation of Amitraz (Formantidine) pet aerosol against ectoparasites (ticks, fleas, scabies) of dogs and cats	L.A. Oladosu C.E.A. Lovelace D. Banda P.O.C.S.Masebe	

1996 on-going	Haematological and serum protein changes in the pathophysiology of <i>Trypanosoma congolense</i> infection in Zambian goats	W. Witola(MSc.) C.E.A. Lovelace A. Makumyaviri	ZAJIFA US \$7,070 UNZA/JICA
	Control of Aquatic weeds in the Kafue River	M. Mwase M.M. Musonda E.T. Ngulube	SIDA P US\$39,224.00
	Biological Impact of Anthropogenic emissions on fish in the Kafue river, Zambia	Mwase, M. Musonda, M.M.	SIDA US\$25,000.00
	The Biology and Vector status of <i>Rhipicephalus zombiensis</i> to <i>Theileria parva</i> under field and experimental conditions in Zambia	E.T. Ngulube A. Nambota H. Chitambo F. Munyana (CVRI)	UNZA (Dept.funds)
	Seroepidemiological Survey of trypanosomiasis in Zambia using the Blood spot ELISA	Hopkins J., Chitambo, H.	ZK6,000.000. EU(RTTCP/ UNZA
	Distribution and composition of aerobic bacterial flora in the small and large intestines of Hippo ( <i>Hippopotamus amphibious</i> )	T. Nagabayashi G. Arumugan D. Mule	UNZA/JICA K500,000.00
	Malignant mesenchymal tumor caused by <i>Spirocerca lupi</i> infestation in dogs	Matsukawa, K.	UNZA/JICA
	High incidence of canine cardiomyopathy in Zambia	K. Matsukawa M.I. Bhaiyat	UNZA/JICA K100,000
	Globoid cell leukodystrophy in maltese dog	K. Matsukawa S. Baer M.I. Bhaiyat M. Taniyama I. Fujimaki	UNZA K100.000
	Surveillance and research on slaughterhouse operations and hygiene with special interest to HACCP concept in Zambia	J.Bwalya (MSc) T. Fujikura R. Sakala	ZAJIFA \$6,070 UNZA/JICA
	Colibacillus in chicken isolation, characterization and antibiotic sensitivity	G.S. Pandey L.M. Tuchili G. Nyeleti W.D. Ulaya	UNZA
	Survey of prevalence of cryptosporidiosis in calves	G.S. Pandey	UNZA Pretoria
	Seroepidemiology of equine diseases with particular reference to equine viral arteriitis	G.S. Pandey. M. Van Vuuren	UNZA Pretoria
	A comparative study of cattle slaughter records in Lusaka Abattoirs prior to and after the 1991/92 drought in Zambia	B. Ahmadu G.S. Pandey	UNZA (Dept.funds)
Effects of <i>Trypanosoma congolense</i> infection on pregnancy in Zambian goats	B. Ahmadu C.E.A. Lovelace G.S. Pandey H. Chitambo O.V. Patel M.I. Bhaiyat	IAEA-funds applied for	

	Seroprevalence of bovine brucellosis in cattle brought to Lusaka abattoir for slaughter	B. Ahmadu G.S. Pandey R. Sakala S. Sikazwe	UNZA
	Characterisation of orthopedic cases with special reference to fractures in companion animals in Zambia	L. Chii J.O. Olanegbe	UNZA (Dept funds)
	Does the plant <i>Sida cordifolia</i> cause hepatotoxicity or nephrotoxicity in goats in Zambia	J. Jembe (MSc.) W.W. Lutz P. Kumaravelu A. Flaoyen	UNZA/NUFU

