ザンビア共和国
家畜衛生・生産技術普及向上計画
プロジェクト終了時評価調査報告書

平成20年10月
（2008年）

独立行政法人国際協力機構
ザンビア事務所

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序　　文

本計画は、25 年にわたる我が国のザンビア大学獣医学部への協力が、ザンビア国内の畜産業の強化に繋がっていない状況を踏まえ、獣医学部と農業協同組合省との連携強化、農業協同組合省の現場での農民の指導力向上を目指してプロジェクトが開始されました。

本計画が 2009 年 1 月 16 日に終了するに先立ち、これまでの協力をザンビア側と共同で評価するため、国際協力機構ザンビア事務所は、ザンビア政府農業協同組合省と合同終了時評価を行い、評価結果についてザンビア共和国政府関係者と署名を交わしました。併せて、我が国の 25 年にわたる協力が獣医学部にどのような変化をもたらしたかという観点でも報告を取りまとめました。

本調査にあたりご協力をいただきました関係各位に謝意を表しますと共に、ザンビアの畜産関係の技術協力のために、今後ともご指導、ご協力をお願い申し上げます。

2008 年 10 月

独立行政法人国際協力機構
ザンビア事務所
所　長　　鍋　屋　　史 朗

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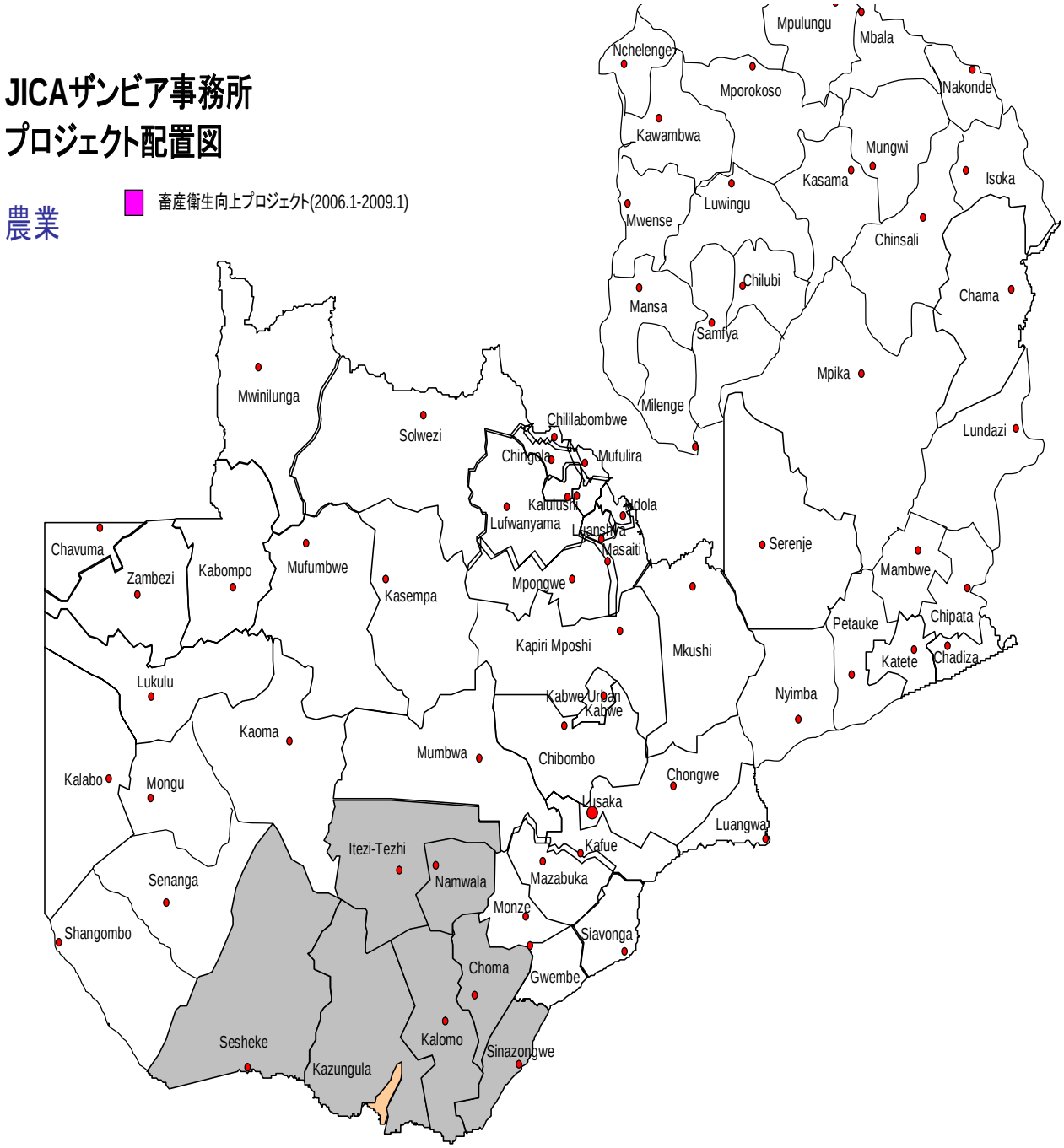
Appendix 15: Record of discussions

