附　　属　　資　　料

1. スクールミーティング資料

2. 機材リスト（無償資金協力により供与された機材）

附属資料1. スクールミーティング資料

THE UNIVERSITY OF ZAMBIA
SCHOOL OF VETERINARY MEDICINE

AGENDA FOR SCHOOL MEETINGS

1. Review of Progress in the development of the School of Veterinary Medicine between September, 1991 and July 1992.

1.1 1991 Annual Report
1.2 Proposed Staffing and present staff list
1.3 Student enrolment and output figures
1.4 Graduates (1991) and their destination
1.5 Budget
1.6 Revolving Fund
1.7 Staff training
1.8 Research, publications and Seminars
1.9 UNZA VETERINARIAN (略)
1.10 Veterinary Liaison Meeting

2. Other donors
2.1 U.K
2.2 Belgium
2.3 Norway
2.4 Sweden
2.5 Ireland

3. JICA Technical Cooperation Phase - II
3.1 The Attached Document
3.2 Master Plan
3.3 Tentative Schedule for the Implementation

4. Exchange of any other major issues that relate to JICA Technical Cooperation

5. Any Other Business

1.1 THE UNIVERSITY OF ZAMBIA

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

1991 ANNUAL REPORT
(Academic year)

Dean: Prof. Cheryl E.A. Lovelace B.Sc. Ph.D. (Acting)

Assistant Dean (UG) Dr. G.S. Pandey B.V.Sc. & A.H M.V. Sc

Assistant Dean (PG) Dr. T.R. Ayliffe. B.Sc. B.V.M. Ph.D. M.R.C.V.S.

The School is pleased to report that in 1991 the students in the School did well, and all fifty nine students in the final year graduated successfully. This is the fourth year of graduating students, bringing to sixty the total number of graduates from the School. This has increased the number of Zambian Veterinarians by five fold. The moderate intake of students' was due to insufficient number of qualifying students, however the number is adequate for good manpower planning. All the graduates from previous years have found employment as Veterinarians, however it is realised that our graduates should be able to enter a number of career opportunities related to animal health and production and with this in mind and together with the experience gained from our first three years of graduates, the School has decided to embark on a Review exercises to include the veterinary Curriculum as a whole. However some interim improvements were again implemented in the curriculum, by a rearrangement of courses in Disease Control with Preventive Medicine now as a separate course. Only two external examiners were invited this year due to lack of funding, and they examined 5th and 6th year students in Surgery Medicine and Theriogenology and Infectious Diseases of Livestock.

The student numbers in the School in 1991 were as follows 2nd year: 17, 3rd year: 25, 4th year: 19, 5th year: 18, 6th year: 14, giving a total of 91 students.

The first two Masters students in the School presented their theses for examination, and both were successful and will be the School's first higher graduates. Ms. C. Amoo will receive M.Sc. in Veterinary Biochemistry and Mr. M. Schneebeli will receive an M.Sc. in Reproduction. Ms. Z. Nkhunqulu returned from the International Laboratory for Research in Animal Diseases where she was studying a Ph.D. registered at UNZA, and is completing writing of her thesis.

The School is gradually improving in the numbers of Zambian staff through direct recruitment and a vigorous staff development policy with assistance from the British and Japanese Governments. Two more staff development fellows returned from U.K. with Masters degrees in Virology and Surgery, and joined the staff as the first Zambian Lecturers in these areas.

The School still experiences some staff turnover as contract staff return to their home countries. The School bid farewell to Prof. G. Sato, who had been Head of the Department of Disease Control for three years, who with Dr. Y. Sato and Dr. H. Madarame and four Junior Lecturers from Japanese Overseas Cooperation Volunteers, returned to Japan. Prof. G. Sato's position in public health was filled by Prof. K. Nakamura. Prof. D.S. Misra, Professor of Microbiology, returned to India and the School was fortunate that Prof. A. Kumar arrived as his successor in Paraclinical Studies. Dr. L. Tuchili joined as Lecturer in Microbiology and Dr. A. Nambota as Lecturer in Parasitology and Wildlife Diseases.

The School continued to receive the assistance of visiting Lecturers in areas of staff shortage. The British Council supported a Lecturer in Large Animal Surgery for three months and JICA supported five visiting lecturers in the areas of Surgery, Pathology, Clinical Biochemistry, Environmental Hygiene and Laboratory animal science.

JICA has continued to actively support further training for academic and technical staff. Two Ph.D. students are in Japan, and these were joined by two more who went to do public health and theriogenology. Five Technical staff also received further training under the Veterinary Education Project supported by JICA/JOCV (Japan), and the Technical Cooperation has continued to flourish with the able support of the JICA Team Leader in the School, Prof. Tsutsumi.

The U.K. Overseas Development Administration have also agreed to fund a Veterinary Education Project which commenced in 1991. This includes support of two training positions in the U.K., support for four academic staff in the School, and funding for books and equipment. Under this project two graduates were sent for M.Sc. studies in Tropical Veterinary Medicine and Toxicology. The British Council Link supported the visit to Britain of Dr. D. Kisauzi, to look at developments in veterinary education curricular and Dr. G.S Pandey attended a Workshop at the Centre for Tropical Veterinary Medicine, Edinburgh. The Link also supported visiting lecturers and the purchase of urgent chemicals.

The University is supporting one Ph.D. student in Britain and one technician completed his diploma studies at the National Resources Development College, supported by a GRZ Scholarship. The Afro American Institute continues to support a Ph.D. student in America.

JICA continued to provide under its Technical Cooperation Programme a generous grant to purchase chemicals and equipment, which is split equally between the four academic departments and the Central Services and Supply Department. JICA also supports Mr. Kadono, the Senior Technician in the workshop, who, with a newly appointed Senior Technician Mr. Mimunzowa, continue to maintain the School equipment well.

Two Irish Veterinarians, Drs. T. and O Mullaney who had come come under the HEDCO Link programme two years ago; raised funds in Ireland and arranged for three of our graduates to spend 6 weeks in Ireland as a training programme just after graduation. Each graduate spent time working in at least two practices, and benefitted greatly from this experience. Such enthusiastic assistance from our visiting Lecturers and our Inaugural Dean, Prof. R. Lee, is greatly appreciated. The UNZA Veterinarian produced 3 issues under its able Editor Dr. T.R. Ayliffe and was sent to all graduates and other interested organisations. The Livestock Development Project, funded by the Dutch Government, supported three training courses, for livestock officers, veterinary officers and laboratory assistants involved in Government Veterinary service. These courses were organised by the School coordinator Dr. K. Samui. The Ambulatory Clinic Project and associated parasitological research continued actively in Clinical Studies. The Seminar programme in the School has continued to be interesting and educational.

The School Library is progressing slowly. Journal subscriptions are being funded by SIDA which is good support for research. The textbooks are brought with funds from UNZA, British Council and ODA (U.K.), plus generous donations from visiting and leaving Academic staff.

Research has continued to be active in the School with a total of 21 ongoing projects being continued and a total of 9 new projects being accepted for funding. Sixteen research papers were published including authors from the School, were accepted for publication and seventeen conference presentations made during 1991. External funding for research was obtained from JICA, IAEA, EEC, IFS, Belgium, Norwegian Department of Foreign Affairs, to add to the research grants given by the University however several University projects were limited by late release of funds.

Staff continued to make visits to other Universities and attend conferences but this was limited by funding. Dr. D.N Kisauzi was invited to speak at the Royal Veterinary College Bicentenary Symposium and the World Veterinary congress, in the area of Veterinary Education where he is regarded as an expert for Africa. Staff attended workshops on a wide variety of topics including Livestock Productivity, Education and the Zambian Woman, Lumpy Skin Disease, and presented papers at conferences in Japan, Canada, Nigeria and France.They acted as External examiners in Tanzania and Zimbabwe.

The School, and in particular the JICA Team Leader, has been active in promoting interest in the School with various organisations both in and outside Zambia, and several hundred visitors came to the School during 1991. The visitors all expressed surprise at the high quality of our facilities and how they are maintained. For this we thank all our technical and general service workers, for their hard work and dedication.

The School continued to receive support from a number of organisations and individuals in the form of Prizes and ten prizes have been donated to outstanding students, which will be presented the day before graduation.

The School Veterinary Clinics continue to improve and a regular clientele has now been built up. The Ambulatory Clinic now has two vehicles, with the addition of the one from the Ambulatory Clinic Project supported by the Belgian Government, and students go out to farms under our Link arrangement three days a week. One Ambulance is on emergency standby at all times during working days. The Small Animal Clinic still needs expansion, requiring another consulting room, a dog run, and an increase in animal hospitalization quarters. The University Veterinary Diagnostic Laboratory also needs to have separate accommodation to carry out its work satisfactorily.

The Central Services and Supply Department has contined to support the School's activities in their workshop and animal holding facilities. Researchers and Departments continued to keep animals there.and the average number was 11 cattle, 15 sheep, 48 goats, 1 horse, and 5 pigs, plus rabbits, guinea pigs, chickens, rats and mice.

The School was saddened on several occasions when valued members of staff passed away through accident or illness. Dr. Moses Bwalya, Staff Development Fellow in Clinical Studies, passed away in a road accident while on duty. Dr. Bwalya showed great potential as a Small Animal Surgeon, and he is greatly missed. Mrs. F. Mpundu, typist with the School since it started, passed away in a fire accident. Mrs. Mwape Technician I, Disease Control and Ms. G. Mwaluputa, passed away after illness.

However, the setting up of a School Bank Account for the School's Revolving Fund was approved and this commenced in November. This provided impetus for more raising of funds from the School's services to the public, including the Small Animal Clinic, Ambulatory Clinic, hiring of School facilities, and selling of meat and milk from the Veterinary Paddocks. These funds have assisted in local purchase of Clinic consumables, and maintainance of the paddocks. Thus overall the School hopes that it still provided the students and the public with good services.

The School took part in several national activities, which were mainly organised by the Technical Advisory Committee. These included the lorry plus display for Labour Day Parade, and a display at the National Agricultural and Commercial Show.

Department of Biomedical Sciences

Head: D.N. Kisauzi B.Vet.Med. Dipl.Nutri.Phys.Ph.D.

Chief Technician: Mr. J.K. Daka, ONC, C&G (I,II,III) SIMA Cert.Vet.Instrum.

The Department teaches courses in physiology, anatomy, histology embryology, biochemistry, pharmacology, toxicology and therapeutics to students of all years.

The academic staff was constant this year which assists with academic development. Dr. K. Choongo left for M.Sc. studies in Pharmacology at the University of Surrey, and P.O.C. Masebe went to Japan for 9 months training in biochemistry at Hokkaido University. Mr. K. Mizinga was completing his Ph.D. studies at University of Georgia, U.S.A. on an Afgrad scholarship. Dr. G. Bishonga joined the Department as SDF in Physiology. Mrs. Z. Nkhungulu returned from Ph.D. studies at ILRAD, and has almost completed writing her thesis. Mrs. C. Amoo submitted her M.Sc. thesis in Biochemistry under the supervision of Prof. Lovelace, and passed her examination, so will be the first Masters student to complete her studies in the School.

Prof. C. Lovelace acted as External Examiner at the University of Zimbabwe and Dr. T.R. Ayliffe at the Sokoine University of Agriculture. Dr. Ayliffe was also co-supervisor for a Ph.D. student at Glasgow University and for Dr. M. Schneebeli, who was doing an M.Sc. in Theriogenology. He was a part-time student and has successfully completed his M.Sc.

Dr. D.N. Kisauzi was an invited speaker at the Royal Veterinary College Bicentenary Symposium and at the World Veterinary Congress in Brazil. The latter was also attended by Prof. R. Ramkrishna. Prof. Lovelace attended the Research Coordination Meeting of the IAEA/FAO Programme on Improving of Indigenous African Livestock using Radioimmunoassay in Ivory Coast.

Mr. P.O. Masebe left for 10 months training in biochemical techniques at Hokkaido University under the JICA Counterpart Training Scheme.

Departmental research is carried out under five programmes involving collaboration of all academic and technical staff: studies on indigenous Zambian goats, reproduction and fertility in animals, mycotoxins and plant toxins in animal disease, wildlife biology, digestive and nutritional biology of domestic animals.

Department of Paraclinical Studies.

Head: Prof. Y. Tsutsumi, D.V.M., Ph.D.

Chief Technician (Acting) Mr. P.G. Phiri (till July) Cert.Animal.Health & Lab.Techs., Dip.Med.LabTech., Cert. Vet.Parasitology.

P. Chama (till November) City & Guilds Part I (Science Lab.Tech)

Mr. C. Mubita: (Acting)(December) City & Guilds Cert. Lab. Sci., National Cert. Vet.Lab.Tech., Cert. in Immuno., Higher National Cert. Med.Lab.Tech.Sci.

The Department teaches 4th year students in the areas of microbiology, parasitology and pathology and also assists in teaching of infectious diseases and with the Veterinary Diagnostic Laboratory where it carries out autopsies.

Prof. D.S. Misra, Prof. of Microbiology, returned to India, but he was replaced by Prof. A. Kumar. Dr. M. Okumura, JOCV, and Dr. M. Mwase, House Surgeon, joined to assist in Pathology and the Post-Mortem Room. However the Department only had one academic, Dr. M. Musonda, instead of three in Pathology, leading to a heavy work load, and one JICA visiting Lecturer, Prof. Yamaguchi, came for three months to assist in this area.

Dr. R. Muimo continued his Ph.D. studies in helminthology at the University of Leeds and Dr. I. Bhaiyat in pathology at Hokkaido University. Dr. A. Mulenga, SDF, attended a tsetse control programme at the International Centre for Insect Physiology and Ecology (ICIPE), Nairobi. Under JICA, Mr. P. Phiri left on a training programme in parasitology at Hokkaido University, and Mr. J. Lungu in microbiology at Gifu University. Mr. A. Chota returned to the Department after successfully completing a Diploma in Agriculture (Animal Science Major) at NRDC.

The Department received a number of distinguished visitors, including the Vice Minister for Foreign Affairs from Japan, and the Japanese Ambassador. The Head has actively been interesting various organisations both in and outside Zambia in the activities of the Department, which had nearly 500 visitors in 1991.

Prof. Tsutsumi was appointed a member of M.Sc. examining board for two M.Sc. candidates, and was the Chairman for a Ph.D. candidate from Biology. Two staff presented papers at local workshops, Dr. E. Mwase at the Workshop on "Education and the Zambian Woman" and Dr. Musonda at the Veterinary Association of Zambia Seminar on Lumpy Skin Disease. Prof. Y. Tsutsumi, Prof. Yamaguchi, Dr. K. Yamaguchi and Dr. M. Okumura made presentations at the 11th Congress of the Japanese Society of Veterinary Sciences.

Research activities continued with 13 ongoing projects and 5 new projects being approved for GRZ funding. The topics include

sanitary evaluation of milk, survey of toxoplasma antibody in humans and animals, coccidia in dogs and crocodiles, parasites on and in chickens, rodents, fish and snails, heartwater disease, sarcocytis on wild game, immune responses of calves and rabbits to ticks, and ciliate protozoa in the rumen of wild ruminants.

Research Links with other Universities and Institutes has increase, including five universities in Japan, one in each of Zimbabwe, Tanzania, and United Kingdom, and ICIPE and ILRAD in Kenya.

Department of Disease Control

Head: Prof. G. Sato, DVM,Ph.D. (till June)

Prof. K. Nakamura,DVM, Ph.D. (July - Nov),

Prof. T. Kaji, DVM,Ph.D. (from Dec)

Chief Technician: W. Ulaya. City & Guilds Part I & II (Science Lab. Tech) SIMA Cert. in Scientific instrumentation, Veterinary Microbiology.

The Department teaches 5th and 6th Year students in the areas of preventive medicine, infectious diseases, clinical pathology, public health, epidemiology, veterinary economics, extension and jurisprudence. The University Veterinary Diagnostic Laboratory is also managed mainly within this Department.

The Department bid farewell to Dr. Y. Sato, Senior Lecturer in Chemical Pathology, who has not yet been replaced. Two JOCV Lecturers also left, Dr. S. Inoue and Dr. N. Tsukihara. Three visiting Lecturers came from Japan, Dr. Y. Yasuda and Prof. K. Inoue for Clinical Pathology and Prof. Matsusaka for Environmental Hygiene and Laboratory Animal Science.

Dr. A.S. Mweene returned after successful completion of his M.Sc. (Microbiology) and joined the Department as Lecturer. Dr. M. Ngoma was awarded a Monbusho Scholarship and left for Japan for his Ph.D. studies in Public Health and Dr. M. Syakalima left for M.Sc. studies in U.K. under British Council. Mr. H. Chimana went to Japan for ten months training in Microbiological techniques at Kagoshima University.

Dr. G.S. Pandey went to the U.K. to attend a course at CTVM Edinburgh on Recent Advances and Current Concepts in Tropical Veterinary Medicine and spent a further four weeks visiting Institutes involved in wild life disease diagnosis, under the auspices of British Council.

Research activities have progressed in the Department. Ongoing projects include rift valley fever, epidemiology of bovine dermatophilosis, tuberculin testing, drug resistance of intestinal bacteria, akabane disease. New Projects include enterotoxigenicity.

A collaborative project has commenced between the National Institute for Environmental Studies, Japan and the Department on "The effects of enlargement of domestic animal pasture on wild animals" Dr. Takahashi from NIES and Dr. H. Hayashitani from Tokyo University and Dr. G.S. Pandey from UNZA exchanged visits, and Dr. Pandey presented Seminars on the diseases of Wildlife at NIES, Hokkaido, Sapporo and Tokyo Universities. Dr. K.L. Samui made a presentation on African Swine Fever at a Symposium in Canada, and was an invited speaker at the 2nd Symposium, on dermatophilosis in Nigeria.

Department of Clinical Studies

Head: Prof. J.O. Omamegbe DVM, MVM

Chief Technician (Acting): M. Mubiana Dip.Agric.Cert Anima.Health (till July)

L. Nyirenda:

The Department teaches 5th and 6th Year students in clinical medicine and practice, theriogenology and small and large animal surgery, and runs the Veterinary Clinics, Pharmacy and Hospitalization quarters.