Total 92-96 = 81 Projects

THE UNIVERSITY OF ZAMBIA  
SCHOOL OF VETERINARY MEDICINE  
BIOMEDICAL SCIENCES DEPARTMENT

Publications

A. Journal Publications Refereed

1. Hogg D.A. and Hosseini A. (1992) Mini Review. The effects of paralysis on skeletal development in the chick embryo. *Comp. Biochem. Physiol.* 103A, No. 1, 25-28.
2. Nkhungulu Z. (1992) Characterisation of a Cysteine Protease from bloodstream forms of *Trypanosoma congolense* *Eur. J. Biochem.* 204, 371-379.
3. Nkhungulu Z. Characterisation of a Cysteine protease from *Trypanosoma congolense* Ph.D. Thesis, University of Zambia (1992).
4. Semambo, D.K.N., Boyd J.S. Taylor, D.J., Ayliffe T.R. and Omran, S.N. (1992) Ultrasonographic study of early embryonic loss induced by *Actinomyces pyogenes* in cattle. *Veterinary Record* 131 7-12.
5. Semambo, D.K.N., Eckersall, P.D. Sasser, R.G. & Ayliffe, T.R. (1992) Pregnancy-specific protein B and progesterone in monitoring viability of the embryo in early pregnancy in the cow after experimental infection with *Actinomyces pyogenes*. *Theriogenology* 37 741-748.
6. Munir Turk L. and Hogg D.A. (1993) Age changes in the human laryngeal cartilages. *Clinical Anatomy* 6, 154-162.
7. Lovelace C.E.A., Lungu J.C.N., Masebe P.O.C.S., Sakala B., Nyirenda I., Sikazwe G. and Mizinga K.M. (1993) Reproductive performance of Zambian goats under drought conditions. In "Improving The Productivity of Indigenous African Livestock," IAEA - TECDOC - 708, pg 73-80. IAEA, Vienna.
8. Kisauzi D.N., Tsutsumi Y., Mlangwa J.E.D., (1993) Co-operation in veterinary education between Sub-Saharan Africa and the developed countries: experience of the University of Zambia. *Rev. Sci. Tech. Off. int. Epiz.* 12 (3), 695 - 705.
9. Mlangwa J.E.D. and Kisauzi D.N., (1993) Economics in the veterinary undergraduate programme: a model for Sub-Saharan Africa. *Rev. sci. tech. Offi. int. Epiz.* 12(3) 707-716.
10. Pandey G.S. and Lovelace C.E.A. (1993) Coccidiosis in Chickens and its control. *Productive Farming* 237, 11-13.

11. B.A. Siame and C.E.A. Lovelace. Effects of temperature on the simultaneous production of zearalenone and deoxynivalenol by *Fusarium graminearum* on maize. *Afr. Crop Science J.* (1994) 2: 189-195.
12. P. Dakshinamoorthy Deepalakshmi, Kumaravelu Parasakthy, Bezwada Padmavathy, Subramaniam Shanthi, Halagowder Devaraj and S. Niranjali Devaraj (1995) Effect of Chloroquine on Rat Liver Microsomes. *J. Clin. Biochem. Nutr.*, 19: 19-25.
13. Parasakthy Kumaravelu, Deepalakshmi P. Dakshinamoorthy, Shanthi Subramaniam, Halagowder Devaraj and Niranjali S. Devaraj (1995). Effect of Eugenol on Drug Metabolising System of CCl<sub>4</sub> - intoxicated rat liver. *Biochem. Pharmacol.*, 49: 1703-1707.
14. Salsabili, N., Valojerdy, M.R. and Hogg, D.A. (1995): Variations in Thickness of Articular Cartilage in the Human Sacroiliac Joint. *Clinical Anatomy* 8, 388-391.
15. Horspool, L.J.I & Mc Kellar, Q.A. (1995) Disposition of penicillin G sodium following intravenous and oral administration to Equidae. *British Vet. J.* 151, 401.
16. Horspool, L.J.I & Mc Kellar, Q.A. (1995) Stability of penicillin G, ampicillin, amikacin & oxytetracycline and their interactions with food in invitro simulated equine gastrointestinal contents. *Res. Vet. Sci.* 58, 227 - 231.
17. Horspool, L.J.I & Mc Kellar, Q.A. (1995). Disposition of penicillin G. in Equidae. *Vet. Rec.* 137 (19), 488.
18. Shanthi Rajendran, P.D. Deepalakshmi, K. Parasakthy, H. Devaraj and S. Niranjali Devaraj (1996). Effect of Tincture of Crataegus on the LDL - Receptor Activity of Hepatic Plasma Membrane of Rats Fed an Atherogenic Diet. *Atherosclerosis (In Press)*
19. Shanthi S, Parasakthy Kumaravelu, Deepalakshmi P.D. and Niranjali S. Devaraj (1996) Protective Effect of Tincture of Crataegus on Oxidative Stress in Experimental Atherosclerosis, in Rats. (1996). *J. Clin. Biochem. Nutr.*, (In Press).
20. Parasakthy Kumaravelu, Shanthi Subramaniam, Deepalakshmi P. Dakshinamoorthy and Niranjali S. Devaraj (1996). The Antioxidant Effect of Eugenol on CCl<sub>4</sub> - Induced Erythrocyte Damage, in Rats. *J. Nutr. Biochem.* 7: 1-5.