Appendix 16: Minutes of meeting

プロジェクトサイト対象地域地図



写　　真

	チョマ州検疫事務所 （Provincial Veterinary Office）の設備
	フィールドでの牛のダニ防止の薬浴の現場
	終了時評価報告書の署名

略　語　表

ASP	Agricultural Support Programme	Sida 実施の農業支援プロジェクト
DVLD	Department of Veterinary and Livestock Development	獣医畜産開発局
FNDP	Fifth National Development Plan	第５次国家開発計画
JICA	Japan International Cooperation Agency	国際協力機構
MACO	Ministry of Agriculture and Cooperatives	農業協同組合省
NAP	National Agricultural Policy	国家農業政策
SADFS	Support Agriculture Diversification and Food Security	EU 実施の農業支援プロジェクト
UNZA	University of Zambia	ザンビア大学
WVI	World Vision International	ワールドビジョン

終了時評価調査結果要約表

1. 案件の概要		
国名：ザンビア共和国		案件名：家畜衛生・生産技術普及向上計画
分野：農業・農村開発		援助形態：技術協力プロジェクト
所轄部署:JICA ザンビア事務所		協力金額：1.2 億円
協力期間	2006.01.15～2009.01.14	先方関係機関： （責任機関）農業・協同組合省（MACO） （実施機関）ザンビア大学獣医学部
		日本側協力機関：北海道大学
		他の関連協力：ザンビア大学獣医学部建設（1983～1984)、ザンビア大学周辺機材供与（1984)、獣医教育プロジェクトフェーズⅠ(1985～1992)、フェーズⅡ（1992～1997)、青年海外協力隊員ザンビア大学派遣（1986～1995)、第 3 国研修（1999～2003）

1-1 協力の背景と概要

ザンビアの農業セクターは GDP の 18～20%を占め、推定で牛 280 万頭、羊 8 万頭、山羊 100 万頭、豚 48 万頭を保有し、総農業生産額の約 35%を畜産に頼っている。

また、ザンビアでは 60%以上の人口が地方で農業に従事し、その多くは小規模農家である。地方の小規模農家は、第 5 次国家開発計画（FNDP）において最も貧困率が高いとされる集団であり、大凡 80%が貧困ライン以下に区分されている。小規模農家のほとんどは有畜複合農業を営んでおり、農業分野における畜産分野の占める割合は非常に大きいが、家畜伝染病の常在化、不適切な飼養管理等による家畜の損耗により全体的に家畜生産性は低い状態にある。