The staff stayed fairly constant this year, and the Department gained Dr.K. de Balogh in Large Animal Medicine. There are still however staff vacancies in reproduction and surgery. Dr. J. Muleya returned successfully from M.V.M. studies in Glasgow and became the first Zambian Lecturer in Veterinary Surgery. Sadly the Department lost Dr. M. Bwalya, a very promising surgeon, in a road accident. Dr. O. Patel, Lecturer in Theriogenology was awarded a special Monbusho Scholarship and left for Ph.D. studies at Tokyo University.

Under the British Council Link, Dr. J. Watkins came as visiting lecturer in large animal surgery for three months. Prof. Washizu came as visiting lecturer in small animal surgery under JICA for three months. Mr. D.S. Banda went to Obihiro University for nine months training supported by JICA.

Departmental research continued, however all the Lecturers have considerable clinical duties, and these consume a lot of time, so that staff wish that they could have more time to devote to research. The projects being pursued were under the topics of newcastle disease in village chickens, caprine brucellosis, theileriosis, bacterial flora of surgical wounds, porcine hernia and transmissible venereal tumour in dogs. The research projects in collaboration with the University of Ghent included epidemiology of cattle schistosomiasis, gastric nematodes, and hormones in cattle infected with trypanosomiasis.

The activities of the Small and Large Animal Clinics continued to be fruitful, and students were exposed to a large variety of clinical cases. The money from charging for clinical services was placed in a revolving fund and used for purchase of essential drugs, supplies and animal feed.

The Dean's Office and Department of Central Services and Supply

Acting Dean: Prof. C.E.A. Lovelace B.Sc., Ph.D.

Administrative Assistant to the Dean: A. Chishimba Dip. Per. Admin., B.A. Public Admin. (Zambia).

Chief Technician: W. Benkele, Dip.Med.La.Sci.,Cert.Vet.Tech, Adv Cert.Vet Lab Tech Rad.
B. Sakala City and Guilds (I,II,III); HND
(Acting November-December)

The School has several administrative Committees which assist to manage the various activities of the School. These include the Dean's Advisory Committee, Technical Advisory Committee, the Animal Accommodation Committee, the Safety Committee, Vacation Practicals Committee, the Diagnostic Laboratory Committee, the Clinic Management Committee and the Library Committee. All these are headed by active Chairpersons, and are coordinated by the Administrative Assistant to the Dean, and without this support the School could not run well. The Animal Ethics Committee was formed to oversee and monitor proper procedures for animal use in teaching and research.

The Central Services Department manages all the animal accommodation outside the hospital, including the veterinary paddocks, quarantine, small laboratory animal accommodation, and the veterinary farm. It also includes the Central Stores and the School Workshop. The animal accommodation relies heavily on the junior staff, animal attendants and plotmen who do all the routine animal feeding and maintenance, and this is done every day with the staff showing true commitment to care of animals.

The Department benefitted from considerable help from Mr. O Kosegawa, JICA Coordinator. He not only advised on pasture management but also helped obtain agricultural inputs, supported rehabilitation of the spray race holding facility, and increased the number of night pens. Due to his efforts, the paddock and farm greatly benefitted from the purchase by JICA of a tractor, trailer, plough, disc harrow and planter, and additional irrigation equipment. This has greatly improved dealing with pasture in the paddocks, and the planting of animal feed crops such as maize and soya. Fencing was put up at the Veterinary Farm, and sighting for a borehole completed.

The animals kept in the veterinary accommodation at October 1991 were 17 cattle, 25 sheep, 48 goats, 1 horse, 6 pigs, 6 guinea-pigs, 210 mice and 57 rats.

The School Stores has maintained satisfactory supplies, though a lack of funds in the University towards the end of the year resulted in some shortages. The stores were mainly supplied by funds from UNZA, JICA and British Council. The Workshop was active providing a valuable service for the School. Fortunately equipment in the School is still fairly new, and serious faults have not yet arisen.

The School has a variety of audio-visual aids, slide projectors

and overhead projectors belonging to departments, with Central Services looking after the video and projection equipment. There was greater use of these facilities in 1991. The use of the Main Lecture Theatre as a conference venue was encouraged, and it was used for drama, film shows, Association meetings and academic symposia.

UNIVERSITY OF ZAMBIA

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

1 . 2 PROPOSED STAFFING

	1992 Proposed Establishement	Inpost	1993 Proposed Recruitement	1994	1995	1996	1997	Proposed Establishment Research Centre
Dean	1	–	1					
Professor	15	(7)	5	2(1)	(3)	–	–	(4)
Lecturers	28	25	9	(2)	(6)	(2)	–	(10)
Teaching Assistants	7	7	2	2	–	–	–	–
Chief Technicians	5	4	1	(1)			–	(1)
Senior Technicians	12	8	4	(1)	(1)		–	(2)
Pharacist/Radiologist	3	2	1					
Technicians	50	37	8	5 (4)	(8)	(7)		(19)
Admin Officers	2		1					
Secretaries	9	7	2	–	(2)	(1)		(3)
Others	25			–	(6)			(6)

Note : Recruitement plan will depend on budget available.

( ) Recruitement for Research Centre

JICA Academic Staff will move to Research Centre during 1994/1997 .

Zambian Staff with higher degrees will replace the JICA staff over time.

BIOMEDICAL SCIENCES DEPARTMENT
SCHOOL OF VETERINARY MEDICINE
UNIVERSITY OF ZAMBIA

STAFF LIST, JUNE 1992

NAME	POSITION	SUBJECT	STATUS
Dr. D.N. Kisauzi	Senior Lecturer	Physiology	Head
Prof. C.E.A. Lovelace	Associate Professor	Biochemistry	Ag. Dean
Prof. V. Rankrishna	Associate Professor	Histology	
Dr. T.R. Ayliffe	Senior Lecturer	Pharmacology	
Dr. S. Drozdowski	Senior Lecturer	Physiology	
Dr. K. Verstraeten	Lecturer	Embryology	
Dr. G.M. Muwanga	Lecturer	Anatomy	
Mr. K. Mizinga	Lecturer	Physiology	Study Leave
Mrs Z.M. Mkhungulu	SDF	Biochemistry	
Dr. K. Choongo	SDF	Pharmacology	Study Leave
Dr. C. Bishonga	SDF	Physiology	

"

NON-ACADEMIC

Mr. J. Daka	Chief Technician	Pharmacology	
Mr. B.Sakala	Senior Technician	Physiology	
Mr. P.O.C. Masebe	Technician I	Biochemistry	
Mr. I. Nyirenda	Technician I	Histology	
Mr. G. Kawila	Technician I	Pharmacology	
Mr. G. Sikazwe	Technician II	Research	
Mr. L. Sakala	Assistant Technician	Anatomy	
Mr. L. Ngoma	Lab. Assistant	Anatomy	Study Leave
Mr. F. Tembo	Lab. Assistant	Anatomy	
Ms. G. Hmoomba	Lab. Attendant	Embryology	
Ms. N.N. Hankolwe	Secretary	Administration	
Mrs S. Tembo	Typist	Administration	
Ms. M. Lungu	Cleaner	Biomedicals	

STAFF LIST OF DISEASE CONTROL DEPARTMENT AS AT 25TH JUNE, 1992

ACADEMIC

Prof. T. Kaji	Professor	Microbiology	JICA Long Term Exp
Prof. C. Kaneuchi	Professor	Environmental Hygine	JICA Short Term Exp
Dr. G.S. Pandey	Senior Lecturer	Clinical Pathology	
Dr. J.E.D. Mlangwa	Lecturer I	Epidemiology	
Dr. K.L. Samui	Lecturer II	Preventive Medicine	
Dr. L.M. Tuchili	Lecturer II	Microbiology	
Dr. A. Nambota	Lecturer II	Parasitology	
Dr. H. Chitambo	Lecturer II	Parasitology	
Dr. M. Ngoma	Lecturer III	Public Health (On study leave)	
Dr. A.S. Mweene	Lecturer III	Virology (On study leave)	
Dr. M.S. Syakalima	Staff Dev. Fellow	Clinical Pathology (On study leave)	
Dr. K. Hirowatari	Lecturer III	Public Health	

NON-ACADEMIC

Mr. W. Ulaya	Chief Technician
Mr. L.N.K. Zulu	Senior Technician
Mr. H. Chimana	Technician I
Mr. B. Mwanza	Technician I
Mr. G.S. Nawa	Technician I
Mr. H. Sinsungwe	Technician II
Mr. I. Nyambe	Assistant Technician
Mr. A. Bienba	Laboratory Assistant
Mr. G.M. Nyeleti	Laboratory Assistant
Mr. Y. Chama	Laboratory Assistant
Miss. I.T. Musonda	Secretary
Mrs. W.M. Chanda	Typist

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE
STAFF LIST OF PARACLINICAL STUDIES DEPARTMENT

ACADEMIC STAFF	TITLE	SECTION
Prof. Y. Tsutsumi	Professor	Parasitology
Prof. A. Kumar	Associate Professor	Microbiology
Dr. A. Seki	Senior Lecturer	Parasitology
Dr. M. Musonda	Lecturer I	Pathology
Dr. E.T. Mwase	Lecturer II	Parasitology
Dr. R. Muimo	Lecturer III	Parasitology
Dr. M. Okumura	Lecturer III	Pathology
Dr. I. M. Bhaiyat	S.D.F.	Pathology
Dr. F. Munebwe	House Surgeon	Pathology
Dr. A. Mulenga	S.D.F.	Parasitology
Dr. B. Namangala	S.D.F.	Microbiology

SECRETARIAL STAFF		
Mrs. B.C. Lukwesa	Secretary II	Departmental

TECHNICAL STAFF		
Mr. S. Chisembe	Chief Technician	Parasitology
Mr. P.G. Phiri	Senior Technician	Parasitology
Mr. P. Chama	Senior Technician	Pathology
Mr. C. Mubita	Technician I	Microbiology
Mr. M. Silumbwe	Technician II	Pathology
Mr. D. M'ule	Technician II	Microbiology
Mr. J. Lungu	Assistant Technician	Microbiology
Mr. A. Chota	Technician I	Parasitology
Mr. C. Sakala	Lab Assistant	Pathology
Mr. J. Mulenga	Assitant Technician	Parasitology
Mr. T. Mulelemba	Lab Assistant	Parasitology
Mr. R. Nkhoma	Lab Attendant	

* (Staff on Study Leave)

24th June, 1992

THE UNIVERSITY OF ZAMBIA

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

CLINICAL STUDIES DEPARTMENT

ACADEMIC STAFF

STAFF LIST, 26TH JUNE, 1992

NAME	POSITION	SUBJECT
Prof. Hamana	Professor	Reproduction
Prof. J. O. Ommegbe	Head	Surgery
Dr. C. J. Siame	Lecturer	L.A. Medicine
Dr. I. G. K. Phiri	Lecturer	L.A. Medicine
Dr. O. V. Patel	Lecturer	Reproduction/Obstetrics (On Study Leave)
Dr. L. N. Chiti	House surgeon	
Dr. T. S. Mwanza	Lecturer	Small Animal Medicine
Dr. V. Zulu	SDF	
Dr. De-balogh	Lecturer	L.A. Medicine
Dr. De-bont	Lecturer	L.A. Medicine
Dr. E. I. Amber	Lecturer	Small Animal Medicine
Dr. F. Sabbe	Lecturer	L.A. Medicine
Dr. M. Alisheke	House Surgeon	
Dr. J. Muleya	Lecturer	Small Animal Surgery
NON-ACADEMIC STAFF		
Mr. M. Mubiana	Senior Technician	Administration
Mr. L. Nyirenda	Technician I	Small Animal Clinic and Radiology
Mr D. S. Banda	Technician I	Clinical Laboratory Diagnosis
Mr. E. Mwachindalo	Technician II	Pharmacy
Mr. F. K. Chitondo	Technician I	Pharmacy
Mr F. Mphande	Technician	Ambulatories
Mr. K. Syakulipa	Animal Attendant	Large Animal Clinic
Mr S. Banda	Animal Attendant	Small Animal Clinic
Mr. B. Mwaluputa	Animal Attendant	Large animal Clinic
Miss B. Masiye	animal Attendant	Small animal clinic
Mrs M.Zulu	Secretary	Administration
Mrs M. Chibwwe	Typist	Administration
Ms. P. Mwanza	Receptionist	Administration

THE UNIVERSITY OF ZAMBIA
SCHOOL OF VETERINARY MEDICINE

ADMINISTRATIVE AND GENERAL STAFF - DEAN'S OFFICE STAFF LIST AS AT 1ST JUNE, 1992

NAME	RANK
Prof. C.E.A. Lovelace	Acting Dean
Mr. A. Chishimba	Administrative Assistan to the Dean
Mr. E.S. Mwanza	Senior Accounting Officer
Mrs. E. Phiri	Secretary to the Dean
Ms. M. Banda	Typist
Ms. R. Musonda	Duplicator Operator
Mr. S. Daka	Duplicator Operator
Ms. J. Mufika	Messenger
Mr. M. Bwalya	Cleaning Supervisor
Ms. N. Katibu	Cleaner
Mr. M. Mwelwa	Cleaner
Mr. A. Tembo	Cleaner
Mr. G. Kazembe	Cleaner
Mr. J.C. Kaumba	Cleaner
Ms. G. Banda	Cleaner
Ms. A. Katongo	Cleaner
Ms. T. Banda	Cleaner
Ms. C.S. Nasilele	Cleaner
Ms. M. Lungu	Cleaner
Ms. A. Kabaso	Cleaner
Ms. S. Situmbeko	Cleaner
Mr. R. Banda	Senior Driver

DEAN'S OFFICE - DEPARTMENT OF CENTRAL SERVICES AND SUPPLY STAFF LIST AS AT 1ST JUNE, 1992

NAME	RANK
Prof. C.E.A Lovelace	Acting Dean/Head
Mr. W. Benkele	Chief Technician
Mr. M. Kadono	Senior Technician
Mr. G. Himunzowa	Senior Technician
Mr. D. Chilinda	Technician I
Mr. D. Bowa	Technician II
Mr. E. Chisala	Technician II
Mr. G. Siame	Technician II
Mr. C. Singoyi	Assistant Technician
Mr. J. Kasopo	Animal Attendant
Mr. A. Njobvu	Animal Attendant
Mr. M. Sakala	Laboratory Assistant
Mr. G. Phiri	Plotman
Mr. W. Phiri	Plotman
Mr. J. Sakala	Plotman
Mr. H.E. Phiri	Storekeeper
Mr. D. Mushoke	Stores-Clerk

1.3 STUDENTS INTAKE & OUTCOME (1983-1992)

		1983	1984	1985	1986	1987	1988	1989	1990	~~1992~~ (1991)	(academic year)
UNDERGRADUATE STUDIES	Second Year	12	13	20	23	20	27	33	19	19	
	Third Year	-	12	13	22	20	14	20	25	18	
	Fourth Year	-	-	12	15	19	18	19	19	23	
	Fifth Year	-	-	-	10	15	19	14	18	20	
	Sixth Year	-	-	-	-	10	15	18	15	18	
	Total Number	12	25	45	70	84	93	104	96	98	
Number of graduates	Number/Year	-	-	-	-	-	13 (2)	15 (2)	17 (0)	14	(3)
	Cumulative Number	-	-	-	-	-	13	28	45	59	

10TH JUNE, 1992

Y. Tsutsumi (Prof.)

Latest Information for Graduates 1988 – 92) and Their Destination

		1st Graduates 1988	2nd Graduates 1989	3rd Graduates 1990	4th Graduates 1991	Total
UNZA	House Surgeon	1	0	2 (1)	2	5
	SDF	3	2	2	2	9
	Staff	2	0	0	0	2
	Student, School of Vet. Med.	0	0	0	1	1
	Government	4	8	9	5	26
	Parastatals	1	0	1	0	2
	Small Animal Clinic	1	0	0	2	3
	Poultry Farm	0	1	0	0	1
	Cattle Farm	0	0	3	1	4
	Pharmaceutical Companies	0	2	0	1	3
	Waiting appointment	0	1	0	0	1
	Out of the Country	1	1	0	0	2
	Total	12	15	17 (1)	14	59

Up to 20th May, 1992

() = Deceased

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

1.4 Latest Information for Graduates (1991) and their Destination

(1991/1992)

	NAME	TITLE AND LOCATION	EMPLOYER
1.	Chilonda Pius	Mazabuka	Chibote Farms (Private)
2.	Chitalu Barnabas	Lusaka	Interchem Clinic (")
3.	Chiti Lovewell	House Surgeon, Lusaka	UNZA
4.	M.T. Alison	Lusaka	Equine, Private Practice. (Private)
5.	Mutemwa Allisheke	House Surgeon, Lusaka	UNZA
6.	Mwandia George	Student, School of Medicine, Lusaka	
7.	Namangala Boniface	Lusaka , S.D.F.	UNZA
8.	E. Oparaocha	Lusaka	Vet. Clinic, Showgrounds (Private)
9.	Zulu Victor Chisha	S.D.F., Lusaka	UNZA
10.	Rita Mulala	Vet. Officer, Western Province	Government
11.	Chaka George	Dept. of Veterinary and Tsetse Control Services	"
12	Mundando Francis	"	"
13.	Mwalweni Humphrey	"	"
14.	Mataa Liywali	"	"

* Up to 20th May, 1992

1．5 Budget for the Veterinary School in 1992

	Emoluments 給料	General Expenditure 運営費	
Dean's Office	K 9083216	11489502 *	
Biomedical Sciences	6846665	358255	
Paraclinical Studies	5185354	1184943	
Disease Control	5103253	472816	
Clinical Studies	5995754	1305306	
Central Services	2123708	(attached to Dean s office)	
Subtotal	34337950	14810822 Total	K49148772

* 含：資材修理費、電気、ガス

1.6 Revolving Fund

DATE: 29th June, 1992

FROM: Mr. F.K. Chitondo, Clinical Studies Dept.