21. Shanthi Rajendran, Parasakthy K, Deepalakshmi P.D. and Niranjali S. Devaraj (1996) Oxidative Stress in Rat Liver and Lung Induced by Furanoterpenoids Isolated From *Fusarium solani*, Infected Sweet Potatoes. *Ind. J. Exp. Biol.* 34: 57-60.
22. Nambota, A. Lovelace, C.E.A. Chitambo, H. Kakuda, T. Sugimoto, C. Onuma M.(1996). Characterisation of some *Theileria parva* stocks from Zambia using Monoclonal Antibodies. accepted for publication by *J. Vet. Med. Sci.*

**B. Conference Presentations; Abstracts, Proceedings:**

1. Amoo, C.C., Lovelace, C.E.A., Koomson, T.O.M., Coccidiosis in Zambia goats. Poster presented at the International Conference on Goats, Nancy, France, April 1992.
2. Njaupau, H. Muzunguile, E.M., Lovelace, C.E.A. Fungal and mycotoxin contamination of food and feed in Zambia. Presented at the SADC Grain Storage and Mycotoxin Training Workshop, Gaborone, Botswana, December 1993.
3. Siame, B.A., and Lovelace, C.E.A. Tricothecenes and Zearalenone on Grains. Presented at the Sub-Regional Workshop on Control of Mycotoxins other than Aflatoxins. Gaborone, Botswana, December 1994.
4. Kumaravelu, P., Lovelace, C.E.A., Deepalakshmi, P.D., Devaraj, N.S., 'Eugenol As An Effect In Vivo Antioxidant Against CCl<sub>4</sub> - Induced Liver Damage' oral presentation and as an abstract in the conference proceedings. First Pan African Conference in Biochemistry and Molecular Biology: September 1996 in Nairobi, Kenya.
5. Liswaniso, D. Ultrasonographic examination of the distal pelvic limb of the ostrich (*Struthio camelus*). Proceedings of an International Conference on "Improving our understanding of ratites in a farming environment". University of Manchester, England, 1996.
6. Liswaniso, D. The anatomy of the distal pelvic limb of the ostrich (*Struthio camelus*). Proceedings of an International Conference on "Improving our understanding of ratites in a farming environment". University of Manchester, England, 1996.
7. Amoo, C.C., Lovelace, C.E.A. (1996). Blood Biochemical Changes in Zambian Goat Kids infected with Coccidiosis. Presented at the First Pan-African Conference on



Biochemistry and Molecular Biology Nairobi, Kenya, September, 1996.  
To be submitted for publication.

8. Konde, V., Nkhungulu, Z.M., Lovelace, C.E.A.,(1996),  
Purification and Comparison of the Activity of Cysteine Proteases from  
*Trypanosoma congolense* and *Trypanosoma brucei*. Presented at the  
same Conference.

## DEPARTMENT OF CLINICAL STUDIES

### INTERNATIONAL SEMINARS, WORKSHOPS AND CONFERENCES ATTENDED

1. Dr. Nalubamba King

Third Annual Meeting of the Danida - Funded Ruminant Helminth Research Project. March 1994, Lusaka, Zambia.

Fourth Annual Meeting of the Danida - Funded Ruminant Helminth Research Project. February 20-27, 1995, Arusha, Tanzania.

Eighth International Conference of Institutions of Tropical Veterinary Medicine, September 25 - 29, 1995. Berlin, Germany.

Sixth Symposium on Tropical Animal Health and Production: Helminth Diseases of ruminants: Diagnosis, Epidemiology and Control. October 6th 1995. Utrecht, Netherlands.

Fifth Annual Meeting of the Danida - Funded Ruminant Helminth Research Project. January 21 -27, 1996, Harare, Zimbabwe.

Inaugural Research Day of the University of Zimbabwe, School of Veterinary Science. June 21, 1996, Harare, Zimbabwe.

2. Dr. C. Hankanga

Annual Conference of the British Small Animal Associations (1995).

3. Professor J.O. Omamegbe

Conference of the World Small Animal Veterinary Association, Durban, 1995.

4. Dr. O.V. Patel

FAO/IAEA Training workshop on the use of immunoassay and related techniques for studies on Animal Production in Africa, Cairo, 1996.

### PUBLICATIONS

1. Dr. V. Zulu

MSc Thesis : Cystic Ovarian Disease : an analysis of possible Risk Factors using Reproduction Records from a Scottish Dairy Herd. (Edinburgh, 1995)

2. Dr. C. Hankanga

MSc. Thesis: Canine Splenic Disease. A clinico - pathological and ultrasonographical study. (Glasgow, 1995).

3. Dr. K. Nalubamba

MSc. Thesis : The Epidemiology of Gastro-intestinal nematodes in goats in the traditional grassland of Zambia.