農業・協同組合省は 2004 年に国家農業政策（NAP）を策定し、畜産分野を重要なサブセクターとして位置付けているが、ザンビア全国の家畜衛生サービスの指導的立場にある農業・協同組合省傘下の中央獣医学研究所はスタッフの空席の増加、新規採用の停止などにより活動が停滞するなど、政府の家畜衛生、疾病防除体制はまだまだ脆弱である。

日本はザンビアの農業開発、特に獣医分野への協力を長年にわたり実施してきており、ザンビア大学獣医学部に対しては、無償資金協力による施設建設、旧プロジェクト方式技術協力、第三国研修を通じて、ザンビア国内の獣医師の養成に加えて、広域的な畜産衛生に係る人材育成の拠点として協力を継続してきた。その成果として、ザンビア大学獣医学部は獣医師育成の教育機関として自立的な運営が可能になるとともに、5 年間にわたる第三国研修の実施運営管理を通じて、畜産衛生に係る広域協力の拠点としても認知されつつある。ザンビア大学獣医学部は国内でも最大の家畜衛生分野の人材を擁し、国内最大の家畜衛生研究、教育訓練能力を有するとともに、普及活動においても大きな潜在力を秘めた組織であるが、大学の教育研究機関という組織上の性質から、畜産業に係る活動は限定的なものとなっている。

本プロジェクトの実施を通じ、農業・協同組合省（以下、MACO）がザンビア大学（以下、UNZA）獣医学部との連携を深め、現場レベルの獣医畜産関係者の家畜衛生・生産技術の普及能力の向上を通じて現場レベルの技術支援体制の強化に貢献することを目指した。

1-2 協力内容

（1）上位目標

家畜疾病対策、畜産技術普及活動が強化される。

（2）プロジェクト目標

プロジェクト対象地域における家畜衛生・生産技術支援体制が強化される。

（3）成果

1）研修を受けた獣医畜産普及技術者の家畜衛生・生産技術の普及指導能力が改善される。

2）獣医畜産関係者間の技術情報交換及び技術交流のモデルが確立する。

（4）投入

日本側：長期専門家 2 名、短期専門家 3 名、研修員受入 5 名、機材供与 0.2 億円、ローカルコスト負担 0.5 億円　　総計 1.2 億円

相手側：カウンターパート配置 26 名、土地・施設提供、ローカルコスト負担 0.1 億円

2. 評価結果の概要

2-1 評価結果の要約

（1）妥当性

妥当性は非常に高い。

・第 5 次国家開発計画（FNDP）において現職研修、キャパシティ・デベロップメント及び農業セクターにおける技術向上は優先課題として位置づけられている。さらに、畜産サブセクターは FNDP における重要な柱の一つである。国家農業政策（NAP）では家畜衛生、家畜生産、家畜業（牧畜業）調査及び普及サービスを重視している。同計画では開発団体と農業セクターとのパートナーシップを促進している。JICA を通じた、UNZA 獣医学部と MACO の連携は、FNDP と NAP が推奨するパートナーシップを具現化したものといえる。

・当プロジェクトの目的である獣医師補等普及員を通じて行われる家畜衛生対策技術･家畜生産性向上技術強化は、FNDP と NAP の双方に合致している。以上の理由により、当プロジェクトは、ザンビアの農業政策との妥当性が非常に高いと言える。

・また、当プロジェクトの目的は日本の国別援助計画における農業分野支援策とも合致している。

（2）有効性

プロジェクト目標は達成されており、有効性は高い。

・家畜衛生技術及び生産性向上技術普及は当プロジェクト実施期間中に強化された。その効果は無線連絡機材や診断機器の導入と活用、本プロジェクトによって実施された研修によって修得された知識技術が様々な状況に応用されていることとなって現われている。

・プロジェクト対象地域獣医事務所内の1次診断検査施設では、獣医師補らフィールドスタッフからの検査依頼検体数が増加するとともに、その品質も向上した。フィールドスタッフは、検査結果を遅滞なく、または、無線設備利用により検体依頼日当日中に知ることができるようになった。このことによって、郡獣医師を含むフィールドスタッフは高品質のサービスを末端農家まで提供できるようになった。農家は、検査結果を的確に知ることにより、家畜疾病等に対する適切な対応を取ることができるようになった。さらに、郡スタッフは新たな検査機器導入によって疾病監視システムを充実させることが可能となり、郡域内の家畜疾病について十分把握できることとなった。