TO: Dean, Vet. Medicine

SUBJECT: REVENUE

The following is a representation of average monthly revenue made so far by the School this year 1992.

DEPARTMENT/CLINIC	JANUARY	FEBRUARY	MARCH	APRIL	MAY	Av. Monthly revenue
Clinical Studies & Small Animal Clinic	K113,595.00	K120,470.00	K116,340.00	K205,144.00	K136,279.00	K139,383.00
Clinical Studies, Large Animal & Amb.	K 59,766.00	K 30,084.00	K 60,170.00	K39,120.00	K 51,740.00	K 48,176.00
Disease Control Diagnostic Lab.	K 18,710.00	K 18,860.00	K 26,470.00	K40,050.00	K 26,750.00	K26,168.00
Central Services Paddocks	K 31,262.00	K 35,715.00	K 33,975.00	NIL	K 28,790.00	K25,948.00

F.K. CHITONDO
CLINICAL STUDIES DEPARTMENT

1.7 Staff development & postgraduate training 1991-1992

A. Technical staff (JICA)

A number of technicians visited Japan for short-term training under the auspices of JICA:

D. Banda, D. Bowa, D. Chilinda, H. Chimana, J. Fungu, P. Masebe, M. Mubiana, P. Phiri, Ulaya.

A further cadre will depart in the near future:

D. M'ulo, G. Siame, H. Sinsungwe.

One technician will be going to UK for training:

I. Nyirenda

B. Academic staff (大学院 国費留学)

One postgraduate returned from Japan with a PhD:

H. Chilambo

One postgraduate returned from ILRAD (Kenya) and is completing a PhD from UNZA:

Z. Nkhulungu

There are four academics in Japan studying for PhD degrees:

I. Bhaiyat
A. Mweene
M. Ngoma
O. Patel

Two Master's degrees students have successfully completed their studies at UNZA:

C. Amoo
M. Schneebeli

There are two students in UK studying for a Master's degree:

K. Choongo
M. Syakalima

Two members of staff will shortly be departing to Japan for short-term training:

J. Muleya
I. Mwase

In addition there are staff on local training programmes at Evelyn Hone College.

There is an In service training course for technicians about to be instigated using local personnel as far as possible as instructors.

ZAMBIAN ACADEMIC MEMBERS OF STAFF TRAINED AT MS.c/Ph.D LEVEL SINCE INCEPTION OF THE SCHOOL

DEPARTMENT	STAFF NAME	QUALIFICATION OBTAINED
Biomedical Sciences	K. Mizinga (USA)	Ph.D (Physiology/ Pharamacology) 1991
Clinical Studies	O. Patel (UK)	MSc. (Theriogenology, 1991
	J. Muleya (UK)	MSc. (Surgery) 1991
Disease Control	H. Chitambo (Japan)	Ph.D (Protozoology) 1992
	M. Ngoma (UK)	MSc. (Public Health) 1990
	A. Mweene (UK)	MSc. (Microbiology) 1991
Paraclinical Studies	E. Mwase (Mrs) UK	Ph.D (Entomology) 1990
	M. Musonda (Japapa)	Ph.D (Pathology) 1990
	R. Muimo (~~Ireland~~ UK)	MSc. (Helminthology) 1986

ZAMBIAN ACADEMIC STAFF MEMBERS - TRAINING

DEPARTMENT	NAME OF STAFF	QUALIFICATION SOUGHT
Biomedical Sciences	K. Chongo (UK)	MSc. (Pharmacology) 1992
	Z. Nkhungulu	PhD (Biochemistry) 1992
Clinical Studies	O. Patel (Japan)	Ph.D (Theriogenology) 1994
Disease Control	A. Mweene (Japan)	Ph.D (Microbiology) 1995
	M. Syakalima (UK)	MSc. (Clinical Pathology - 1992
	M. Ngoma (Japan)	Ph.D (Public Health) 1992
Paraclinical Studies	R. Muimo (UK)	Ph.D (Helminthology) 1992
	I. Bhaiyat (Japan)	Ph.D (Pathology) 1993

SUMMARY :

Dept.	Trained		In Training	
	MSc.	Ph.D	MSc.	Ph.D.
Biomedical Studies	–	1	1	1
Clinical Studies	2	–	–	1
Disease Control	3	1	1	2
Paraclinical Studies	1	2	–	2
Total	6	4	2	6

26th June, 1992

BM = Biomedical Sciences Department
DC = Disease Control Department
PC = Paraclinical Studies Department
CS = Clinical Studies Department

1.8 I. ON-GOING RESEARCH PROJECTS IN THE SCHOOL OF VETERINARY MEDICINE

(ワンヒアスの支出金による)

	TITLE OF RESEARCH PROJECT	BM	DC	PC	CS	RESEARCH FUND	TOTAL
1.	Studies on Parasitic Diseases in Indigenous Goats in Zambia	X				50,000.00	
2.	The Anatomy of Zambian Goats	X				47,000.00	
3.	Studies on the Reproductive Characteristics of Zambian Goats	X				30,000.00	
4.	Reproduction and Fertility in Animals-Mechanisms involved in Embryonic Death and their possible relationship to repeat breeding in cattle	X				32,000.00	
5.	Mycotoxins and Plant Toxins Investigation into nitrate/nitrite and Cyanide containing plants in the Lusaka area	X				10,000.00	
6.	Studies on Staphylococci from Milk and Milk Products in Zambia	X	X			38,000.00	
7.	Immune responses of Calves and Rabbits to Ticks			X		30,000.00	
8.	Survey on Toxoplasma antibody in Man and animals			X		-	
9.	Survey on Dog Coccidia			X		18,000.00	
10.	Ciliate protozoa in the rumen of wild ruminants in Zambia			X		8,000.00	
11.	Epidemiology of Calf Mortality in Lusaka		X			78,000.00	
12.	Surveillance of Akabane disease in Zambia		X	X		32,000.00	
13.	Chemotherapy of Transmissible Veneral Tumor in dogs				X	20,000.00	
14.	A Survey of parasites on free range chickens			X		22,000.00	

15.	Taxonomical study on parasites of Rodents in Zambia			X			
16.	Immunohistochemical study of tumours in Animals			X	X	140,000.00	
17.	Epidemiology of Bovine Dermatophilosis		X			90,000.00	
18.	Bacterial flora of Surgical Wounds in Domestic animals				X	55,000.00	
19.	A Survey of Porcine Hernia in Commercial Piggeries in Zambia				X	152,000.00	
20.	A Study of Intermediate Host actual incidence and for prevalence of Fascioliasis in Mongu and Senanga		X		X	90,000.00	
	TOTAL						942,000.00

II. NEW RESEARCH PROJECT IN THE SCHOOL OF VETERINARY MEDICINE

	TITLE OF RESEARCH PROJECT	BM	DC	PC	CS	RESEARCH FUND
1.	Theileriosis in Zambia. Distribution and impact of the disease with special reference to the Traditional Sector in Zambia		X		X	965,000.00
2.	The role of the Buffalo (Syncerus caffer) as a Reserviour of disease transmissable to cattle in Zambia		X		X	455,000.00
3.	A Survey of Salmonellosis in some Hatcheries around Lusaka District		X			240,000.00
4.	Detection of Etiological Agents of Water-borne diseases in Environmental water		X			161,000.00
5.	Studies on the Taxonomy and Treatment of Coccidiosis in Commercial Crocodiles in Zambia		X	X		136,000.00
6.	Sanitary Analysis of Pasteurized Milk in Zambia		X	X		40,000.00

TOTAL = 1,997,000.00

N O R A D

The School has nine on-going research projects funded by the Norwegian Government which are as follows:

1.	'Biological and Nutritional Data for Zambian Indigenous Goats Related to Age, Season and Diet.' C.E.A. Lovelace, V. Ramkrishna, T.R. Ayliffe.	630,000.00
2.	'Investigation into Albiziosis.' T.R. Ayliffe, D.N. Kisauzi, V. Ramkrishna.	216,000.00
3.	'Comparative Studies of Pyloric Outflow Surgeries in Dogs and Pigs.' J.O. Omamegbe.	522,000.00
4.	'Studies of Rift Valley Fever in Zambia.' S. Inoue, A. Mweene, L. Mwanza, T. Kaji, K.L. Samui, J.E.D. Mlangwa.	154,000.00
5.	'Isolation and Characterisation of Local Strains of Newcastle Disease Virus in Zambia.' S. Inoue, R. Alders, T. Kaji, A.S. Mweene, L. Mwanza.	299,000.00
6.	'Studies on Sanitary Evaluation, Enterotoxigenicity and Drug Resistance Pattern of Pathogens Isolated from Meat and Meat Products causing food poisoning in Zambia.' G.S. Pandey, G. Sato, D.S. Misra, M. Ngoma	290,000.00
7.	Anaemia in small animals in Lusaka, Livingstone, Kabwe and Kitwe on the Copperbelt.' T. Mwanza and J.O. Omamegbe.	805,810.00
8.	Animal Health Delivery System in Zambia: organisational and financial aspects. J.E.D. Mlangwa, K.L. Samui, D.N. Kisauzi and G. Muwanga	1,211,450.00
9.	An ivestigation on the resistance and maintenance of resistance of indigenous breeds of cattle to ticks and tick-borne diseases in Zambia. E.T. Mwase, M. Okumura, A. Mulenga.	838,650.00
	TOTAL	4,966,910.00 (K

THE UNIVERSITY OF ZAMBIA

SCHOOL OF VETERINARY MEDICINE

A. Journal Publications/Conference Proceedings

1. Arai, C., Murayama, A., Une, Y., Shirota, K., Musonda, M.M. (1991). Systemic Amyloidosis in Cats (In Japanese). J. Jpn Vet. Med. Assoc. 44; 355 - 359.

2. Chota, A., Nakazawa, M., Urano, K., Chisembe, S., Phiri, P.G. (1991) The pasture infestation with infective larvae of Gastro Intestinal Nematodes during grazing and after removal of sheep in Lusaka, Zambia. J. Parasitol (In Press).

3. De-Bont, J., Vercruysee, J., Van Aken, D., Southgate, V.R. and Rollinson, D. (1991). Studies of the relationships between Schistosoma nasale and S. Spindale and their snail host Indoplanorbis exustus. Journal of Helminthology. 65; 1 -7.

4. De-Bont, J., Vercruysee, J., Van Aken, D., Southgate, V.R., Rollinson, D. and Moncrief, C. (1991). The epidemiology of Schistosoma spindale Montgommery 1906 in cattle on a dairy farm in Sri Lanka. Parasitology 102; 237 - 241.

5. Inoue, I., Fijita, M., Fijita, M., Nakamura, Y., Tsutsumi, Y., Yumura, S., Mweene, A., and Phiri, P.G. (1991). Characteristics of Ooysts isolated from Kafue Lechwe in Zambia. Journal of Protozoology (in press).

6. Imai, S., Tsutsumi, Y. and Mulenga, A. (1991). General Differential Count and their population estimation of Rumen Protozoa in Lechwe and Cattle in Zambia. Journal of Protozoology (in press).

7. Imai, S., Yumura, S. and Mulenga, A. (1991). Ciliate Protozoa in the Rumen of Kafue Lechwe, Kobus leche kafuensis in Zambia, with the Description of Four New Species. Journal of Protozoology (in press).

8. Kisauzi, D.N. and Leek, B.F. (1991). The effects of experimentally induced fever on the estimated blood flow to and oxygen utilization by the liver and viscera drained by the portal vein in sheep. Veterinary Research Communications. 15; 95 - 105.

9. Musonda, M.M. (1991). Pathology of Lumpy Skin Disease cases from Chisamba Farms examined at UNZA Veterinary School Postmortem Room in 1991. Presented at the Seminar on Lumpy Skin Disease, August 1991. Proceedings published in Productive Farming 216; November 1991.

10. Mwase, E.T., Pegram, R.G. and Varma, M.G.R. (1991). The development and survival of Amblyomma variegatum Fabricius (Acari:Ixodidae) under quasi-natural conditions in Zambia. In Modern Acarology (Editors: Busbabek, F. and Bujva, V.) Academia. Prague and SPB Academia, the Hague Vol. 1 (In press).

11. Oshima, K., Musonda, M.M., Une, Y., Shirota, K. and Nomura, Y. (1991). Pathological findings on Eosinophilic Myeloid Leukaemia in a Sow (In Japanese). J. Jpn. Vet. Med. Assoc. 44; 334 - 386.

12. Pandey, G.S. (1990). Verminous Pneumonia in common duicker (Sylvicapra grimmia) in Zambia. Bull. Animal Health Prod. Afr. 38; 329 - 330.

13. Ramkrishna, V., Lovelace, C.E. and Sakala, L. (1991). Spinal cord mensuration: a comparative study on the spinal cord segments and spinal nerves in Zambian goats. Bulletin des Anatomistes 75; 22.

14. Rechave, Y., Mnquandi, S., Mwase, E.T., Heller-Haupt, A. and Varma, M.G.R. (1991). The role of Rhipicephalus Appendiculatus evertsi evertsi males in inducing resistance in Laboratory animals: preliminary studies: Experimental and Applied Acarology 11: 317 - 321.

15. Samui, K.L., Mwanaumo, B. and Chizyuka, H.G.B. (1991). African Swine Fever in Zambia. Report on the first outbreak outside the endemic zone. Proceeding of the 6th International Symposium on Veterinary Epidemiology and Economics. Ottawa, (August 1991).

16. Semambo, D.K.N., Ayliffe, T.R., Boyd, J.S. and Taylor, D.J. (1991). Early abortion in cattle induced by experimental intrauterine infection with pure culture of Actinomyces pyogens. The Veterinary Record 129; 12 - 16.

17. Sharma, R.N. and Pandey, G.S. (1990). An outbreak of Gizzard erosion and ulceration in chicks in Zambia. Revue Elev. Med. Vet. Pays Trop, 40; (3). 329 - 330.

18. Sharma, R.N., Pandey, G.S., Khan, A.Q. and Francis, B.K.T. (1991). Salmonella isolation from poultry in the Republic of Zambia. Bull. Animal Health and Prod. Afr. 39; 173 - 175.

19. Tuchili, L.M., McLaren, I.M., Smith, J.E. and Wray, C. (1991). Differentiation of Salmonella senftenberg into biogroups. Veterinary Record. 129; 530 - 531.

20. Van Aken, D., De-Bont, J., Van Holm, L. and Ranawana, S.S.E. (1991). A study on mineral status of cattle on a dairy farm in Sri Lanka. Inidan Veterinary Journal. 68; 371 - 374.

B. Oral Presentation

1. De-Bont, J., (1991). The Belgian Project at the School of Veterinary Medicine, University of Zambia. Its organisation and research projects. Microbiological Society of Zambia. Ridgeway Campus Seminar, 2nd March, 1991.

2. Kisauzi, D.N. (1991). "Veterinary Education - Future Needs for Africa". Invited Paper presented at the Symposium on "Veterinary Education: the Future", (Royal Veterinary College, London 1991).

3. Kisauzi, D.N. (1991). "The African Perspectives of the Pew National Veterinary Education Programme". Invited Paper presented at the World Veterinary Congress Symposium on "Veterinary Education in the 21st Century" (Rio de Janeiro, August 1991).

4. Kisauzi, D.N., Mlangwa, J.E.D. and Tsutsumi, Y. (1991). Donor recipient interactions and their impact on veterinary education development in emergent african schools. Paper presented at the World Veterinary Congress Symposium on "North-South Co-operation in Veterinary Education" (Rio de Janeiro, August 1991).

5. Lovelace, C.E.A. and Lungu, J.C.N. (1991). Studies to improve the reproductive performance of Zambian indigenous goats. Presented at the Third Research Co-ordination Meeting of IAEA/FAO Programme on Improving the productivity of indigenous African livestock using radioimmunbassay related techniques. Abidjan, Ivory Coast, May 1991.

6. Matsukawa, K., Bhaiyat, I.M. and Ayliffe, T. (1991). Cardio-myodegeneration in Albizia versicolor intoxication. Jap. Vet. Ann. Conf. (1991).

7. Mwase, E.T. attended Workshop on "Education and the Zambian Woman", in Siavonga (Zambia) on 20-23rd October, 1991. Paper presented "Veterinary Education and the Zambian Woman".

8. Okumura, M. (1991) Isolation, characterization and quantification of Equine Haptoglobin. Paper presented at the Congress of the Japanese Society of Veterinary Science, 3 - 5th April, 1991, Tokyo, Japan.

9. Okumura, M. (1991). Quantification of Equine acid-soluble proteins. Paper presented at the Congress of the Japanese Scoity of Veterinary Science, 3 - 5th April, 1991, Tokyo, Japan.

10. Okumura, M. (1991). A study on an application of Equine acute phase reactions to clinical Veterinary Medicine. Paper presented at the Annual Meeting of Hokkaido Veterinary Medicine Association, 4 - 6th July, 1991, Rumoi, Japan.

11. Pandey, G.S. (1991). Diseases of wildlife with particular reference to their occurrance in Africa. National Institute of Environmental Studies, Tsutsuba, Veterinary School, Hokkaido University, Sapporo and Tokyo University of Agriculture and Technology (November 1991).

12. Pandey, G.S. (1991). Heartwater in wild animals with particular reference to Lechwe. CTVM University of Edinburgh (April 1991).

13. Samui, K.L. (1991). The epidemiology, financial and production impacts of Bovine dermatophilosis in Zambia, prepared for 2nd Symposium on Bovine Dermatophilosis (Nigeria, December 1991).

14. Samui, K.L. (1991). The Zoosanitary status of Bovine dermatophilosis in the Southern region of Africa. Prepared for the 2nd Symposium on Bovine dermatophilosis. (Nigeria, December 1991).

15. Tsutsumi, Y. (1991). Characteristics of Oocysts isolated from Lechwe in Zambia presented at 111st Congress of Japanese Society of Veterinary Sciences held in Tokyo from 3 - 5th April, 1991.