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# THE UNIVERSITY OF ZAMBIA

DEPARTMENT OF DISEASE CONTROL

## LIST OF PUBLICATIONS, ORAL PRESENTATION AND THESIS BY STAFF SINCE 1992.

### I. PUBLICATIONS

1. Pandey G.S., Minoyi D. Hasebe Y. and Mwase E.T. (1992). Heartwater in Kafue Lechwe (*Kobus leche kafuensis*). *Revue Elev. Med. Vet. Pays Trop.* 45 (1): 23-25
2. Tuchili L.M., Pandey G.S., Sinyangwe P.G. and Kaji T. (1992). Anthrax in cattle, wildlife and humans in Zambia. *Veterinary record* 132 (19):487.
3. Pandey G.S. (1992) Effect of drought on livestock. *UNZA Veterinarian* 3 (2):10-11.
4. Pandey G.S. (1993). Vitamin 'A' Deficiency in chicken. *Productive Farming.* 235, 28-30
5. Orino K., Pandey G.S., Sato Y. and Shimizu K. (1993). Serological Survey on bovine paratuberculosis in Mazabuka District of Zambia *J.Jap. vet. Med. Assoc.* 48, 19-21.
6. Sato Y., Pandey G.S., Schneebeli M., Chimana H. and Sinsungwe H. (1993). Colibacillosis in broiler chickens in Zambia. *J.Jpn. Vet. Med. Assoc.* 46, 19-21.
7. Sato Y., Schneebeli M., Matsukawa K, Chimana H. Sinsungwe H. (1993). Outbreak of *Salmonella dublin* infection in Calves in Zambia *J. vet. Med. Sci.* 55, 511-513
8. Ngoma M., Suzuki A. and Sato G. (1993). Antibiotic Resistance of *E. Coli* and *Salmonella* *Jpn. J. Vet. Res.* 41, 1-10
9. Sato Y., Vasuda J., Sinsungwe H., Chimana H., Pandey G.S. and Sato, G. (1993). An occurrence of Stomach impaction in *Ostiches* on a farm in Zambia *J. Vet Med. Sci.* 56, 783-784

10. Pandey G.S., Mweene A., Suzuki A.K., Nambota A., Kaji T. (1994). Dermotophilosis Centaneous streptothricosis) in Kafue lechwe (Kols leche bafueusis). *J. Wildlife Diseases* 30(4), 586-588.
11. Tuchili L.M., Bwalya M., (1993). Isolation of Streptococcus uberis from a mongrel with pyometra. *Bulletin of Animal Health and Production Africa*. 41: 99-100.
12. Pandey G.S. (1994). Anthrax, *Productive Farming* 244, 11-13.
13. Pandey G.S., Kobayashi K., Hirai H. and Musonda M.M. (1994). Bilateral duplication of ceca in domestic chicken. *Avian Dis.* 38, 201-202.
14. Mlangwa J.E.D. and Kisauzi D.N. (1994). System approach to animal health delivery in Sub Saharan Africa. The case of Privatization. *Rev. Sci. Tec Off. Int. Epiz.* 13, 673-685
15. Mlangwa J.E.D. and Kisauzi D.N. (1994). System approach to animal health delivery in Sub-saharan Africa Concept Elaboration *Re. Sci. Tech. O Epiz.* 13, 665-672.
16. Tuchili L.M. (1994). Anthrax control and research, with special reference to National programme development in Africa. In : *Bulletin of the World Health Organisation* 72 (3):353-363
17. Nambota Andrew, Samui Kenny, Sugimoto Chihiro, Kakuta Tsutomu and Onum. Misao (1994). Theileriosis in Zambia: Etiology, Epidemiology and Control Measures. *Jpn. J. Vet. res.* 42:1-18.
18. Pandey G.S. and Sharma R.N. (1995). Antimicrobial susceptibility pattern of Salmonella isolates from cattle and chicken in Zambia. *Indian Vet. Med.* 18; 175-178.
19. Pandey G.S. (1995). Pneumonic Pasterellosis (Shipping Fever) in cattle. *Productive Farming* No. 250, 11-15.
20. Pandey G.S. (1995). Scours in Young animals, *Productive Farming* 254, 3-5.
21. Tuchili L.M., Kodama H., Isumoto Y., Fukada T., Baba T., Mukamoto M. (1995). Detection of S. Gallinarum and S. Typhimurium DNA in experimentally infected chicks by polymerase chain reaction. *The Japanese Journal of Veterinary Medical Science* 57 (1) 59-63.