このように、研修を受けた獣医畜産普及技術者の家畜衛生・生産技術の普及指導能力が改善されたことは、プロジェクト目標の達成に貢献した。

・UNZAとMACOの連携によって、最新の情報や検査材料採材技術を修得した。フィールドスタッフは郡の直属上司やMACOとの意見交換だけでなく、UNZA講師に直接、技術的指導や知見を求めることができるような体制が作られた。このように獣医畜産関係者間の技術情報交換及び技術交流のモデルが確立したことは、プロジェクト目標の達成に貢献した。

(3) 効率性

効率性は高い。

・人材育成と、フィールドマニュアルの整備を通して現場レベルでの指導能力が効率的に強化された。フィールドスタッフのみならず、末端農家に至るまで活用される知識技術の普及というプロジェクトの成果は、限られた投入要素と投入規模に比較して極めて大きい。

・ザンビア人カウンターパートのオーナーシップは高い。これはUNZAとJICAの長期にわたる継続的な関係の効率的な活用によるところが大きい。既存のMCAOの組織と制度を活用したことが当プロジェクトの遂行を容易にした。また、現場レベルにおいて、プロジェクトはMACOの名前を前面に出して実施され、獣医畜産開発局（DVLD）の普及システムを通じた指示命令系統を保ち、既存の行政システム及びUNZAとの役割の重複がけられている。

・しかしながら、検査機器類の不適時な供与が見られ、それらを的確に活用できる者がいない段階から郡検査施設に提供されたことは、効率的とは言えなかった。

(4) インパクト

本プロジェクトを通じ、家畜疾病対策、畜産技術普及活動は、徐々に強化されつ

つあり、プロジェクト終了後に上位目標は達成される見込みであることから、インパクトは高い。

また、以下のとおり多くの正のインパクトがある。

・農家レベルでは、いくつかの農家が、畜舎の設計改善、飼料保存、予防接種を積極的に始めた。獣医師補らは研修と配布されたマニュアルを活用することにより、自らの知識技術に自信を持ち、日常的に適切な対応が取れるようになった。また、フィールドスタッフは業務に対する意欲を持ち、自らミーティングを開催するようになった。これは以前には見られなかった傾向である。

・仕事に対する関係者の取り組みの改善がみられたことから、彼らへのサービス需要の向上をもたらしている。つまり、NGO やその他の開発機関が農家向けの活動に彼らを積極的に活用している。このことは当プロジェクト実施によって新たに発生した状況である。

・Agriculture Support Project (ASP／SIDA)、World Vision International (WVI)、Support Agriculture Diversification and Food Security（SADFS／EU）といった他の援助機関の農家向け研修で、家畜衛生及び生産を多面的に指導するために、当プロジェクトで訓練されたスタッフを活用している。農家はこれら援助機関の支援に感謝しているが、研修を実施するインストラクターは当プロジェクトで能力強化が行われ、研修に使用される教材資料は当プロジェクトで開発されている。

（5）自立発展性

自立発展性はある程度高い。

【技術的側面】

・当プロジェクトで開発された研修プログラム及び資料は利用者からの評判が高い。これは彼らが継続的に利用し続ける可能性が高いこと示している。当プロジェクトで強化された人材は、国内での有効活用が見込まれている。

【組織的側面】

・MACO の既存制度を活用したために、当プロジェクトの活動の持続性を容易にしている。他援助機関から協力依頼が継続していることから、組織面の自立発展性の可能性が高い。