16. Vercruysse, J., De-Bont, J., Southgate, V.R. and Rollinson, D. (1991). Studies of the relationship between Schistosoma nasale and S. spindale and their snail host Indoplanorbis exustus. The British Society of Parasitology, Spring Meeting, Liverpool.

17. Yamaguchi, K. (1991). Characteristics of Helminths isolated from Kafue Lechwe in Zambia presented at 111st Congress of the Japanese Society of Veterinary Sciences held in Tokyo from 3 - 5th April, 1991.

C. Liaison

1. The University of Ghent, Research collaboration with the Department of Clinical Studies.

2. Memorandum of Agreement was signed in December 1991 with Hokkaido University, Japan, to promote exchange of scientists and students and promote research collaboration between the two schools of Veterinary Medicine.

3. Veterinary School, Glasgow University, United Kingdom. Research collaboration and Prof. Peter Holmes is the Co-ordinator for the British Council Link.

4. National Institute for Environmental Studies, Tsukuba, Japan. Joint Research Project with Department of Disease Control.

5. The following Japanese Universities are involved in collaborative research through previous Visiting Lecturers to Paraclinical Studies Department.

a. Iwate University
b. Nippon University
c. Miyazaki University
d. Kitsato University
e. National Institute for Animal Health
f. Azabu University
g. Nippon Veterinary Technical Coll
h. Kyorin University
i. University of Tokyo
j. Hokkaido University

6. Central Veterinary Research Institute, Balmoral, Department of Veterinary and Tsetse Control Services. Joint collaborative projects continue with all Departments.

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

SEMINARS - 1991

2nd January

Schistosomiasis in Africa : Prof. J. VERCRUYSSE

23rd January

Rumen ciliate protozoa, their significance for existing and evolution: Prof. S. IMAI

6th March

Pathological study on swine lymphosarcoma : Dr. M. MUSONDA

21st March,

Immunocytochemical methods and their applications: Dr. L. THAETE

4th April

Dislocation of the lens in dogs: Dr. T. GRIMES

7th May

Studies on the diagnostic significance of isoenzymes in liver diseases of dairy cows: Dr. J. YASUDA

5th June

Antigen analysis of Ostertagia ostertagi, a cattle parasite in temperate regions: Dr. H. HILDERSON

26th June

Latest about AIDS: Prof. D.S. MISRA

3rd July

Some aspects on the ecology and biology of the cattle tick Amblyomma variegatum in Zambia: Dr. E.T. MWASE

10th July

Avian diseases in Zambia: Dr. Y. SATO

Serological survey of toxoplasmosis in animals in Zambia: Dr. S. YUMURA

Isolation and characterization of local strains of New Castle Disease virus in Zambia: Dr. K. INOUE

17th July

Physiological biochemistry of the cow around parturition: Dr. K. INOUE

Metabolism of radioactive caesium - 137Cs.: Prof. N. MATSUSAKA

30th July

Reproductive behaviour of Kafue Lechwe: Mr. R.J. NEFDT

7th August

Hepatic lobectomy utilizing descending aorta clamping and surgery of portacaval shunt: Prof. M. WASHIZU

14th August

Antibiotic resistance of E. coli and Salmonella isolated from apparently healthy slaughtered cattle and pigs in Zambia: Prof. G. SATO and Dr. M. NGOMA

11th October

Sanitary quality of raw milk supplied to Dairy Produce Board in Lusaka : Prof. D.S. MISRA (Paraclinical Studies)

22nd October

Development Disorder of the Central Nervous System in Calves: Dr. H. MADARAME (Paraclinical Studies)

27th November

i. Interaction of schistosomes with their snail hosts: Dr. D. Rollinson (Natural History Museum, UK)

ii. A molecular approach to the identification of Schistosomes from West Africa: Dr. V.R. SOUTHGATE (Natural History Museum, UK)

THE UNIVERSITY OF ZAMBIA

SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

1992 SCHOOL SEMINARS

10.03.92	"Pathogenicity and other properties among Sendai virus strains" by Prof. R. Yamaguchi, Japan.
18.03.92	"Newcastle disease in Zambia: Research results" by Dr. R. Alders, Dept. Clinical Studies and "Village animal health care" by Dr. A. Nambota, Dept. of Disease Control.
25.03.92	"Immune mechanism of fish" by Prof. H. Kodama, Japan
31.03.92	"Aids in cats" by Dr. A.S. Mweene, Dept. of Disease Control.
14.04.92	"Veterinary practice in the U.K.". by Dr. J. Watkins, U.K.
29.04.92	"Field immunodiagnostic methods: development and applications" by Dr. K. Snowden, U.K.
06.05.92	"Embryo transfer in the Tropics". by Dr. R. Franceschini, Italy.
13.05.92	"Leprosy in animals and man" by Prof. Nakamura, Japan.
05.06.92	"The oncogeneses in domestic animals & demonstration of computer literature" by Prof. S. Tateyama, Japan.
18.06.92	"Bovine congenital defects and Akabane disease" by Prof. K. Hamana, Japan.

29th June, 1992

1.10 Veterinary Liaison Meeting

Minutes of the 1st Veterinary Liaison Meeting held on Friday, 12th June, 1992 at 11.00hrs in the Mupani Room at the Pamodzi Hotel, Lusaka.

PRESENT

Professor C. Lovelace	- Chairperson (Acting Dean, School of Veterinary Medicine SVM)
Dr. H.G.B. Chizyuka	- Director, Department of Veterinary and Tsetse Control Services (DVTCS).
Professor Y. Tsutsumi	- Team Leader, Japan International Cooperation Agency (JICA), Head of Paraclinical Studies Department (SVM)
Dr. P.G. Sinyangwe	- Assistant Director, Research (DVTCS).
Dr. M.P.C. Mangani	- Assistant Director, Field (DVTCS).
Mr. D.P. Mumba	- Assistant Director, Tsetse and Trypanosomiasis (DVTCS).
Dr. S. Singh	- Veterinary Epidemiologist (DVTCS).
Professor T. Kaji	- Head of Disease Control Department (JICA, SVM)
Dr. D.N. Kisauzi	- Head of Biomedical Sciences Department (SVM)
Dr. T. Ayliffe	- Assistant Dean, Postgraduate (SVM).
Dr. E.T. Mwase	- Assistant Dean, Undergraduade (SVM) Secretary.
Mr. O. Kosegawa	- JICA Co-ordinator (SVM).

APOLOGIES

Professor J. Omamegbe - Head of Clinical Studies Department (SVM).

1.0 OPENING REMARKS

The Chairperson welcomed all members present and thanked the JICA Team at the School of Veterinary Medicine for initiating and financing the meeting, the first of its kind between the School of Veterinary Medicine (SVM) and the Department of Veterinary and Tsetse Control Services (DVTCS), Ministry of Agriculture. The Chairperson informed the members that the meeting was only a preliminary one in which both institutions were to discuss and decide on how to improve on matters that concern both the School and the DVTCS as indicated in the agenda.

2.0 ADOPTION OF THE AGENDA

The agenda was adopted without amendments.

3.0 RESEARCH COLLABORATION

The Chairperson expressed the need for more formal research collaboration between the SVM and DVTCS than is currently the case in order to avoid

2/...

overapping of research activities between the two institutions. The point was strongly supported by the Assistant Director, Research who proposed that before the implementation of any research activity by either of the institutions, consultations ought to be made to ensure that duplication of work is avoided. The Chairperson informed the members that SVM had started to form research groups based on common subject areas and that so far about 9 such areas had been identified. She suggested that these could be used as a forum for research ideas into which DVTCS especially the Central Veterinary Research Institute (CVRI) could be incorporated

3.1 Proposal for formation of Reseach Coordination Group

The Director (DVTCS) suggested the formation of a small research coordination group which would scrutinize research proposals before their implementation. It was unanimously agreed that such a research group be set up. Provisionally, membership to the group was agreed to comprise the following:

2- from Department of Veterinary and Tsetse Control Services
2- School of Veterinary Medicine
2- School of Agriculture (Animal Science)
1- National Council for Scientific Research
1- Department of Agricultural Research, Ministry of Agriculture.

3.2 National Agricultural Research Systems (NARS)

It was noted that livestock research did not figure highly in the functions of the national agricultural research system (NARS), while the agricultural crop sector was benefiting. It was pointed out that, on the average, livestock projects take longer to yield the desired results than is the case with crop projects and this possibly prompted the donors to opt for crop projects. It was, however, felt that there was lack of effort on the part of the DVTCS and the School to seek ways through which animal research could gain benefit from NARS. It was concluded that this task be given to the just proposed research co-ordination group.

4.0 COLLABORATION BETWEEN THE DIAGNOSTIC LABORATORIES

The Chairperson informed the members that the diagnostic services available at the School were limited and basically aimed at facilitating the clinics and that only serology offered a wider service.

The Assistant Director, Research, informed the members that diagnostic collaboration does exist between the School and CVRI. The virology laboratory at CVRI, for instance, had become fully fledged only in the past 3 months and before this, rabies confirmation was done at the School. He also reported that the laboratory was now able to make foot and mouth disease confirmations, and that a new ELISA testing kit had also been acquired at CVRI. He, however, expressed concern over exchange of infective materials such as rabies and theileria between the 2

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institutions saying that there was need to follow proper channels before acquiring such materials by the individuals concerned.

4.1 Communication on important diagnostic results

Concern was expressed over the flow of information relating to positive diagnosis of important diseases such as rabies. It was suggested that the 2 institutions should inform each other whenever such diagnosis is made. The meeting was informed that the DVTCS does send diagnostic results to the veterinary officers of the affected areas, following a report from CVRI or SVM.

The need for the 2 institutions to exchange their diagnostic results was further strengthened by the revelation that certain farming communities chose to bring their specimens to the School for diagnosis so as to evade the likely measures (e.g. ban or closure) that might be instituted against them by the DVTCS in cases such as those of Salmonellosis. It was decided that the School should provide all information to the DVTCS to assist it to implement certain measures in such situations. It was also suggested that the reporting of disease outbreaks should be made public.

4.2 Diagnostic Training Outside Vacational Practicals

The School inquired as to whether it was possible for the DVTCS to offer the undergradudate veterinary students practical training in some diagnostic aspects outside vacational practicals. Both the Director and Assistant Director, Research made no objection to this idea and recommended that the Dean should write to the Assistant Director, Research with a copy to the Director whenever the School needed such services.

The Chairperson acknowledged the fact that in the early days of the School, CVRI had assisted the School quite a lot especially in the area of pathology.

4.3 Exchange of materials

In view of the limited range of disease cases recorded at the School, it was suggested that exchange of materials of interesting disease cases be established. It was agreed that such collaborations could be done at either personal or departmental levels between the 2 institutions.

5.0 SEMINARS, WORKSHOPS & CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMMES

It was suggested and agreed that seminars should be encouraged as this would be one way through which the staff from the 2 institutions would get together and exchange ideas. However, the problems of poor communication and transport systems were noted.

The members were informed that seminars at CVRI were normally held on Fridays with Mr. B. Mwanaumo as the seminar co-ordinator, while at

4/

SVM they were currently held on Wednesdays and Dr. K. de Balogh was the co-ordinator. It was suggested that the DVTCS headquarters be informed about the seminars.

As an extension to seminars, the Chairperson suggested that it would be of benefit to run weekend workshops for field staff. The members welcomed the idea although the problem of communication was pointed out. It was suggested that the DVTCS should identify relevant subject areas for these workshops. It was realized that such workshops could also be organised by the Veterinary Association of Zambia.

Suggestions were made that such CPD (continuing professional development) programmes should be shared between the Veterinary Association of Zambia and DVTCS, the DVTCS being in the forefront as the organiser, while the School could offer the venue and teaching staff.

The Director felt that some funds could be found, and that the department could allocate one of their officers to coordinate the programme.

It was decided that Dr. Ayliffe liaise with Dr. Mangani on the technicalities of the CPD programmes.

6.0 POSTGRADUATE EDUCATION

The Chairperson informed the members that leaflets on the Masters' degree programme offered by the School were sent to Dr. Singh. She pointed out that the programme was geared mainly for those working in diagnostic laboratories and that the School had enough competent staff to effectively run the programme. The School thus invited the DVTCS to consider sending some of its staff for the Masters' degree programme. She also mentioned that soon the School would be providing this training to its own staff because the University had no funding to send staff abroad for training.

6.1 Candidates for M. Vet Med. in Diagnostic Veterinary Medicine

The Director informed the members that it might be possible to send a few staff of DVTCS for the Masters' degree programme the following year. He explained that the DVTCS had currently few staff and that at the same time the staff were required to work for at least one year in the field before they were asked to decide in what areas to specialize. The members were also informed that the DVTCS had released a circular to all its field staff to indicate the areas they were interested to specialize in, and the information was being compiled.

6.2 Sponsorship for Postgraduate Training

The Director pointed out that the DVTCS had no training budget of its own and that it would have to compete with other departments in the Ministry for it to procure funding for training. It was agreed that the School sends the current fees to help the DVTCS in the preparation of a budget to sponsor 2-3 students for next year.

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There was a suggestion that the SACCAR be approached for support in sponsoring students for postgraduate training. It was learnt that SACCAR was already involved in funding postgraduate training at Bunda College of Agriculture in Malawi (Animal Science), Sokoine University in Tanzania and also in Zimbabwe. It was noted that currently crop oriented programmes dominated SACCAR while the animal health sector was to a large extent left out. It was felt that the DVTCS and the School had not taken up the initiative to approach and pressurize SACCAR for financial assistance in training. It was concluded that there was need to identify strategies that would pressurize SACCAR to accord the animal health sector more recognition and support than was currently the case.

7.0 UNDERGRADUATE CURRICULUM AND FUTURE RECRUITMENT

The Chairperson informed the members about the need for the School to know how its graduates were doing and called for suggestions as to how the School could improve the quality of the graduates to make them more marketable and useful. She reported that the School curriculum would now put more emphasis on animal production so that the graduates could reasonably fit into animal husbandry areas. The wildlife diseases and management was another area where the School would increase emphasis. She welcomed views from members on the necessity to review the present veterinary curriculum.

The Director fully acknowledged the inclusion of wildlife management in the curriculum.

7.1 Job Description and School Curriculum

It was pointed out that there was need for the School to know the job description of veterinarians in the government sector as this information would facilitate the School in preparing a curriculum that would match with the expected job requirements.

The Assistant Director, Field, made the assurance that a revised job description for the government employed veterinarians would be made available soon and sent to the School.

7.2 Weaknesses of Graduates

Considering that the DVTCS employs the majority of the School graduates, the School wanted to know from DVTCS the weak points of the graduates. It was suggested that improvements ought to be made be made in several areas, some major ones being; medicine, herd management, extension, jurisprudence, public relations and communication skills. It was felt that there was need to review the curriculum as certain areas required more emphasis considering that the field situation is different. The Assistant Directors, Research and Field were to liaise with the School on this matter.

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7.3 Future Recruitment of Graduates

The Director informed the members that the DVTCS would be able to absorb all the graduates for the next 4 years if the number of graduates was maintained at an average of 20 per year. He said that there were now 136 establishments for veterinary officers comprising the posts of Veterinary Officers, Senior Veterinary Officers and Principal Veterinary Officers in the Field Division, and Veterinary Research Officers, Senior Research Veterinary Officers, Principal Veterinary Research Officers and a Chief Vetgrinary Research Officer in the Research Division.

With the constant supply of veterinary graduates, the Director informed the meeting that the DVTCS would in the near future employ the graduates only after a successful interview, implying that not all the graduates from the School would be assured of getting employment in the government.

8.0 VACATIONAL PRACTICAL ATTACHMENTS

The Chairperson expressed sincere gratitude to the DVTCS, especially the PVOs for having been very co-operative in the students vacational practical attachments. She was regretful at the manners in which some of the students conducted themselves during these practicals and cited the debt left unsettled by 4 students in Mazabuka. As a good gesture, the Director assured the School that DVTCS would write off this debt. The Dean was to write to the DVTCS on this matter.

8.1 Students Misconduct During Vacational Practical Attachments

It was proposed that the School should communicate with the PVOs on what is expected of the students in the field. It was also suggested that the School should give the PVOs a feed back on the students performance reports from the field.

Some clarification was sought as to who had the responsibility to deal with the students' misconduct, such as absentism while on their vacational practical attachment. It was suggested that in the event of student misconduct or any other problem while on vacational practicals, the School should be notified. The School would then communicate through the Director to the PVOs on the necessary steps to take.

8.2 Vacational Practicals Briefing

It was agreed that there was need for a briefing between the School and the DVTCS before the resumption of the vacational practical operations, so that the DVTCS could inform the School on what it is able to offer to the students at each provincial centre. The School could also inform the Director of names of the students in advance, and where they would be posted.

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8.3 Students Subsistence Allowance

The Chairperson reported on the financial problems faced by the students in the last year who had been offered insufficient subsistance allowances which could not see them through the stipulated period of 8 weeks for the practical requirement .

9.0 COLLABORATION IN A FIELD STATION

The Chairperson put across to the members the idea of setting up field stations where students could go and assist rural farmers and requested the DVTCS if it already had such facilities. It was learnt that such stations existed for tsetse and trypanosomiasis control in different parts of the country and that the DVTCS had no objection to assisting the School in such activities. The School was to liaise with the Assistant Director, Tsetse and Trypanosomiasis.

It was, however, realized that funding for such activities was necessary and had to be sought. The Director reported of a dormant fund established in the colonial days of Zambia specifically for training Zambians. This fund was to be traced and possibly revamped.

10.0 VETERINARY EXTENSION

The Chairperson informed the meeting on the need of the School for support from DVTCS in the area of teaching veterinary extension and also that the School wished to assist DVTCS in the preparation of extension booklets and other materials.

The Director pointed out that currently veterinary extension operations were poor in the DVTCS, but that there were extension experts in the Ministry of Agriculture who could assist and advise on how to coordinate extension activities. Dr. Ayliffe was to liaise with Dr. Singh on this matter.