22. Mweene A.S., Pandey G.S., Sinyangwe P., Nambota A., Samui K. and Kida H. (1996). Viral Diseases of Livestock in Zambia. *Jpn.J. Vet. Res.* 44(2): 89-105.
23. Pandey G.S. and Sharma R.N. (1995). Studies on calf mortality among dairy farms around Lusaka in Zambia. *Zambian J. Agric. Sci.* 5 : 1-4.
24. Cook A.J.C., Tuchili L.M., Buve A., Foster S.D., Godfrey-Faussett P., Pandey G.S. and Meadam K.P.W. (1996). Human and bovine tuberculosis in the Monze district of Zambia. a cross-sectional study. *Br. Vet. J.* 152, 37-46.
25. Pandey, G.S., Tuchili L.M. and Mimba D.C. (1996). *Salmonella typhimurium* meningo-encephalitis in a calf. *Ind. Vet. Journal - (In Press)*.
26. Pandey G.S., Fujimoto Y. and Schneebeli M. (1996). Squamous cell carcinoma on the udder of a sheep. *Ind. Vet. Journal (In Press)*.
27. Pandey G.S., Chiti L. and Musonda M.M. (1996). Oral papilloma in a Mongrel dog and surgical removal. *Ind. Vet. Journal (In Press)*.
28. Pandey G.S., Misra D.S., Mulle D. and Mubita C. (1996). Studies on sanitary quality and cell count of raw milk from dairy farms supplying milk to Dairy Produce Board in Lusaka - Zambia. *Bull. Anim. Health. Prod. Afri. (In Press)*.
29. Pandey G.S., Sharma R.N. and Musonda M.M. (1996). Study of Neoplasms of chicken in Zambia. *Bull. anim. Health Prod. Afr. (In Press)*.
30. Samui Kenny L., Nambota Andrew M., Mweene Aaron S. and Onuma Mosao (1996). African Swine in Zambia: Potential Financial and Production Consequences for the Commercial sector. *Jpn. J. Vet. Res.* 44:119-124.
31. Kadohira M., Samui K.L., and Mlangwa J.E.D. (1996). The Health and Productivity of Traditionally Managed Cattle in Lusaka Province, Zambia, *Zambian Journal of Veterinary Science Vol. 1 (in press)*.
32. Tuchili L.M., Ulaya W., Kaneuchi C. (1996). Recent characterization of *Salmonella* stains isolated from chickens in Zambia. *The Japanese Journal of Veterinary Medical Science* 58 (1): 77-78.
33. Tuchili L.M., Kodama H., Sharma R.N., Takatori I., Mukamoto M., Tsuji S., Baba T., Kabilika S., Pandey G.S. (1996). Detection of *Salmonella* DNA in chicken embryos and environmental samples by polymerase chain reaction (Accepted for publication in the Japanese Journal of Veterinary Medical Science).

## II. ORAL PRESENTATIONS

1. Suzuki A., Takahashi A., Hyashidani H., Pandey G.S., Mwase E.T. and Kaji T., (1992). Mixing rate of domestic cattle and wildlife animals in Zambia. Paper presented at 113th Japanese veterinary Conference 1-4th April, Tokyo.
2. Takahashi A., Hyashidani H., Pandey G.S., Mwase E.T., Kaji T. and Suzuki A. (1992). Serological diagnosis of New Castle Disease Virus and Salmonella pullorum among finea fowls in Zambia. Paper presented at 85th Conference of Zootechnology 4th March 1992, Tokyo, Japan.
3. Pandey G.S., Minoyoyi D., Hasebe F. and Mwase E.T. (1992). Cowdriosis and Translocation of game animals with particular reference to lechwe in Zambia. Poster paper presented in 3rd International Wildlife Ranching Symposium 27-30th October 1992 - Pretoria, South Africa Proceedings pp 393.
4. Samui K.L. and Hugh-Jones M.E. (1993). The epidemiology and distribution of Eastern equine encephalomyelitis in Louisiana and Mississippi. A review. The 1992 General Annual Conference of the American Mosquito Control Association. April, Fort Myers, Florida.
5. Samui K.L., Hugh-Jones M.E., Meek C.L. and Palmisano C.T. (1993). The habitat, ecology and epidemiology of Eastern equine encephalomyelitis in Louisiana. Annual Conference of the Louisiana Mosquito Control Association. October, Baton Rouge, Louisiana.
6. Pandey G.S. (1994). Prevalence and seasonal variation of Bovine Fascioliasis in Western Province at IIIrd International Meeting of the Ruminant Helminth Research Group. 24th -27th January, Lusaka, Zambia.
7. Pandey G.S. (1994). The role of Veterinary Medicine in Wildlife Conservation. Paper presented at Wildlife Conservation Symposium held at UNZA, Feb. 2, Lusaka Zambia.
8. Pandey G.S., Suzuki A.K., Kaji T. and Takahashi S. (1995). Emerging diseases of wildlife in Zambia. Paper presented in XXV World Veterinary Congress, 3-9th September, Yokohama, Japan pp 114.
9. Pandey G.S. (1995). An outbreak and Pathology of mange among goats naturally infected with Sarcoptes scabiei in Central Province of Zambia. Proceedings of the Scientific meeting of the Veterinary Association of Zambia. 20-21st April, pp 8-9.