・本プロジェクトで構築された組織連携が、MACO と UNZA といった組織上重要な実施機関の連携であることから、自立発展性の可能性が高いと思われる。

【資金面】

・（プロジェクト期間中に研修費等の一部を負担したように）MACO が継続的にある程度の予算を提供し続ける意思があることも自立発展性の高さを示している。

2-2 評価結果の結論

・評価 5 項目に基づいてプロジェクトを評価した結果、プロジェクトの活動は順調に実施され、プロジェクトの C/P とプロジェクト活動の対象とした獣医サービス従事者のキャパシティは十分に強化されたと評価される。

・プロジェクト目標はプロジェクト期間内に達成されることが見込まれることから、当初予定されていたとおり 2009 年 1 月にプロジェクトを終了することが妥当である。

3. 特記事項（提言・教訓等を含む）

（1）提言

本プロジェクトが以下の提言を残りのプロジェクト期間内及びプロジェクト終了後も実施されることが望まれる。

A. プロジェクト期間内

1）本プロジェクトは UNZA と MACO の密接な協力関係を築いた。これが、プロジェクト実施期間中維持され、且つさらに強固にすべきである。

2）本プロジェクトで実施した、プロジェクトの直接的目標外の牛ブルセラ病及び結核病のパイロットサーベイランスをプロジェクト実施機関（PIU）は継続的に実施し、対象地域内の感染率把握に努めるべきである。

3）導入した無線設備の利用方法を明確化し、無線の拠点間の連絡を定期的に行えるようになること。

B. プロジェクト終了後

1）MACO への要望

- MACO は、農家における家畜生産能力向上と貧困削減を目的に、獣医師、獣医師補、技術者及び農家向けの研修プログラムを強化すべき。国家予算が不十分で、予算の振り分けが困難な場合、MACO は、本研修プログラム実施のための予算源を外部にも探し、確保することも検討すべき。
- MACO は、UNZA との間に築かれた関係を踏まえ、獣医師補や検査技師等獣医サービス提供者への研修計画(知識技術力強化及び資格獲得を目的とした)を検討すべき。これは獣医･畜産分野の研修機能強化に資すると思われる。

2）UNZA への要望

- UNZA は、従来の獣医学教育年間スケジュールに支障を来さないようなプログラムで、獣医師補及び検査技師への資格獲得研修の実施を検討するとともに、MACO との協議の上、現行の技術研修及び情報提供といった協調体制を継続すべき。
- UNZA は当プロジェクトで構築された人的ネットワークを活用することにより、野外活動拠点の充実及び資料の分析検査体制を強化すべき。

3）JICA への要望

- UNZA 獣医学部は、1983 年に遡る JICA の 25 年に及ぶ継続的な支援によって、南部アフリカ有数の獣医科大学へと成長した。しかしながら教育・研究設備の老

朽化は否めず、また教育プログラムの見直しも検討すべき時期となっている。UNZA 獣医学部の教育及び研究能力を強化すべく継続的に JICA が支援することによって、将来的には、JICA 又は日本国内の試験研究機関(大学等を含む)が実施する獣医･畜産分野のプロジェクトで UNZA 獣医学部の有効活用が期待できる。

（2）教訓

A.当プロジェクトの円滑な遂行に貢献した要素

1）ザンビア側

- UNZA が 25 年に及ぶ日本政府と北海道大学の継続した支援の結果、本プロジェクトの実施に十分なキャパシティが備わっていた。
- MACO に勤務している獣医関係高官の半数以上が UNZA の卒業生であったため、UNZA と MACO の共同活動体制づくりが容易であった。
- UNZA 講師と MACO 高官で構成された PIU の役割が明確に定義づけされていた。PIU は既存の制度や人材を非常に有効活用した。特に、当プロジェクトは既存の獣医技術提供制度を活用し、対象州･郡の獣医官、獣医師補といった職員の能力強化を図った。この現行制度の活用はプロジェクト遂行を効果的かつ効率的にした。
- ザンビア側は、プロジェクト開始直後の数ヶ月にわたる長期専門家不在時期に JICA 事務所と良く連携し、プロジェクトを遂行した。