11.0 VETERINARY PUBLICATIONS

The meeting was informed that the School was publishing a newsletter "UNZA Veterinarian" and that there were plans to make this newsletter into a bigger publication by allowing more people, especially from the DVTCS to submit articles with the intention of disseminating news and informative materials to the veterinarians scattered throughout the country. The DVTCS was requested to clarify if there was need for its staff to seek permission to contribute to this newsletter.

11.1 Permission to Publish

The Director explained that there was need for the articles coming from the DVTCS staff to be submitted to the headquaters first in order to ensure that the information intended for publication was accurate and to rectify any aspects pertaining to policy and legal issues. The

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members were informed that the DVTCS were to issue a circular to its staff on the procedures to be followed when wishing to contribute materials for publication.

11.2 Improving Veterinary Publications

It was noted that veterinary publications in the country fell well behind those of agriculture and it was agreed that the DVTCS and the School should in the near future consider ways of improving veterinary publications.

12.0 ANY OTHER BUSINESS

The JICA Team Leader commended the Veterinary Liaison Meeting between the School and the DVTCS and informed the members that JICA was able to sponsor such a meeting every 3-4 months. It was agreed that this meeting be held every 3 months for this year. The Director thanked JICA for this gesture and informed the meeting that the DVTCS also had some fund for this purpose and that this would now be channelled to other activities of the similiar nature, such as veterinary workshops.

12.1 Representation On the Veterinary Liaison Meeting

The need to extend the membership to this meeting was expressed and, it was suggested that specific individuals would be invited depending on the agenda. It was agreed that the Veterinary Association of Zambia and the Chairman of the School Curriculum Review Committee be represented on this meeting, when their matters are being discussed.

12.2 East African Veterinary Education Council

Dr. Kisauzi informed the meeting about the existence of the East African Veterinary Education Council to which he had applied for observer status on behalf of the School. He said that the Council allowed up to 3 representatives from member countries, making it possible for the School, DVTCS and the Veterinary Association of Zambia to be represented. The Director expressed willingness to participate on behalf of the DVTCS. The Assistant Director Research, speaking on behalf of the Veterinary Association of Zambia was willing but invited Dr. Kisauzi to attend their executive meeting which was to be held on 20th June, 1992 for him to explain to the members more about the Council.

Dr. Kisauzi informed the meeting that in September he would attend a meeting where the request to accept Zambia in an observer status would be considered.

There being no other item for discussion, the meeting ended at 13.20hrs, and was followed by lunch.

Chairman: ..... Secretary: .....

THE UNIVERSITY OF ZAMBIA

SCHOOL OF VETERINARY MEDICINE

Collaboration of the School of Veterinary Medicine with other Veterinary Schools in the Sub-saharan African Region.

The Dean of the School is a member of the SACCAR Committee of Deans of Agriculture, Forestry and Veterinary Medicine. This committee is under the Southern African Centre for Cooperation in Agricultural Research and Training (SACCAR) which is funded through SADCC, the Southern African Development Coordination Conference. The Deans have developed a joint document on future human resource development in Agriculture and Natural Resources.

The important role of postgraduate education in agricultural development of these countries was emphasised. The Deans discussed that each country could concentrate on certain areas of specialisation in postgraduate programmes, and postgraduate student exchange should be encouraged.

The School has applied for observer status on the Education Committee of the University Council of East Africa which brings together the Deans of the Veterinary Schools, the Directors of Veterinary Services and the Presidents of the Veterinary Associations from Kenya, Uganda and Tanzania. The School has also accepted in principle to take part in a feasibility study on the development of a common quality control mechanism incorporating the schools of the above countries. The study has the backing of the Commonwealth Veterinary Association.

It is hoped that the School will develop a joint Masters programme in Tsetse and Trypanosomiasis Control with the University of Zimbabwe, to take students from our countries, plus Mozambique and Malawi.

29th June, 1992

2.1

BRITISH HIGH COMMISSION
PO Box 50050 Lusaka Zambia

Telephone 216770

Prof K Mwauluka
Vice Chancellor
University of Zambia (UNZA)
LUSAKA

Your reference

Our reference 282/6

Date 14 February 1991

Dear Vice Chancellor

ASSISTANCE TO THE SCHOOL OF VETERINARY MEDICINE

You will be aware that for some time ODA has been considering how best to put its assistance to the School of Veterinary Medicine on to a project footing.

I am pleased to be able to enclose a Project Data Sheet which is based on a project proposal prepared by the University last year. You will also note that the British Council will be responsible for the professional management of the project.

I would be grateful if you could confirm that the University is content for the project to go ahead. We will then be able to arrange a formal agreement between our two Governments.

Yours sincerely

J D Hawkes
Second Secretary
Development

Enc

cc: Miss M Nguvu
Permanent Secretary
Ministry of Higher Education, Science & Technology

Mr M M Liswaniso
Permanent Secretary
National Commission for Development Planning

Mr G K Kaira
Permanent Secretary
Personnel Division

PROJECT DATA SHEET (MEMORANDUM)

COUNTRY : ZAMBIA

TITLE : UNZA VETERINARY EDUCATION PROJECT
PROJECT COST: £347,190 + £60,000 TCTP

1. PROJECT DESCRIPTION

1.1 The project is targetted on the new and developing School of Veterinary Medicine in the University of Zambia (UNZA) and comprises:-

a) Personnel support to four positions in areas of crucial need. These include the post of Dean, which is currently vacant; two posts currently held by an Associate Professor of Biochemistry who is Head of Biomedical Sciences, and a Senior Lecturer in Pharmacology; and one expected to be filled by a Lecturer in Small Animal Medicine;
b) Two overseas training awards per year for either academic or technical staff, the relative priority of the two groups to be determined each year;
c) Provision of foreign exchange to supply specialised equipment, spares and replacements, and specialised drugs and chemicals unavailable in Zambia;
d) Provision of books and reference materials.

1.2 The project complements the British Council funded link programme with the Veterinary Faculty of Glasgow University which assists in filling short term teaching vacancies and is intended to supply expertise for the postgraduate programme and research project development.

1.3 The project will run from January 1991, which is roughly when existing contracts will be renewed, to July 1993. This will give each officer one contract of two years and the project will be reviewed in 1992. A project framework is attached as annex 1.

2. PROJECT COSTS

2.1 The costs of the project, excluding external training, are estimated as follows:-

Pounds

Nov. 1991
March 1994

	1990/91	1991/92	1992/93	1993/94	
4 BESS staff	8,000	117,500	120,000	11,000	
Forex allocation	-	5,000	5,000	5,000	
Books and reference materials	-	2,000	2,000	2,000	
Contingency (10%)	800	12,450	12,700	1,800	
	8,800	136,950	139,700	19,800	
Inflator	1	1.06	1.129	1.187	
	8,800	145,167	157,720	23,503	
BC Management (1)	1,000	4,000	4,500	2,500	
Total	9,800	149,167	162,220	26,003	= £347,190

Provision for one 2-year contract each. Existing staff costed from next contract (Jan 91 and Apr 91) and new positions from appointment (Apr 91 and Aug 91). Constant unit cost £32,000 p.a.

(1) Estimates only; exact costs to be agreed.

In addition, six training awards will be offered over the life of the project at an additional cost of £60,000. This will raise the total cost of the project and its related assistance to £407,190.

3. PROJECT OBJECTIVES

3.1 The overall objective of the project is to increase the capability of the government service, parastatal bodies and private farm practice to service its animal production sector in the maintenance and improvement of animal health. The short-term objectives to achieve this are:-

a) To maintain the quality and output of the undergraduate programme in the Veterinary School by providing key staff members;
b) To promote the Zambianisation of veterinary education, research and management by making possible increased emphasis on postgraduate training to improve skills, particularly in the diagnostic laboratory service;
c) To contribute to the solution of animal problems through research and extension work and to implement the results.

4. PROJECT BACKGROUND

4.1 Current enrolment in UNZA is over 5,000, including correspondence and part-time students. At the time of the 1989 review, a total of 420 academic staff were in post out of an establishment of over 500, 182 of whom were expatriate (98 of them donor supported). There were 175 local Staff Development Fellows studying overseas. In view of the acute financial difficulties and GRZ's new policy on the funding of higher education, it was agreed with the University authorities that the priority was consolidation, not expansion, along with the need to review all programmes and expenditure, diversify funding sources and improve efficiency. Consequently ODA's priorities for assistance are first to improve the internal efficiency of the general administration, and second to make an impact on teaching programmes within the areas of pure and applied science where major deficiencies exist and which remain vital to Zambia's development.

4.2 Both ODA and the British Council have supported the School of Veterinary Medicine since it was founded in 1983. ODA has supplemented four posts, starting with Mr. R.V.U. Griffin as Chief Technician in September 1983 (previously BESS supported in the School of Agriculture); Prof. Lovelace in January 1985, Prof. Thomas (as Dean) in January 1987 and Dr. Ayliffe in September 1988. Direct British Council assistance has been through an academic link programme initiated in 1984 and operative from 1985, involving 3 short term teaching visits to Zambia, and one short term training visit to UK each year plus a variable equipment grant of approximately £5,000. This link was formalised with the Veterinary Faculty of Glasgow University in 1987 with Prof. P. Holmes of Veterinary Physiology as link co-ordinator. The link has

proved particularly valuable in assisting the School with recruitment and equipment purchase.

4.3 This project puts both on-going and new assistance on an integrated and systematic basis, following the review of ODA support to University Education in Zambia in 1989.

5. TECHNICAL APPRAISAL

5.1 The School of Veterinary Medicine runs a single 5-year course leading to the degree of B.Vet.Med. which entitles the holder to practice veterinary medicine. The course follows a preliminary year in Natural Science from which a quota of 30 students is allocated to the School. This is the class size for which the School was designed and is considered to result in an annual production of veterinarians which the employment sectors, particularly government service, can use. The full intake figure was not reached till 1989, the previous years having shown a controlled increase from an initial intake of 13 in 1983-84. This allowed for the building up of staff and equipment and the use of temporary accommodation until the new School building was occupied in 1986. The demand for places is already above the quota and there will be no difficulty in filling it from now on. However, no increase above this figure is envisaged and the expansion in future total student numbers will be due to the development of postgraduate studies both by course work and by research.

5.2 Inevitably, staffing levels are high in the early days of a new professional degree programme. At the time of the 1989 review the academic establishment was 34 with 26 in post, 7 of them Zambians. The number of non-academic staff also has to be higher than in most subjects and in 1989 the technical establishment was 62 with 45 in post, all but two of them Zambians. The small number of Zambian academics reflects the general shortage of Zambians with veterinary qualifications and highlights the need for the School's initial staff to be largely expatriate. The total number of donor funded posts was UK(4), Japan(10), Belgium(5), Germany(1), Netherlands(1), and Ireland(1). Other expatriates eg from India, Tanzania, Uganda were on contract terms. However, it is difficult to attract good quality staff on contract terms and donor funded posts still play a major role in staffing.

5.3 Expansion in 1990-92 is largetted on the development of a Masters degree in Ruminant Laboratory Medicine by coursework and dissertation. This will provide a useful course of further training for veterinarians involved in the Diagnostic Services in Zambia, as it covers an area which needs to be developed but which needs specialist training. It is hoped that this programme will be assisted by short term visiting lecturers. Since undergraduate courses are catered for in the new building, further capital investment will be in the area of research and development.

5.4 The UKSS personnel in the School will be expected to provide leadership in their positions. The Dean will have an influential position in the successful development of the School and ODA has been requested particularly to fill this post. Initially it was expected that one post would continue to be for the Chief Technician, Central Services but the post has been successfully localised, and the University has requested that a post in Small Animal Medicine be substituted for it. The two other staff positions, in Biochemistry and Pharmacology, have been filled for some time and were identified for support because they are critical to the veterinary programme. The project will continue to support them.

5.5 There are currently 13 Zambians undergoing further training viz:

1 Veterinarian doing Ph.D in Japan
4 Non-Veterinarians doing PhDs (in USA, Japan, UK)
1 Veterinarian (with MSc) as Lecturer in Clinical Studies
5 Veterinarians as Staff Development Fellows
(2 doing MSc in UK from 1988
1 doing PhD in Japan from 1988
2 just joined (from 1989).
2 House Surgeons in Clinical Studies

Two of the PhD students and 2 of the MSc students are due to return to Zambia in 1990/91. Zambian nationals account for less than 20% of academic posts and also are mainly non-veterinarians. Further Zambianisation can only be achieved through training the School's own graduates, through the staff development scheme. At least two staff development fellows will be nominated each year for further training, if possible after having gained field practical experience, and both ODA and other donor support will be utilised for this.

5.6 The technical staff, as already described, are almost wholly Zambian. However, as this is the first advanced Veterinary Institute in Zambia it has been difficult to fill the senior technical positions with suitably qualified local personnel, particularly with veterinary training. It is necessary to continue to train present staff so they can take senior supervisory positions. The objective is to obtain long term overseas training for one technician per year, plus short-term secondment of 2-3 technicians for training in specific techniques, using a range of donor support.

5.7 The 1989 review identified shortage of forex to purchase even small items of equipment and chemicals as a severe constraint on the effectiveness of the practical side of the training. In view of Zambia's serious economic plight, the 1989 review recommended that special forex provision should be included in all ODA's projects at the University. This project makes a block allocation to the School of Veterinary Medicine of £5,000 p.a.

5.8 Book presentations administered through the British Council have been crucial to the development of the new Veterinary Library. As the library is still very small presentations under the project will continue to the value of £2,000 p.a. The books will cover all aspects of Veterinary Medicine.

5.9 Other donor inputs to the School are as follows:-

Japan - The School's new buildings, laboratory furnishing and initial equipment were financed under Grant Aid, and subsequently the Japanese International Cooperation Agency (JICA) undertook a 5-year support programme (1985-90) involving an average of 6 long term academic staff (2-3 years), and 3-4 short term teaching visits each year, plus an annual equipment grant of approximately US$300,000. This JICA project has recently been extended to 1992, and the School has been invited to submit proposals for a further 5-year phase of support which will concentrate on research and development activity.

Ireland - Higher Education Development Cooperation (HEDCO) gave support for a 5-year period from 1984 to 1989. This provided 3 long term posts (including the inaugural Dean), 2 short term teaching visits to Zambia per year, 1 long term technical training attachment in Ireland, and approximately £10,000 per year for equipment.

Belgium - The Flemish Association for Educational Programmes Abroad (VVOB) has recruited and provided salary supplementation for 2 members of the academic staff (1987-90), and is currently advertising 3 additional posts which will be similarly supported.

West Germany - Dienste in Ubersee. This German church organisation has supplemented the salary of one member of staff (1987-90), but this is likely to be an isolated case.

5.10 This project is one of a basket of ODA projects for assistance to UNZA including engineering, natural science, mines and medicine. ODA is also financing a major consultancy for UNZA on improved management structures and procedures, as identified in the 1989 Review.

6. ECONOMIC APPRAISAL

6.1 Estimates of the total demand for veterinarians in Zambia vary from 200 to 400, and at the anticipated rate of production this would be met in some 10-20 years. This assumes that most graduates will be employed in public service of various kinds, in the veterinary field service, laboratories and in the University School itself. However, already there is evidence of interest among parastatals and private farming groups in encouraging private practice in Zambia, and some positions have been filled. This is in line with recent FAO policy. It is probable therefore that veterinary work will be self-generating and that the production increases resulting from effective disease control and from health programmes will justify and support a wider role for veterinarians than has been the case so far, for example in Meat Inspection. When the natural wastage, and movement of professionals within and outside the Southern African region is also taken into consideration, the labour market is not likely to be over-supplied in the foreseeable future if the undergraduate quota remains unchanged.

6.2 Since both the Zambian and Zimbabwean Schools of Veterinary Medicine are new, and the Mozambican, Angolan and Ugandan Schools have suffered disruption, the number of veterinarians of any kind in the SADCC region is extremely limited. Since the requirements for academic staff necessitate some level of higher degree training plus teaching and research experience, the pool of possible academic staff is ever lower. The general shortage also means that for local people with the required qualifications rapid promotion to senior administrative positions in government service is available and attractive.

6.3 For non-Zambian staff, local terms are not attractive since the currency is not convertible and foreign currency allowances are essential. However, foreign exchange is extremely limited and the University can offer only relatively low foreign inducement allowances. Thus to attract the kind of experienced staff required to develop a new school at both undergraduate and postgraduate level, supplementation of local salaries to the equivalent in developed countries is essential.

6.4 No staff training for veterinarians is currently available in the country, thus overseas training is inevitable. With the development of the School's own M.Vet.Med. programme, local training will become possible. It is intended that this programme should be available through SACCAR to other regional countries and not be restricted to Zambians, but it will still offer limited opportunities and in only one area of specialisation. Hopefully, other SACCAR courses will be developed in time and broaden the scope for training at Masters Degree level. However, apart from the actual limitation in places it is also desirable that staff should be exposed to other systems and should not train, research and teach within one School only. The desirability of overseas training will therefore always remain, although in time it should be possible to move the emphasis from Masters degree to PhD.

6.5 Staff training at technician level is also very limited. Not only are there no specific courses in veterinary subjects, particularly in the clinical field of animal nursing, but even in general laboratory and agricultural technology the level of training is restricted, and the higher qualifications such as HND which are obligatory for senior and chief technician posts are not available. Long term training overseas is essential for selected experienced technicians with management potential. In addition, there is a problem with modern highly specialised equipment which is routine in a well equipped school such as this, but for which the local technician training is not adequate. While some of this can be given by professional staff, the care and maintenance of such equipment requires specialised instruction and creates a need for short term overseas attachments.

7. ARRANGEMENTS FOR IMPLEMENTATION

7.1 Two posts are already filled. Staff for the remaining posts will be recruited on BESS terms by ODA's Recruitment and Consultancies Branch on the basis of official indents received from the University. Each successful candidate will be offered an initial contract of 2 years. Job descriptions for all posts are given at annex 2.