10. Mlangwa J.E.D., Chilonda P. and Pandey G.S. (1995). Veterinary ethics and veterinary delivery system. Proceedings of the Scientific meeting of the Veterinary Association of Zambia 20th-21st April, pp 10-15.
11. Tuchili L.M., Kodama H., Sharma R.N., Takatori I., baba T., Mukamoto M., Kabilika S. (1995). Detection of Salmonella DNA from chickens and chicken eggs . Oral presentation to The Japanese Society of Veterinary Science Congress. pp. 120-139.
12. Tuchili L.M., Pandey G.S. (1995). The impact of anthrax on wildlife and the environment in Zambia. Oral presentation to The Symposium organised by the School of Veterinary Medicine in conjunction with NIES-Japan and the Department of National Parks and Wildlife.
13. Tuchili L.M., Ulaya W., Kaneuchi C. (1995). recent serocharacterization of Salmonella stains isolated from chickens in Zambia. Oral presentation at the Zambia Veterinary Association Scientific and Annual General Meeting held on 20-21 April.
14. Tuchili L.M., Takatori I., Sharma R.N. (1995). Success approach for the detection of Salmonella in dead-in-shell egg yok using the polymerase chain reaction. Oral presentation at the Zambia Veterinary Association Scientific and annual General Meeding held on 20-21 April.
15. Tuchili L.M., Kodama H., Takatori I, Sharma R.N.(1996). Detection of salmonella from poultry using polymerase chain reaction and bacteria culture: A comparative study. Proc. 20th World Poultry Congress, New Delhi, Vol. 4, 387.
16. Ahmadu B., Pandey G.S. (1996). Prevalence, seasonal variation and economic importance of bovine fascioliasis in Western Province of Zambia. Zimbabwe Vet. Assoc. Centenary Congress 16-18 September, Victoria Falls, Zimbabwe.
17. Ahmadu B. (1996). Use of Aphidicolin for embryonic manipulation. Fifth Internation Symposium on Science and Technology research council of Zimbabwe, 24-26 September, Harare, Zimbabwe.
18. Pandey G.S. (1996). Privatization of Veterinary Services in Zambia. Paper presented at Joint Regional Commonwealth Veterinary Association Meeting and Scientific Conference 31st July to 2nd August, Mauritius.
19. Pandey, G.S. (1996). Outbreak of coccidiosis in Poultry and its Economic importance in Zambia. 20th World Poultry Science Congress held 1st -8th September 1996 - New Delhi India, Vol. 4, pp 263.

### III. DISSERTATION/THESIS

1. Sitima A. (1996). Viability of *Mycobacterium bovis* in Traditionally Processed Sour Milk and Prevalence of bovine tuberculosis in Namwala District of Zambia. Submitted to UNZA.
2. Samui K.L. (1995). The habitat, ecology and epidemiology of Eastern Equine Encephalomyelitis in South-East Louisiana state University. Ph.D. Thesis.
3. Mulala R. (1995). detection of bacteria with Antimicrobial activity antagonistic to campylobacter Jejuni. University of London.



# THE UNIVERSITY OF ZAMBIA

SCHOOL OF VETERINARY MEDICINE  
DEPARTMENT OF PARACLINICAL STUDIES

## INFORMATION FOR JICA PROJECT FINAL EVALUATION EXERCISE

### A. CONFERENCES/SEMINARS/SYMPOSIUM ATTENDED FROM 1992 - 1996

- (1) Prof, R.N. Sharma visited Veterinary Schools of the United Kingdom for one month under the UNZA/Glasgow British Council Link Programme (March, 1996)
- (2) Prof, R.N. Sharma attended joint regional Commonwealth Association and Mauritius Veterinary Association conference and presented a paper, "Occurrence of Salmonella enteritidis phage type 4 in chicken embryonated eggs in Zambia". (31st July - 2nd August, 1996).
- (3) Prof. R.N. Sharma attended the XX World's Poultry Congress in New Delhi, India and presented a paper, "Epidemiology of Salmonella gallinarum in Zambia". (2nd - 8th September, 1996).
- (4) Dr. H. Chitambo, attended the Japanese Annual Veterinary Association meeting at Gifu, Japan. Presented a paper: "Akinetoplastic Induction Test as a new tool for detection of drug resistant trypanosomes in the field" (April, 1992)
- (5) Dr. H. Chitambo, attended The Veterinary Association of Zambia Annual General Meeting, Lusaka Zambia. Presented: "Field Application of Akinetoplastic Induction Test in Zambia" (1993).
- (6) Dr. Chitambo, H. EEC/IPMI/Regional Tsetse and Trypanosomiasis Control Program, 2nd workshop for RTTCP Veterinarians from Malawi, Mozambique, Namibia, Zimbabwe and Zambia, held at Chipopela, Zambia. Presented: "Trypanocide use/abuse and drug resistance in trypanosomes." (18-23 April, 1993).
- (7) Dr. Chitambo, H. Third workshop for RTTCP veterinarians and project leaders, held at Lufupa Lodge, Kasungu National Park, Malawi. Presented: "A review of the use of serodiagnosis for trypanosomiasis in Zambia". (24-28 April, 1994).
- (8) Dr. Mwase, M.; Second National Symposium on the Use of National Plant Products as Pesticides in Zambia. 27-30 Nov, 1995. Presented: "Evaluation of the Mammalian Toxicity of *Tephrosia vogelli* extracts" (27 - 30 Nov. 1995).
- (9) Dr. Mwase, M. CDG Workshop on Environmental Network-Management. Ndola, Zambia. In attendance. (Sept. 30-Oct., 7, 1996).
- (10) Dr. Musonda, M.M. Presented a paper titled "Training and Education of Veterinary Graduates for Self Employment in a Commercially Oriented Environment at the University of Zambia" at a SACCAR/CIDA Workshop of Deans of Faculties of Agricultural Sciences and Veterinary Medicine and Representatives of Agribusiness in the SADC Countries. (November, 9-11th, 1994).

- (11) Dr. Musonda M.M. Presented a three hour lecture titled Effect of Environmental pollution on Animal Health at a one week Workshop on Environmental Education organised by the University of Zambia School of Mines in conjunction with Mineral Resources Unit of the United Nations University (December, 19 - 23, 1994 Lusaka, Zambia).
- (12) Dr. Musonda M.M. Participated in a five day Workshop on Veterinary Medicine: Impacts on Human Health and Nutrition in Africa (August 27 - 31, 1995, in Addis Ababa Ethiopia).
- (13) Dr. Musonda, M.M. Attended a one-week joint workshop for SADC Veterinary Faculties Deans and Directors of Veterinary Services to develop Networks for providing Training in Veterinary Diagnostics in the Southern African Development Community, Matobo Hills Lodge, Bulawayo, Zimbabwe (March 3 - 8, 1996).
- (14) Dr Musonda M.M. Attended a four day Management Development Programme for The University of Zambia Deans/Directors and Librarian organised by the Eastern and Southern African Management Institute, ESAMI, at Lilayi Lodge in Lusaka, Zambia (May 30 - June 2, 1996).
- (15) Dr. Musonda, M.M. Attended a two-day 10th SADC Joint Veterinary, Agricultural Sciences and Natural Sciences Faculties Deans Committee Meeting (April 22-23, 1996. Arusha, Tanzania).
- (16) Dr Musonda, M.M., Attended joint regional Commonwealth Association and Mauritius Veterinary Association Conference and presented a paper "Utility of Immunohistochemical staining technique as a routine tool for rabies (31 July - 2nd Sept., 1996).

## DEPARTMENT OF PARACLINICAL STUDIES

### B. LIST OF PUBLICATIONS FROM 1992-1996

1. Saiyari, M., Mohammadian, B., Khatermohammadi, M. and . Sharma, R.N.: Parasitic lesions in lung of sheep and goats in Iran. *Indian J. Anim.Sci.* 66 (4): 340-342, 1996.
2. Tuchili, L.M., Kodama, H., Takatori, I, and Sharma, R.N.: Detection of *Salmonella* from poultry using polymerase chain reaction and bacteria culture : a comparative study. Abstract: In XX World's Poultry Congress, New Delhi, India, 2nd - 8th September, 1996. Vol IV pp. 387.
3. Kabilika, S.H., Nagabayashi, T.,and, Sharma, R.N.: Bacterial pathogens from dead-in-shell chicken embryos from hatcheries in Zambia. Abstract: In XX World's Poultry Congress, New Delhi, India 2nd - 8th September, 1996. Vol. IV pp. 305.
4. Kabilika, S.H., Musonda, M.M., Van Der Walt, M.L. and . Sharma, R.N.: Occurrence of *Salmonella enteritidis* phage type 4 in chicken embryonated eggs in Zambia. Paper presented in Joint Regional Commonwealth Veterinary Association/Mauritius Veterinary Association, Mauritius 311 July - 2nd August, 1996. pp. 14.
5. Mayahi, M. and Sharma., R.N. Cholangiocarcinoma in chicken - A case report. *Indian Vet. J.* 73, 563-564, 1996.
6. Moghami, S.M., Saiyari, M, Mayahi, M. and. Sharma, R.N.: Pathology of uterus in buffaloes slaughtered in Ahwaz (Iran) abattoir. *Buffalo Journal* 12 (2), 213-218, 1996.
7. Sharma, R.N., Musonda, M.M., Munang'andu, H.M., Muyoyeta, P. and Sinyangwe, P.G. *Salmonella* isolation from animals in the Republic of Zambia. *Bull.Anim.Hlth.Prod.Africa.* (in press).
8. Shanna, R.N., Munang'andu, H.M. and . Muyoyeta, P. Further review of the epidemiology of *Salmonella gallinarum* in Zambia 1986-94. Paper. Proceedings XX World's Poultry Congress, N.Delhi, India 2nd - 8th September, 1996. Vol. II pp 381-383, 1996 .
9. Chitambo, H., Arakawa, A. and Ono, I. (1992). The *In Vivo* assessment of drug sesnsitivity of African trypanosomes using the Akinetoplastic Induction Test. *Research in Veterinary Science*, 52, pp 243-249.
10. Chitambo, H. and Arakawa, A. (1992) *Trypanosoma congolense*: The in vitro Akinetoplastic Induction Assay. *Parasitology Research*, 78, pp 136-141.
11. Chitambo, H. and Arakwa, A. (1992). *Trypanosoma congolense*: The use of 4, 6-diamidino - 2 - phenylindole (DAPI) in the Akinetoplastic Induction Sensitivity Test. *Journal of Veterinary Medical Science*, 54 (4), pp773-775.