7.2 Training in Britain will be funded through TCTP and arranged through the British Council.

7.3 The procurement of equipment, specialised drugs and chemicals using the forex allocation will be undertaken as set out in annex 3. The link University is expected to be particularly helpful in giving advice on this.

7.4 Book lists will be compiled by the Faculty and submitted by the Dean to the British Council who will be responsible for procurement within the agreed budget allocations.

8. MANAGEMENT AND MONITORING

8.1 The BESS staff will be administered in-country through the British High Commission and the OSAS Liaison Unit in Personnel Division. The British Council, Lusaka will be responsible for professional oversight of the project, visiting the Faculty at least twice a year, coordinating the various inputs and ensuring that project objectives are met. Arrangements for British Council participation will be made under the Memorandum of Understanding between ODA and the British Council.

8.2 The BESS staff will write annual reports and submit them to the British High Commission through the British Council. These reports will include a summary of activities over the previous year, an assessment of achievements against project objectives, and new personal objectives for the following year. New staff will prepare the first set of target objectives within 3 months of taking up appointment.

8.3 A representative of BDDSA will make an annual monitoring visit. A joint BDDSA/UNZA review will be undertaken in 1992 to assess progress and to determine whether any further assistance is required.

9. CONDITIONS

9.1 The University will pay local salaries and provide all other entitlements to University staff and will provide suitable housing and office accommodation. The University will permit the British High Commission, the British Council and BDDSA access for management and monitoring visits.

ZAMBIA: UNZA Veterinary Education Project
DESCRIPTION: Support to 4 staff, plus related training awards, books and a forex allocation for needed supplies to help the School of Veterinary Medicine to improve its service to the maintenance and improvement of animal health in Zambia.-

Annex 1.

PROJECT STRUCTURE	INDICATORS OF ACHIEVEMENT AND VALUE	HOW INDICATORS CAN BE QUANTIFIED/ASSESSED	ASSUMPTIONS, RISKS CONDITIONS
1. Wider Objective			
1.1 To increase the capability of the country to service its animal production sector in the maintenance and improvement of animal health.	Graduates move into positions in larger numbers. Veterinary services maintained and improved.	UNZA graduation figures and prospective employment. Reports from Government and parastatal bodies and private sector on level of service provided.	Graduates remain in Zambia. Resources are sufficient for services to be maintained.
2. Immediate Objectives			
2.1 To maintain the quality and output of the undergraduate programme by providing key staff members.	Increasing number of veterinary graduates of acceptable quality. Contribution made by BESS staff to leadership, teaching, and research.	Veterinary School annual graduation lists. Examination results and external examiners reports. Employer feedback.	Resources continue to be adequate. Donor support continues in short term. ODA able to recruit for the positions it has identified.
2.2 To promote the Zambianisation of veterinary education, research and management by facilitating increased emphasis on postgraduate training.	Graduates and postgraduates complete courses and take up posts in-country. Postgraduate courses mounted students enrolled and complete studies.	Senate, School and examiners reports. Employers reports on staff.	Students continue to enrol. Graduates take up posts in-country. UNZA has resources to mount effective courses.
2.3 To contribute to the solution of animal problems through research and extension work.	Number and variety of research projects undertaken. Extension and dissemination activities.	School reports on research and extension activities.	Identified problems are amenable to solution through UNZA activities. Financial and manpower resources remain adequate.

Outputs

1. Increasing number annually of high-quality veterinary graduates.
2. Relevant postgraduate programmes successfully established.
3. More effective service to wider community, especially through research and extension work.

ODA Inputs

1. 4 BESS staff for 3 years.
2. 6 training awards under TCTP.
3. £5000 annual forex allocation for 3 years.
4. £5000 of books over the life of the project.
5. Associated academic link activities.

DEAN OF SCHOOL OF VETERINARY MEDICINE: JOB DESCRIPTION

1. Responsibility for academic administration of the School, course curricula and examinations.

2. Responsibility for general administration of School, including preparation and control of School budget

3. Staff Recruitment and management, both academic and technical.

4. Chairmanship of School committees - Dean's Advisory Committee, and Staff Development Committee, Promotions Committees, Examinations Committees, Research Committee and School Board of Studies. Ex-officio membership of all other committees.

5. School representation on all committees of Senate.

6. Liaison with JICA Team Leader of Japanese staff, and other AID organisations.

LECTURER - JOB DESCRIPTION

1. To arrange lecture topics and run the practical course in their specialised field.

2. To contribute to postgraduate training, by giving course lectures and supervising research projects.

3. To develop course curricula in this new School.

4. To carry out research relevant to Zambia.

5. To assist in School Administration.

CURRENT HOLDERS OF BESS SUPPORT

a) One is Head of Department of Biomedical Sciences and teaches Biochemistry to 3rd Year student. She Chairs the Animal Accommodation Committee and Part-Time Studies Committee and is a member of Dean's Advisory Committee, School Research Committee, School Higher Degrees Committee and Grading Committee. She is a member of Senate and was appointed to several Senate Committees. She has been Acting Dean on a number of occassions.

b) One is Lec[illegible] in Pharmacology and Toxicology to 4th, 5th and 6th Year students, is a Student Academic Counsellor. Seminar Coordinator, Member of Vacation Practicals Committee, School Disciplinary Committee.

THE UNIVERSITY OF ZAMBIA
SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

LECTURER IN SMALL ANIMAL MEDICINE

JOB DESCRIPTION

The Lecturer will be an academic member of the Department of Clinical Studies and will be responsible to the Head of Department. The position involves lecturing in small animal medicine and surgery and the teaching of practical aspects of clinical work. The Lecturer would also be involved in administering the small animal clinic, which is an important source of clinical cases for students.

The School is new with excellent facilities. The lecturer would be expected to be active in research, and to contribute to academic activities within the School.

ZAMBIA: UNZA VETERINARY EDUCATION PROJECT ANNEX 3

PROPOSED ARRANGEMENTS FOR DEPARTMENTAL FOREX ALLOCATIONS

1. UNZA will provide British Council, Lusaka with a list of equipment, books etc. which may be required throughout the project. The list will be approved by ODA at the start of the project and will be used for reference in procurement during the project.

2. Procurement may be from UK, local or third country suppliers.

3. For purchases up to £300 the School for Veterinary Sciences may make individual purchases, submitting receipts and a brief description to British Council for monitoring and budgeting.

4. For purchases greater than £300, the School should submit their requests through the Dean to the University administration who will then forward them to the British Council for procurement. No individual item may exceed £2,500.

5. UNZA will submit a brief annual report on what has been received and to what use it has been put. British Council will report on the finance and operation of the scheme.

2. 2

ZAMBIAN-BELGIAN COOPERATION.
PROPOSAL FOR A PROJECT ENTITLED:

THE DEVELOPMENT OF A FIELD STATION FOR THE SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE, LUSAKA, ZAMBIA, FOR IMPROVEMENT OF CLINICAL TRAINING AND RESEARCH ACTIVITIES IN THE TRADITIONAL FARM AREAS

INTRODUCTION.

From July 1990, the Flemish Interuniversitary Council, V.I.R. through the Faculty of Veterinary Medicine at the University of Ghent, started a project with the Samora Machel School of Veterinary Medicine at the University of Zambia, Lusaka.
The Belgian Coordinator of the project was Prof. Dr. J. VERCRUYSSE.
The Zambian Coordinator of the project was the Dean, School of Veterinary Medicine.

The objectives of the Project, as described in the terms and conditions of the specific cooperation agreement, were as follows:

1. To provide veterinary services to traditional and commercial livestock owners.
2. To conduct applied research on parasitological, reproductive and other disease problems, relevant to livestock production in Zambia.
3. To develop and expand the ambulatory farm clinic.
4. To train the veterinary students in the preventive and curative medicine and in diagnosis of diseases in domestic animals.
5. To train Zambian counterparts in the organization and conduct of a mobile clinic for domestic animals.
6. To assist in the undergraduate training of veterinarians at the School of Veterinary Medicine, including lecturing and conducting practicals within the respective specialized fields of the Belgian veterinarians.

The School of Veterinary Medicine has put extension services to farmers and improvements in teaching of extension to its students as a high priority in the next stage of its development. Associated with improved extension services will be greatly increased opportunities for research activities among the traditional cattle and goat herds. The aim of this new project is to assist in development of a field station and associated teaching and research activities. Certain research project will greatly benefit from having a technical base close to a rural farming area, so that samples can be taken and preserved for later transmission to the laboratory.

ACHIEVEMENTS OF THE FIRST PROJECT.

The first project was integrated within the existing infrastructure of the Department of Clinical Studies, and the two Belgian veterinarians, Dr. F. SABBE and Dr. J. DE BONT, worked in close collaboration with the Head of the Clinical Department, Prof. Dr. J. O. OMAMEGBE, who coordinates the different Clinics within the Department, and with the members of the Ambulatory Group, namely: Dr. C. SIAME, Dr. I. PHIRI, Dr. R. ALDERS and Dr. K. DE BALOGH.

The major achievements of the Project were the expansion of the Ambulatory Clinic and the development of research in clinical parasitology. The Ambulatory Clinic has become fully operational and is currently one of the most important means of practical training for the students. Until now, mainly commercial farms are visited. At the same time this Ambulatory Clinic has developed into a major source of financial inputs for the Clinical Department.
The Project also started some research projects within the Clinical Department, mainly on the epidemiology of schistosomiasis and gastro-intestinal nematodiasis and on the diagnosis of trypanosomiasis in ruminants.
The preliminary results obtained after the first year are promising and it is hoped that when completed, these projects will provide valuable information applicable in control programmes, and improved farm management practices.
Activities of the Ambulatory Clinic were mainly concentrated on the commercial farms around Lusaka. Some contacts have also been established with some traditional farmers in rural areas. Deprived of direct veterinary support, regular supply of consumables and drugs, these farmers suffer considerable losses as a result of parasite diseases which are highly prevalent in those areas of extensive livestock farming.
Considering the achievements of the first Project, it is clear that a new Project, starting as per July 1993 would be of great value for the School of Veterinary Medicine, Lusaka.

PROPOSED OBJECTIVES OF THE PROJECT 1993 - 1995.

1. Establishment of a field station in a strategically chosen traditional farming area.

2. To provide a technical base for School research activities in rural farming systems, and to further develop and extend the applied research work conducted in the field of parasitology within the Department of Clinical Studies.

3. Use of the field station for training clinical students in medical problems of traditional cattle and goat herds. This will include clinical practice and clinical pathology studies

4. To provide additional support to the rural farmers through examination, diagnosis and treatment of sick animals, thrdugh preventive medicine and advice.

5. Use of field station to provide an important source of information and data useful in veterinary disease control programmes, and in research activities.

6. To contribute to lecturing and practical training of undergraduate and postgraduate veterinary students in clinical medicine.

DESCRIPTION OF THE EXECUTION OF THE OBJECTIVES

1. AMBULATORY CLINIC.

Although it was always the aim to include traditional farmers in the Ambulatory Clinic, this has until now been done on very limited scale, mainly for practical reasons.
The few visits made to the traditional farming areas, until now, had to be restricted to one day visits, as no facilities are available to accommodate the scientific staff and the students, and no facilities and equipment to examine samples in the field.

However, the traditional farmers are a very important group of main interest for the following reasons:

* They are usually deprived of direct veterinary services, mainly because of their location in remote areas and their restricted financial means.

* Well advertised visits to certain meeting points, such as crush pens or dipping tanks, would induce gatherings of large numbers of animals. As preventive medicine and disease control measures remain unpractised in these areas students would have the possibility to observe conditions which are usually absent on commercial farms.

* The animals would be an interesting source of sampling material for applied research on parasite diseases in Zambia.

The only practical way to establish regular contacts in traditional areas is to set up a small scale *field station*, which would provide basic facilities for a small group of students on a rotational scheme, accompanied by a clinician.
For the moment, the University of Zambia is unable to finance the setting up of this field station.
There are two aspects which are required for the set up of a field station.

The first, and most important, is the infrastructure, which must include laboratory space, basic accommodation and a small store room. There are many field stations available, throughout the country, belonging to the Veterinary Department and several international organizations and projects.
Some of these have already been occasionally visited and used.
The School of Veterinary Medicine will approach the different authorities who have field stations, to obtain permission to use their facilities on a regular basis.

Secondly, there is the need,for equipment.
Ideally in the initial phase, one of these stations should be equipped with the following items:

* Microscope
* Small glassware
* Staining equipment
* Generator
* Centrifuge
* Fridge/Freezer
* Drugs
* Consumables
* Equipment for accommodation, including field beds, tables and chairs, mosquito nets...
* Motorcycle to contact the farmers

It is estimated that the expenses to equip each of those field stations will be approximately 12000 U.S.$.

Once this field station is equipped and transport facilities are available movement will be possible within the traditional areas, from one meeting point to another

Increased possibilities will be available for the following:

1.1 STUDENT TRAINING:

The practical training of the veterinary students at UNZA is without doubt the most difficult part of their training to organise. Farmers are situated far from the Veterinary Faculty, and the value of extensively bred animals is not high enough to transport them to the Veterinary School for individual treatment. As the Ambulatory visits are mainly restricted to well controlled commercial farmers, around Lusaka, some diseases are never encountered by the students.
It would therefore be very valuable for the students to increase the time spent on practicals and also to broaden their experience on the number of diseases and clinical cases they encounter by visiting traditional farming areas.
A field station will be a very important asset for postgraduate student research activities, as it can provide a base for collection of research data.

1.2 BENEFIT TO TRADITIONAL FARMERS:

As traditional farmers live in remote areas, with little infrastructure and difficult limited access, they have very limited contact with Veterinary or Agricultural Officers and assistants.
The contact with traditional farmers could therefore be enhanced through means of these visits. The farmers could become an important source of information, necessary to build up the basic data needed for epidemiological studies.

1.3 VETERINARY EXTENSION EDUCATION AND CONSOLIDATION OF LINKS WITH VETERINARIANS AND VETERINARY ASSISTANTS:

The field station will provide excellent contact for students with the traditional farmers. It will widen their experiences allowing them to develop an interest in rural veterinary practice. This will improve their future employment possibilities in traditional farming areas.
As Government Veterinary Assistants often lack the minimum requirements necessary to perform their job well, regular visits by our school group would facilitate the ease with which they perform their duties. The Veterinary Assistants who have been in an area for a number of years together with a Veterinary Assistant appointed by the School would be the ideal persons to give background information and to discuss the evolution of diseases outbreaks, epidemics and the usual problems encountered in the area.
They are the most important link between the subject matter specialist (Academic member of staff), contact farmers and other farmers. They will also act as an interpreter whenever the need arises. The particular field station and the area will be ideal for adaptive research and veterinary extension education; e.g. organising meetings, mass vaccination, dipping, deworming and field days. This would benefit students and traditional farmers alike.

1.4 INCREASED POSSIBILITIES FOR DISEASE CONTROL:

The ultimate goal of any project within the agricultural or veterinary sector is to increase crop or livestock production through means of improved management techniques and disease and pest control.
Large programmes have been set up years ago to control the following:

* Dipping strategies for tick control and the control of protozoal blood-parasites such as East Coat Fever, Corridor Disease and recently new dipping techniques to control the Tsetse flies.
* Restricted movement to control the spread of infectious diseases such as Foot and Mouth Disease, Anthrax...
* Large scale vaccination campaigns to control viral and bacterial infectious diseases.
* Movement control to restrict the habitats of the Tsetse flies and to control the spread of sleeping sickness in cattle.

All these large scale programmes can only succeed when information on these diseases is centralised. Data collection has to be conducted on any level and data have to be analyzed to make conclusions on the progress of the disease control programmes.
The sampling, collection of data and the applied research proposed by this project will contribute to the control programmes conducted in Zambia. Data collected in Lusaka and Central Province will be added to data available from other provinces (Eastern and Western) to obtain a clear picture of the economic impact of diseases, and possible interventions.

2. RESEARCH ACTIVITIES.

From the preliminary results, obtained from the 3 main research topics, the following is proposed.

2.1 TREMATODES.

The class *Trematoda* includes parasites of major veterinary importance in Zambia. They are responsible for widespread morbidity and mortality in cattle, sheep and goat through diseases known as e.g. schistosomiasis or fascioliasis.
From the preliminary results (slaughterhouse study and examination of farm animals), it became clear that the prevalence of schistosomiasis in cattle in Zambia is high.
Although clinical cases have been observed on a few farms, the real importance of the disease is still unclear. It is generally considered that Schistosoma mattheei, the species present in Zambia, is the most pathogenic species in ruminants. The transmission occure mainly during the dry season, and it is unknown if animals develop immunity against the parasites. Due to high costs of drugs, treatment of animal schistosomiasis cannot be considered.

The specific research topics in this field, during the period 1993-1995 will be:

* to study the development of immunity against schistosomiasis.
* to evaluate the diagnostic value of circulating antigens in animal schistosomiasis.
* to characterise isolates of S. mattheei and S. haematobium. It has been shown that S. mattheei hybridises with the human pathogen S. haematobium, which could have considerable impact on the epidemiology of both parasites, should this occur in Zambia.
* to set up practical control measures against trematodes in general.

2.2. GASTRO INTESTINAL NEMATODES.

Although gastro-intestinal nematodes are ubiquitous in Zambia, their real economic impact on the livestock industry is unknown. Until now, regular anthelmintic treatments are common practice, rather than using these drugs as a curative treatment against specific disease problems.
The erratic supply of the different anthelmintic drugs causes a random use of whatever product is available.
Too often, disease is ascribed to gastro-intestinal helminths, although no specific diagnosis is made. This leads to an overconsumption of anthelmintic drugs and to unnecessary costs. As strategic treatments are impossible due to the irregular availability of anthelmintics, the drugs administered are often not the drugs of choice. Both factors are likely to stimulate the development of anthelmintic resistance. Preliminary studies on sheep and goat farms around Lusaka, confirm these assumptions.
The research topics for 1993-1995 on this problem will be:

* to study the epidemiology of gastro-intestinal nematodes in Zambia, according to the different farming systems (extensive, semi-extensive, intensive, traditional...).
* to develop specific control measures, in which the use of anthelmintics is minimized.
* to study the extent of anthelmintic resistance in Zambia.

2.3. TRYPANOSOMIASIS.

Until now, research in the School of Veterinary Medicine on trypanosomiasis was mainly concentrating on the validation exercise for a new Monoclonal Antibody ELISA test to detect circulating trypanosomal antigens in bovine serum. To obtain a representative number of positive and negative serum samples, a 2 year survey was conducted in a sentinel herd of 30 animals, localized in a low-challenge area.
The results of this validation have recently shown that the ELISA test is very sensitive compared with the classical parasitological tests. This opens new perspectives in the research on the epidemiology of trypanosomiasis, where the importance of sub-clinical and chronic infections can now be demonstrated.
Furthermore, it was shown that once preventive treatment of trypanosomiasis was carried out, an improvement in fertility and reproduction occurred.

The specific objectives of this research item, for the period 1993-1995 will be:

* to demonstrate the effects of trypanosomiasis on the fertility and reproductive capacity of bulls, experimentally infected with T. brucei brucei.
* to look into reproductive and fertility parameters (hormones) which might be correlated with trypanosomiasis.
* to apply the Mab-ELISA test for epidemiological studies, in the border areas of the Tsetse fly belts and in doubtful 'trypanosomiasis-free' areas.

This research will result in the following important goals for the School of veterinary Medicine:
* to provide information to improve teaching of clinical medicine.
* to produce scientific publications which will increase the international reputation of the School.
* to allow Zambian veterinarians to do their research within Zambia, looking into specific Zambian problems, and to obtain scientific experience in clinical parasitology.

This research will further result in some practical applications for the farmer, especially for the control of helminth diseases.

3. REQUIREMENTS

3.1. LABORATORY

The infrastructure such as laboratories and major equipment for this project is currently available in the School of Veterinary Medicine, However there is financial requirements for setting up the field station, putting in small equipment and a generator, a vehicle for transporting staff and students, petrol, experimental animals and technical assistance. Other consumable support for teaching and research activities will be required.

3.2. PERSONNEL.

* Two Belgian Veterinarians with scientific experience in clinical parasitology, one being of sufficiently senior level to supervise postgraduate students.

* Two Zambian Veterinarians with scientific experience in clinical parasitology.

Preferably, The above project collaborators should have equivalent of a Master's degree.

* One Zambian Postgraduate Student in clinical parasitology.

* One Zambian Veterinary Assistant to run the field station.

CONCLUSIONS.

The Samora Machel School of veterinary Medicine, is asking the following support from the V.I.R., for the new project:

1. Salaries of two permanently based Belgium veterinarians, with appropriate experience and qualifications.

2. Salary and accommodation for Veterinary Assistant to run the field station.

3. Honoraria for Zambian collaborators in the project.

4. Equipment and consumables for one field laboratory and one motorcycle.

5. Consumables and equipment for research, and teaching.

6. Cost of improvement of field station buildings (e.g. security, laboratory facilities, etc..).

7. A new 4-wheel drive vehicle.

8. Budget for fuel, to transport veterinarians and students to and from the field station and the Veterinary Assistant.

9. Short term training and/or research attachments for Zambian veterinarians.

10. Computer facilities for data analysis.

11. Contingency.

It is estimated that the budget for points 2 to 11 amounts to 150,000.00 U.S.$.

2．3　SCHOOL OF VETERINARY MEDICINE
UNIVERSITY OF ZAMBIA

PROJECT PROPOSAL
IN SERVICE TRAINING PROGRAMME FOR TECHNICAL STAFF
SCHOOL OF VETERINARY MEDICINE: UNIVERSITY OF ZAMBIA

TITLE: TECHNICAL IN-SERVICE TRAINING

INTRODUCTION

Zambia established its Veterinary School at the University of Zambia in 1983. Gradually, the School's Departments started expanding and, as such, a need arose for the School to acquire and utilise practical training and services of well trained Veterinary Technicians. However, Zambia has not yet established an inst institution of higher learning to train and re-train its own skilled Veterinary Technicians that can effectively be utilised in the School of Veterinary Medicine. This has created the need for the present technicians in the School to undergo some technical training and acquire individual or group skills within or outside Zambia. It is anticipated that this kind of training will improve and that it will continue improving the overal technical performance in the School.

AIMS

(a) To provide technical training for Technicians in the School.

(b) To produce well trained and competent Technicians.

(c) To raise a crop of trained technicians who, in turn will be responsible for training other Technicians within the School.

(d) To improve performance and output of technical staff.

OBJECTIVES

(a) To train Technicians in the Veterinary School who will be efficient and capable of carrying out in-service training of other Technicians in future, with very little or no outside assistance.

(b) To develop a crop of instructors who will not only be responsible for in-service training within the School, but also other allied institutions, (e.g. Zambia Institute of Animal Health, National Council for Scientific Research, Hospitals, etc)

(c) Technical staff trained under this programme would be awarded an appropriate certificate that could be recognised in Zambia, Norway and elsewhere.

PROTOCOL

	SUBJECTS TO BE COVERED	DURATION
1.0	Instructor's course	6 Months
2.0	Instrumentation course	3 "
3.0	Administration (Lab safety & Management)	1 "
4.0	Histopathology Lab Techniques (special techniques)	2 Months
5.0	Microscopy (with emphasis on electron & Fluorescent microscopes and reagents)	2 Months
6.0	Collection and preservation of specimen (Anatomy & Pathology)	
7.0	Immuno-Assay Techniques	1 Months
8.0	Parasitology Techniques	3 Months

9.0	Microbiology Techniques	1 Month
10.0	Cleaning of Glassware	1 Week
11.0	Animal Nursing, Clinics and Theatre Management	3 Months
12.0	Radiology	1 Month
13.0	Clinical Laboratory Diagnosis	6 Months
14.0	Data Management	6 Months

EQUIPMENT

	COURSE	EQUIPMENT	AVAILABILITY
1.0	Instructors	Books	Books (outside)
2.0	Administration	Books	
3.0	Histopath Techniques	Nil	Redgents (outside)
4.0	Microscopy	Not enough	Electron & Flourescent.
5.0	Collection and preservation of specimen	Available within	Nil
6.0	Immuno-Assay Techniques	Available within	Nil
7.0	Parasitology Techniques	Available within	Nil
8.0	Cleaning of Glassware	Available within	Nil
9.0	Animal nursing and theater management	Available within	Nil
10.0	Radiology	Available within	Nil
11.0	Clinical Lab. Diagnosis	Available within	Nil
12.0	Data Management	IBM PS/2	Outside

COURSE PERSONNEL AND GAPS IN EXPETISE

COURSE	TYPE OF TRAINING ASSISTANCE REQUIRED	NO. PERSONNEL
Instructors	External	Individual
Instrumentatio n	Local	Group
Administration	Local	Group
Histochemistry Techniques	Local	Group
Microscopy (Electron & Flour)	External	Group*
Preservation of specimen	Local	Grolp
Immuno-Assay Techniques	External	Group*
Parasitology Techniques	External	Group*
Cleaning of Glassware	Local	Group
Animal nursing, Clinis and theatre management	External	Group*
Radiology	External	Individ
Data Management	External	Group

BENEFITS TO COURSE PERSONNEL

(a) Receipt of appropriate equipment and effective used of the equipment by those who receive appropriate skills as the result of this training.

(b) Acquiring of supplementary and advanced technical knowledge as the result of the in-service technical training programme.

(c) Being an in-service training, courses would be attended on a day release, some other such scheme.

COSTS

YEAR 1

1.0 PERSONNEL

(a)	Return airfares & miscelaneous, (Local visting lecturers, secretarial:)	USD	20,000.00
(b)	ALLOWANCES		
(i)	Zambian Instructors	USD	10,000.00
(ii)	Norwegian Instructors/12 weeks	USD	46,000.00
(c)	Miscellaneous	USD	3,000.00
	Sub-total	USD	79,000.00

2.0 MATERIALS

(a)	Textbooks & Manuals	USD	10,000.00
(b)	Learning Aids (Equipment)	USD	30,000.00
(c)	Air & Sea freights	USD	7,000.00
	Sub-total	USD	47,000.00

126,000.00

YEAR 2

3.0 PERSONNEL

(a)	Airfares and miscellaneous	USD	10,000.00
(b)	Allowances	USD	23,000.00
	Sub-total	USD	33,000.00

4.0 MATERIALS

(a)	Textbooks & manuals	USD	3,000.00
(b)	Learning aids and Equipment	USD	7,500.00
(c)	Air and Sea freight	USD	2,000.00
	Sub-total	USD	12,5000.00

Grand Total = USD 171,500.00

APPENDIX

This appendix refers to the part under COURSE PERSONNEL AND GAPS IN EXPERTISE of the protocol

(1) INSTRUCTOR

This part of the course is intended to produce a cadre of training staff with training skills to train junior technical staff in appropriate techniques, new knowledge which may not be available locally. No institution of Higher learning provides such courses in Zambia or in the sub-region.

(2) INSTRUMENTATION

This training programme is intended to provide junior technical staff with the principles, operation and preventive maintenance of instruments locally available in the School and those that the School plans to acquire.

(3) ADMINISTRATION

The course is aimed at imparting administrative skills in the running of laboratories for teaching, diagnostic and research.

(4) HISTOCHEMISTRY

To increase the scope of histochemical techniques with the view of expanding the base for research and comprehensive pathological and diagnostic capability with modern histochemistry techniques.

(5) GENERAL AND SPECIALISED MICROSCOPY

(Electron and fluorescence microscopes)

This course is bailored to meet users of microscopes but lack of knowledge about use and cares of microscopes. It is also intended to prepare staff with the knowledge and skills and to keep them updated about the use and some basic maintenance of specialised microscopes. The electron microscope is currently not available in Zambia and no knowledge is available about its existence in the region.

(6) PRESERVATION OF SPECIMEN

The course is intended to provide skills in the collection, treatment, preservation and storage of specimen used for teaching, diagnostic and research.

(7) IMMUNO-ASSAY TECHNIQUES

To increase scope of immuno-assay techniques with a view of expanding the research and diagnostic capability with modern immuno-assay techniques.

(8) PARASITOLOGY TECHNIQUES

To update the technical staff with new techniques and methods in parasitology. Specialised parasitology techniques which may not be available locally will require training outside the country.

(9) CLEANING OF GLASSWARE

Technical staff will be taught the general treatment of glassware and the methods available for cleaning depending on the application and use of a particular glassware.

ANIMAL NURSING, CLINICS & THEATRE MANAGEMENT

There is no institution in Zambia or in the sub-region that offers this kind of training at technical level.

(11) VETERINARY RADIOLOGY

No local institution or in the sub-region offers this type of training at technical level

(12) DATA MANAGEMENT

The aim of this course is to introduce the staff in the School in the use computers, and their application in information storage system for teaching, research and administration. The course is also available locally e.g. at National Institute for Public Administration.

(13) To introduce staff to specific microbiological techniques, from media preparation, through sterilisation to incubation to identification of culture.

A G R E E M E N T

between

THE GOVERNMENT OF THE KINGDOM OF NORWAY

and

THE GOVERNMENT OF THE REPUBLIC OF ZAMBIA

regarding

Financial support to a Technical In Service Training Programme for Technical Staff at School of Veterinary Medicine at the University of Zambia.

The Government of the Kingdom of Norway ("Norway") and the Government of the Republic of Zambia ("Zambia"),

Now therefore the parties, in pursuance of the Agreement between Zambia and Norway regarding cooperation for promotion of the economic and social development of the Republic of Zambia dated 12 December 1984 and prolonged by an addendum dated 28 February 1990 ("the General Agreement"), and with reference to the provisions therein relating to Specific Agreements, have reached the following understanding which shall constitute a Specific Agreement:

Article I
Scope and Objectives

This Agreement sets forth the terms and conditions for the provision of financial assistance to the University of Zambia (UNZA), by NORWAY in connection with the implementation of the Project as outlined in Annex I to this Agreement.

The aim of the cooperation is to enable the School of Veterinary Medicine to arrange an In-Service Training Programme of Technical Staff to improve the quality of technical personnel in the said discipline in accordance with the description of the Project Document of October 1991 ("the Project").

Article II
Cooperation - Representation - Administration

1. Norway and Zambia shall cooperate fully to ensure that the purpose of the Agreement is successfully accomplished. To that end each Party shall furnish to the other Party all such information as may reasonably be required pertaining to the Project.

2. In matters relating to the implementation of this Agreement, the Norwegian Agency for Development Cooperation ("NORAD") and the University of Zambia shall be competent to represent Norway and Zambia respectively.

3. UNZA shall be the executing agency, and the Head of the School of Veterinary Medicine or person to whom she delegates this authority, will act as Project Coordinator. UNZA shall enter into a contract with Norwegian Veterinary College ("NVC") for the institutional cooperation necessary for implementing the Project. The contract shall be approved by NORAD.

4. In order to facilitate and monitor a Steering Committee consisting of representatives of UNZA and NVC shall be established. NORAD may participate as an observer. The Steering Committee shall meet when requested by one of the parties to this Agreement.

Article III
Contributions and Obligations of Norway

Norway shall, subject to parliamentary appropriations, make available to Zambia a financial grant not exceeding NOK 600,000 (Six Hundred Thousand) ("the Grant") to be used exclusively to finance Project activities in accordance with approved budget for 1992.

Article IV
Contributions and Obligations of Zambia

Zambia shall:

1. have the overall responsibility for the administration and implementation of the Project;

2. make all efforts to facilitate the implementation of the Project and hereunder provide all financial and other resources, including sufficient qualified professional and academic staff, equipment, maintenance, services and other resources that may be required over and above the Grant for the successful implementation of the project;

3. establish an external account to be operated by the Project;

4. Grant free of charge all necessary permits that may be required in connection with the orderly execution of the Project, including entry, re-entry, exit and other permits, licences and foreign exchange permissions.

5. provide suitable accommodation to visiting Norwegian lecturers and transportation for official duties.

6. make all efforts to increase the number of female technicians students at UNZA;

7. promptly inform Norway of any condition which interferes or threatens to interfere with the successful implementation of the project;

8. permit representatives of Norway to examine any relevant records or documents related to this agreement.

Article V
Procurement

1. The Project may, contract NORAGRIC to undertake procurement as well as providing technical backstopping, including guest lecturers, ref. article II, point 3.

Article VI
Disbursements and Reports

Zambia shall submit to Norway:

1. Not later than 4 months after the end of the Zambian fiscal year audited accounts for the Project. The audit shall be in accordance with the current Zambian practice with the UNZA accounts.

2. Norway will effect payment to Zambia upon signing of this contract.

NORAGRIC shall submit to UNZA annual statements of expenditures incurred according to Article V.

Article VII
Entry into Force - Termination

1. This Agreement shall enter into force on the date of its signature. The Agreement will remain in force until both Parties have fulfilled all obligations arising herefrom. Whether these obligations are fulfilled shall be determined in consultations between the parties.

2. Notwithstanding the previous paragraph both parties may terminate the present Agreement by giving three months written notice to the other Party.

In witness whereof the undersigned, acting on behalf of their respective Governments, have signed the present agreement in two originals in the English language.

PROPOSAL FOR ESTABLISHMENT OF

A VETERINARY BIOMEDICAL SCIENCES RESEARCH SUPPORT UNIT

IN

THE SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE

OF THE UNIVERSITY OF ZAMBIA.

PHASE I:

ESTABLISHMENT OF CHROMATOGRAPHIC, SPECTROPHOTOMETRIC, AND RESEARCH DATA MANAGEMENT TECHNIQUES, AND A FIELD RESEARCH CAPABILITY.

Project Proposers:

Dr. D.N. Kisauzi,
Senior Lecturer & Head of Department.

and

Mr. J. Daka,
Chief Technician.

Department of Biomedical Sciences,

Samora Machel School of Veterinary Medicine,

University of Zambia,

P.O.Box 32379,

Lusaka,

Zambia.

1. GENERAL RATIONALE

The academic staff in the Department of Biomedical Sciences is currently made up of expatriate staff on 2 to 4 year contracts and this situation is likely to continue for sometime to come. A result of this staff profile and of the fact that the staff has heavy teaching loads is that the research activity in the Department is low and involves research projects that have narrow objectives. This is likely to create the following problems in the long term:-

(i) Lack of continuity in the research activities in the Department.

(ii) Slow and unco-ordinated development of the Department's research capability because members of staff will tend to use the facilities that have been developed to support teaching and, therefore, have limited research application.

(iii) Reduced ability to undertake post-graduate teaching in the Department.

(iv) Lack of a research base for Zambian staff returning from training outside the country.

(v) Inability of the Department to attract international researchers with biomedical expertise relevant to the solution of Zambian/regional problems.

As a first step to addressing these problems, the Department has decided to establish a range of standing research programmes with long-term objectives relevant to Zambian agricultural and wild life development. The idea is to direct the research activities in the department towards a few common goals. It is hoped that over a time, this will create a foundation of research activities on which members of staff with short to medium contracts can build on, which can be easily inherited by their replacements, and which can attract international researchers to the Department. The research programmes with the current research projects under them are as follows:-

1. Programme DBM-1: STUDIES ON INDIGENOUS ZAMBIAN GOATS.

   Project DBM1-1 Coccidiosis in Zambian goats.

   Project DBM1-2 The anatomy of the Zambian goat.

2. Programme DBM-2 REPRODUCTION AND FERTILITY IN ANIMALS.

   Project DBM 2.1: Transfer of rapid cost-effective laboratory techniques for monitoring fertility in animals.

   Project DBM 2.2: Studies on the reproductive characteristics of Zambian goats.

   Project DBM 2.3: Mechanisms involved in embryonic death and their possible relationship to repeat-breeding in cattle.

3. Programme DBM3: MYCOTOXINS AND PLANT TOXINS IN ANIMAL DISEASES.

Project DBM3.1 Mycotoxins.

Project DBM3.2 Investigation of Albiziosis.