12. Chitambo, H. and Arakawa, A (1992). *Trypanosoma congolense*: Manifestation of resistance to Berenil and Samorin in cloved trypanosomes isolated from Zambian cattle. *Zentralblatt für Bacteriologie*, 277, pp 371-381.
  13. Sinyangwe, L; Munyama, G., Sabbe, F. and Chitambo H. (1993). Field validation and use of the antigen ELISA to monitor the effectiveness of tsetse and trypanosomiasis control campaign in Gwembe valley, Zambia. In: *Improving the Diagnosis and Control of Trypanosomes and other Vector Borne Diseases of African Livestock using Immunoassay methods*. FAO/IAEA-Tec. DOC-707 pp 87-93.
  14. Ono, T., Ohnishi, Y.; Takami, K.; Yamamoto, M.; Chitambo, H. and Arakawa, A. (1995). Effect of Berenil on the Kinetoplast of *Trypanosoma gambiense* Parasiticide Sensitive and Resistant, Clone in Mice. *The Japanese Journal of Parasitology* Vol. 44 (2).
  15. Katakura, K., Lubinga, C.; Chitambo, H., Tada, Y. (1996/97). Detection of *Trypanosoma congolense* and *Trypanosoma brucei* subspecies in cattle in Zambia by Polymerase Chain Reaction (PCR) from blood collected on filter paper. *Parasitology Research* (In press).
  16. Mwase, M., Musonda, M.M., Chitambo, R., Norrgren, L. (Submitted to *Environmental Archives*). Toxicity of Sediments collected from Kafue River near Kafue town to *Oreochromis guderusii*.
  17. Munalula, M.K., Musonda, M.M. and Evensen, O. (1996) Utility of immunohistochemical staining technique as a routine tool for rabies. Paper In: *Proceedings, Joint Regional Commonwealth Veterinary Association and Mauritius Veterinary Association, Mauritius, 31 July - 2nd Aug, 1996* pp. 10.
  18. Okuda, R., Yamaguchi, R., Tateyama, Y., Uchida, K., Musonda, M.M. and Chama, P. (1992). Immunohistochemical Investigation on Naturally Occurring Rabies cases in dogs, cattle and horses in Zambia. *Compendium of Proceedings of the 114th congress of Japanese Society of Veterinary Science*. Abstract 05-1.
  19. Musonda, M.M. (1993). Pathological Study on Swine Lymphosarcoma - Morphology, Lineage, Immunophenotype of Tumour cells and Malignancy Grade. *Bull. Azabu University, Veterinary Medicine*. 11 (1.2). 17-29.
  20. Pandey, G.S., Kobayashi, K., Hirai, H. and Musonda, M.M. (1994). Bilateral Duplication of Caecum in a Domestic Chicken. *Avian Diseases* 38: 201-202.
  21. Papers published In: Mwase, M., (MSc. Thesis) Biological Impact of Anthropogenic Emissions on Fish Living in Kafue river, with special reference to metals and pesticides. (Uppsala, 1994) ISBN 91-576-4925-1.
- Mwase, M., Ljungberg, O, Musonda, M.M. Akerblom B. and Norrgren L. Chemical and morphological Studies of tropical fish species from Kafue river, Zambia.
- Mwase, M. Viktor. T; and Norrgren L. Effects on juvenile tropical fish of river sediments from Kafue river, Zambia.
- Mwase, M; Brunstrom, B. Engwall, M. and Norrgren. L. Biological Impact of Lipophilic sediment extracts from Kafue River, Zambia, in microinjected rainbow trout fry and chick embryo livers exposed in vitro.

# Organization Chart of the Project

Annex 11