Project DBM3.3 Investigations into nitrate/nitrite and cyanide bearing plants in the Lusaka area.

4. Programme DBM4: WILD LIFE BIOLOGY.

Project DBM4.1 The Anatomy of the Kafue Lechwe.

5. Programme DBM5: DIGESTIVE AND NUTRITIONAL BIOLOGY OF DOMESTIC ANIMALS.

Project DBM5.1 In vitro reticulo-rumen microbial digestion of feedstuffs fed to ruminants.

In order to address the problem of the inadequacy of the Department's research capability and its slow and uncoordinated development, the Department wishes to establish a standing technical research support unit to service the laboratory and field research activities. The unit is intended to have staff, equipment and supplies independent from those for teaching.

The Department recognises the fact that the long term viability of a research support unit is its ability to attract funds. This is expected to arise primarily from the research projects that it supports. However, if its analytical capability is versatile enough it can also attract funds from non-research activities such as analytical work that might arise from the local industry. This factor is taken into consideration in planning the development of the unit.

2.0 PHASE 1:

ESTABLISHMENT OF CHROMATOGRAPHIC, SPECTROPHOTOMETRIC AND RESEARCH DATA MANAGEMENT TECHNIQUES.

2.1 OBJECTIVES.

(i) To establish, in the Department, a technical capability in chromatographic and spectrophotometric techniques.

(ii) To establish, in the department, a capability for research data processing and management.

(iii) To establish a field research support capability.

2.2 RATIONALE FOR PHASE 1.

The focus on chromatographic, spectrophotometric, and 'research' data management techniques in the first phase of the project is because of their wide application in biomedical research. Lack of support for field research has been recognised as the major factor constraining the development of research projects aimed at solving problems outside the immediate urban vicinity of the school. The Department is also currently negotiating for a contract with a local company that markets agrochemical and animal health products to do the company's quality control analyses which it has currently are being sent to the Republic of South Africa. Most of the analyses are based on chromatographic and spectrophotometric techniques.

2.3 TOTAL BUDGET.

2.3.1 CHROMATOGRAPHIC AND SPECTROPHOTOMETRIC EQUIPMENT.

(i)	Scanning Spectrophotometer UV/VIS and accessories.	USD 30000.00
(ii)	High Pressure Liquid Chromatography	USD 33000.00
(iii)	Scanning Densitometer	USD 29000.00
(iv)	Atomic Absorption Spectrophotometer	USD 36500.00
	Estimated Sub-Total Cost	USD 130100.00

2.3.2 DATA MANAGEMENT REQUIREMENTS.

(i)	2 IBM PS/2 Micro Computers	USD 11486.00
(ii)	Laser Printer	USD 2734.00
(iii)	5.25" External Diskette Drive	USD 535.00
(iv)	Printer (Epson FX850)	USD 1060.00
(v)	2 Printer Cables	USD 40.00
(vi)	Computer software	USD 5000.00
	Estimated sub-Total.	USD 20855.00

2.3.3 GENERAL LABORATORY EQUIPMENT, SUPPLIES AND GLASSWARE.

(i)	Water de-ioniser	USD. 4000.00
(ii)	2 Air-Conditioners	USD 2100.00
(iii)	Glassware	USD 5000.00
(iv)	Chemicals	USD 5000.00
	Estimated Sub-Total Cost	USD 16,100.00

2.3.4 FIELD RESEARCH SUPPORT.

(i)	Four wheel drive Vehicle	USD 22,000.00
(ii)	Power generator	USD 6400.00
(iii)	Field Centrifuge	USD 1000.00
(iv)	Car Refridgerator	USD 500.00
(v)	Tent	USD 301.00
(vi)	Lamp and Cooker	USD 310.00
	Estimated Sub-Total	USD 31,011.00

2.3.5 MISCELLANEOUS.

(Laboratory manuals, secretatrial services, consultancy fees, postal charges, stationary, servicing of equipment, etc.)

Estimated Sub-Total	USD 12,000.00
ESTIMATED TOTAL COST	USD 210066.00

2.4 TIME TABLE

2.4.1 FIRST YEAR.

The activities in the first year will be aimed at establishing the spectrophotometric techniques and the field research support capability, and initiating the development of the data management capability.

Budget.

(i)	Scanning spectrophotometer	USD	30000.00
(ii)	IBM Micro Computer	USD	5743.00
(iii)	Laser Printer	USD	2734.00
(iv)	5.25" External Diskette Drive	USD	535.00
(v)	Printer Cable	USD	20.00
(vi)	Computer software"	USD	2500.00
(vii)	Four wheel drive vehicle	USD	22000.00
(viii)	Power generator	USD	6400.00
(ix)	Field Centrifuge	USD	1500.00
(x)	Car Refridgerator	USD	500.00
(xi)	Tent	USD	301.00
(xii)	Lamp and Cooker	USD	310.00
(xiii)	Glassware	USD	1500.00
(xiv)	Chemicals	USD	1500.00
(xv)	Air Conditioner	USD	1050.00
(xvi)	Miscellaneous	USD	4000.00
	First Year Sub-Total	USD	81,393.00

2.4.2 SECOND YEAR.

The activities in the second year will be aimed at High Pressure Liquid Chromatographic techniques and completing the data management capability.

Budget.

(i)	High Pressure Liquid Chromatography	USD 33000.00
(ii)	Scanning Densitometer	USD 29000.00
(iii)	IBM Micro Computer	USD 5743.00
(iv)	Printer (Epson FX850)	USD 1060.00
(v)	Printer Cables	USD 20.00
(vi)	Computer software	USD 2500.00
(vii)	Water de-Ionisor	USD 4000.00
(viii)	Glassware	USD 1000.00
(ix)	Chemicals	USD 1000.00
(vi)	Miscellaneous	USD 4000.00
	Second Year Sub-Total	USD 82,123.00

2.4.3 Third Year

The activities of the third year will be aimed at establishing Atomic Absorption techniques.

Budget.

(i)	Atomic Absorption Spectrophotometer	USD 36500.00
(ii)	Glassware	USD 2500.00
(iii)	Chemicals	USD 2500.00
(iv)	Air conditioner	USD 1050.00
(v)	Miscellaneous	USD 4000.00
	Third Year Sub-Total	USD 46550.00
	ESTIMATED TOTAL COST	USD 210066.00

3.0 PROJECT PERSPECTIVES.

It is hoped that the establishment of standing capabilities in chromatographic, spectrophotometric, research data management and field research will stimulate research and post-graduate training in physiology, biochemistry and pharmacology; and that the ability of the Department to attract research funds and to generate funds from analytical work for the local industries will enable the unit to become self-sustaining. The ultimate goal is for the unit to have its own contract research staff establishments supported by funds that it generates with terms of service for staff that are linked to productivity.

NASJONALT UTVALG FOR UTVIKLINGSRELATERT FORSKNING OG UTDANNING

NUFU

NORWEGIAN UNIVERSITIES' COMMITTEE FOR DEVELOPMENT RESEARCH AND EDUCATION

Application Form No. III: PROGRAMFONDET

Proposal of Programme

Date: 29th April, 1992
Id.no.:
(for NUFU-use)

PROGRAMME PROPOSAL

Programme Document for Collaboration Programmes between Third World Research/Training Institutions and Norwegian Universities and Schools at University Level

Participants

1. Collaborating institutions

   a) University of Zambia

   b) Norwegian College of Veterinary Medicine

2. Departments involved

   a) Samora Machel School of Veterinary Medicine

   b) Norwegian College of Veterinary Medicine
   Several Departments

3. Name and position of programme coordinators

Name (UoC): Prof. Cheryl Lovelace
Address: Acting Dean,
Samora Machel School of Veterinary Medicine
University of Zambia,
P.O. Box 32379, Lusaka, Zambia.

Phone: 228218 Ext. 1480
Telefax: 1260-1-253952
Telex: UNZALU ZA44370

Name (UoN): Prof. Inger Nafstad
Address: Norwegian College of Veterinary Medicine
Department of Pharmacology and Toxicology
P.O. Box 8146 Dep. N.0033, Oslo, Norway.

Phone: 472964500
Telefax: 472565704
Telex:

Agreement

4. General institutional agreement or amendment to agreement signed by cooperation institutions, dated:

Sept. 18.1991, letter from Prof. I. Nafstad
April 03.1992, letter from Prof. C.E. Lovelace Acting Dean

Total Programme description

5. Name of programme (short title)

Collaboration in Veterinary Education and Veterinary Research.

6. Discipline of scientific cooperation

Veterinary Medicine

7. Short programme description (for NUFU programme catalogue)

1. To give the Zambian Veterinary School Academics and Postgraduate students experience with more advanced research techniques, and technicians training in specific areas.
2. To give the Norwegian Veterinary School Academics and Postgraduate students experience in teaching and research on tropical animal disease problems, in rural livestock communities.
3. To develop collaborative research projects which could assist in improving animal health in Zambia.

8. Description of Programme
a) give a short description of programme idea and justification from programme
b) state arguments of background of the programme proposal
c) expected general objectives of the programme

The Zambian Veterinary School is only seven years old, and is still developing its local personnel, who would greatly benefit from collaboration in teaching and research. The Norwegian Veterinary School would like more involvement in tropical animal disease problems, which will give the postgraduate students wider experience.

Enclose full description of programme to the application (max 6 pages).

9. Expected Outputs (quantitative targets)
1) Research

Development of at least three research programmes within the following areas:

Clinical Medicine, Biomedical Sciences (physiology, biochemistry, pharmacology, anatomy), surgery, theriogenology, pathology.

2) Education of personnel
a) Number of Master's Degree: 10 in Zambia per year, 4 on exchange per yea
b) Number of Ph.D: 2 in Zambia per year, 1 on exchange per year.
c) Number/Staff: 2 per year.

10. Participants in programme
1) Research and Education Personnel
Names and positions:

Still to be nominated. To include one long-term Lecturer (2 years) from NCVM, and one visiting lecturer from each institution per year.

2) Trainees (others than indicated in 10.1)
Names:

Still to be nominated. To include one technician visit from SMSVM each year, two postgraduate students from NCVM in the 2nd year and two postgraduate students from each institution in the 3rd - 5th years.

11. Programme period

Five years.

12. Has proposal of planning costs been proposed to/accepted by NUFU?
ID.No.:

Planning costs have not been proposed to NUFU.

13. Overall budget in 1000 NOK (detailed budget on separate form)

	Year: 1993	Year: 1994	Year: 1995	Year: 1996	Year: 1997
Total Programme Budget					
NUFU share of budget	1404	1728	2052	2160	2268

Names of other financial contributors (amounts if possible)

NAMES:	AMOUNTS:

14. Signatories

	Date	UoC	Date	UoN
Programme responsible: Vice-Chancellor/ University Director	30/4/92	Vice-Chancellor		Univ. Director
Department/ Deans Office	29-4-92	Acting Dean		
Programme Coordinator				

doc: skjema kar

Form:PB1

NUFU PROGRAMME BUDGET

(all figures in 1000 NOK)

ID.no: (for NUFU)

	Year: 19 93	Year: 19 94	Year: 19 95	Year: 19 96	Year: 19 97
Substitute Norwegian researcher	770	808	848	890	935
UoC researcher abroad	117	127	267	280	294
Fellowships degree students	-	45	137	144	151
Fellowships other staff	59	62	65	68	71
Part time salary at UoC					
Part time salary at UoN					
Travel expenditure UoCpersonnel	17	18	38	40	42
Travel expenditure fellowships	17	54	95	100	105
Travel expenditure UoNpersonnel	77	81	85	89	93
Scient. instruments, equipment	143	300	255	274	289
Books & periodicals					
Running costs	100	105	110	115	120
Infrastructural investments					
TOTAL COSTS	1300	1600	1900	2000	2100
Overhead - 8% of total costs	104	128	152	160	168
NUFU BUDGET TOTAL	1404	1728	2052	2160	2268

NOTE: Investments or equipment of some size to be specified separately.

Address: NUFU, Harald Hårfagresgt. 17, N-5007 Bergen, Norway. Tel: +47 5 233358 Fax: +47.5 902748

ACADEMIC COLLABORATION BETWEEN THE NORWEGIAN COLLEGE OF VETERINARY MEDICINE AND THE SAMORA MACHEL SCHOOL OF VETERINARY MEDICINE, UNIVERSITY OF ZAMBIA.

The School of Veterinary Medicine would like to have academic collaboration with the Norwegian College of Veterinary Medicine mainly in the following areas:

1. Clinical Medicine, including food animal, fish and wildlife diseases.

2. Biomedical Sciences including Physiology, Biochemistry, Pharmacology, Anatomy and Histology.

3. Surgery, reproduction and obstetrics.

4. Pathology.

We would like such collaboration to include the following aspects:

1. Visiting Lecturers from N.C.V.M. to come in specific areas of staff shortage and also to work with our younger local staff. This would include work with undergraduate and postgraduate students.

2. Visits for our locally trained staff to visit N.C.V.M. to obtain expertise in specific areas. This could include Academic staff and technical staff.

3. Development of collaborative research programmes, to be assisted by staff visits between the two countries. This could be assisted by funding for the research.

4. Involvement in postgraduate training, with Norwegian postgraduate students coming to Samora Machel School of Veterinary Medicine and for Zambian postgraduate students to go to Norway for short periods of research study.

5. The collaboration may develop further to have one or

two visiting staff from Norway on long-term stays. Such positions could include a salary supplementation and research grant.

PROJECT DEVELOPMENT PLAN (TENTATIVE)

Year I	
N.C.V.M. Short-term lecturer's visit	2
Samora Machel School of Veterinary Medicine Short-term lecturer's visit	1
Samora Machel School of Veterinary Medicine Technician visit	1
N.C.V.M. long-term lecturer (2 year contract)	1
Year II	
N.C.V.M. Short-term lecturer's visit	2
S.M.S.V.M. Short-term lecturer's visit	1
S.M.S.V.M Technician visit	1
Research projects finalised and funded.	
N.C.V.M. Postgraduate students visit	2
Year III	
N.C.V.M. Short-term lectures visit	2
S.M.S.V.M. Short-term lecturers visit	2
S.M.S.V.M. Technician visit	1
Research collaboration continues	
N.C.V.M. Postgraduate students visit	2
S.M.S.V.M. Postgraduate students visit	2

Year IV and Year V as Year III

I would be grateful if funds for the above collaboration can be requested from NUFU through NORAGRIC, Lusaka.

C.E. Lovelace
ASSOCIATE PROFESSOR
ACTING DEAN
SCHOOL OF VETERINARY MEDICINE

21st September, 1991

THE UNIVERSITY OF ZAMBIA

Telephone: 219021
Telegrams: UNZA LUSAKA
Telex: UNZALU ZA 41370

FROM THE VICE-CHANCELLOR
PO BOX 32379
Lusaka Zambia

Your Ref:

Our Ref:

27th September 1991

Mr H Svads
Regional Representative
NORAGRIC
LUSAKA

Dear Sir

RE: INITIAL PROPOSAL FOR COLLABORATIVE LINK BETWEEN UNZA'S SCHOOL OF VETERINARY MEDICINE AND THE NORWEGIAN COLLEGE OF VETERINARY MEDICINE NCVM,

Please find enclosed a copy of a proposal briefly out-lining what activities the University of Zambia's School of Veterinary Medicine envisages for a link arrangement with NCVM. Hopefully a more detailed document which would include objectives and a budget etc. will be drawn up by the two institutions once there is indication that such collaboration could be covered by funding through the Agreement signed between the Norwegian Foreign Office and the Norwegian Councils of Universities.

The University of Zambia is very proud of its fine Veterinary Medicine facility and has no doubt that any collaboration with any other University in this specialization will be mutually beneficial. Our problem as you are already aware is that we are unable to finance such collaboration.

The University of Zambia would therefore be most grateful for your assistance to forward this proposal to the appropriate persons for further consideration.

Thank you.

Yours sincerely

Jean M F Calder

Jean M F Calder (Ms)
SPECIAL ADMINISTRATIVE ASSISTANT TO THE VICE-CHANCELLOR
for/ACTING VICE-CHANCELLOR

cc Acting Vice-Chancellor
Acting Dean, Veterinary Medicine

/gmt

2. 4

THE UNIVERSITY OF ZAMBIA

INTERNAL MEMORANDUM

Date: JUNE 26, 1992 Ref. No. L. 350/SIDA

From: ACTING VETERINARY LIBRARIAN

To: THE DEAN, SCHOOL OF VETERINARY MEDICINE

Subject:

SWEDISH INTERNATIONAL DEVELOPMENT AUTHORITY (SIDA) FUNDED JOURNALS

The Swedish International Development Authority (SIDA) is funding forty four (44) Journal titles for the Veterinary Library jointly with the Swedish Agency for Research CO-operation with Developing Countries (SAREC).

A.P. Mukanda
ACTING VETERINARY LIBRARIAN.

/gmi.

2. 5

THE UNIVERSITY OF ZAMBIA

INTERNAL MEMORANDUM

Date: 29th June, 1992 Ref. No.

From: Dr. K.L. Samui, Chairman VPC.

To: Mr. O. Kosegawa, JICA Coordinator

Subject: STUDENTS VACATIONAL PRACTICALS IN IRELAND

During the 1980s our School had some short term visiting lecturers from Ireland. On returning home they decided to continue helping our School by making it possible for some senior (5th and 6th years) students to see clinical practice in Ireland. They organised fund raising ventures to raise funds for tickets and maintenance and arranged attachments to some practices/surgeries. Three graduating students were sent over for their vacational practicals in 1991 for up to four weeks.

This year, our friends can only maintain our students there, but have no funds for tickets. The School through the Vacation Practicals Committee of which I am currently Chairman is trying to raise funds for tickets or solicit for donations of tickets. We hope to send four or 5 fith and 6th year students this year.

The objective is for our students to acquire practical clinical skills to supplement what they have learnt (Mostly Theory) here in the School.

I hope this sufficiently answers your questions.

K.L. SAMUI
CHAIRMAN, VACATIONAL PRACTICALS COMMITTEE