2）JICA 側

- JICA は MACO と UNZA 両機関と協力し、MACO の獣医サービス普及の限界と UNZA 獣医学部が有する研修及び試験研究能力をよく理解しつつ当プロジェクトを計画した。
- 当プロジェクトは達成目標に対する適切な分析を行った後、活動を開始したため、分析の結果に沿った実用的研修内容が構成された。
- JICA ザンビア事務所は、プロジェクト開始直後の長期専門家不在時期にザンビア側と良く連携し、プロジェクトを遂行した。

B. 負の教訓

- 検査機器類は、それらを的確に活用できる者が配置されている郡検査施設に提供されて初めて有効活用される。本プロジェクトでは、機材の不適時な供与が見られた。

C. 日本の今後の援助に役立つ教訓

1）日本の投入は、長期且つ継続的な協力との相乗効果により、UNZA 獣医学部に、研究及び高等教育機関としての組織能力を植えつけた。日本の援助は今日、即効的な結果を短期間で出すことが求められている。

しかし、教育関係のプロジェクトであれば特に、UNZA のような長期的な協力もプロジェクトの成功のためには必要な場合がある。

2）前述したように、UNZA 獣医学部は南部アフリカで有数の獣医学部に成長し、近隣諸国より多くの留学生を受け入れるようになっている。日本はこの 25 年に及ぶ援助の成果を以下のことに活用すべきである：

ア．UNZA と協力してザンビアの農業を支援する計画の作成

イ．（当該分野における）効率的かつ効果的な国際協力の実施

Summary of Terminal Evaluation Result

<table>
<tr><td colspan="3">I. Outline of the Project</td></tr>
<tr><td colspan="2">Country：Republic of Zambia</td><td>Project title： Improvement of Animal Health and Production Delivery through Extension Services (AHPDE)</td></tr>
<tr><td colspan="2">Issue/Sector：Agriculture</td><td>Cooperation scheme：Technical Cooperation Project</td></tr>
<tr><td colspan="2">Division in charge：
JICA Zambia Office</td><td>Total cost：120Million yen
Cost per participant: N/A yen
Share of Japan’s Contribution:: N/A %</td></tr>
<tr><td rowspan="2">Period of Cooperation</td><td rowspan="2">January 2006 － January 2009</td><td>Partner Country’s Implementing Organization：University of Zambia and the Ministry of Agriculture and Cooperatives</td></tr>
<tr><td>Supporting Organization in Japan：Hokkaido University</td></tr>
<tr><td>Related Cooperation</td><td colspan="2">The Japanese Government has been assisting the Zambian Government in the livestock sector for over 25 years. Through the assistance of Japan, the School of Veterinary Medicine at the University of Zambia (UNZA) was constructed (1983 – 1984), grant aid of equipment was provided (1984) and capacity of the School was strengthened as following activities;
(1) University of Zambia: Veterinary Education Project (1985 – 1992)
(2) University of Zambia: Veterinary Education Project (Phase II) (1992 – 1997)
(3) JOCV dispatch to the University of Zambia (1986 – 1995)
(4) Third country training in Zambia: Diagnosis, Control and Prevention of Tropical Animal Disease (1999 – 2003)</td></tr>
</table>

1 Background of the Project

Based on the series of Japan’s cooperation, the School currently has the potential to contribute significantly to livestock development at both national and field levels. Therefore, collaboration between the School of Veterinary Medicine at UNZA and the Ministry of Agriculture and Cooperatives (MACO) could lead to the improvement of the livestock sector in Zambia.

In order to consolidate on the gains made during the long standing cooperation between the two countries, the Zambian Government requested the Japanese Government for support of the Project for Improvement of Animal Health and Production Delivery through Extension Services (AHPDE) under the technical cooperation scheme. AHPDE was to build upon the firm foundation laid by the 25 years cooperation which resulted in the establishment of the following:

- A veterinary education system for under graduate studies at UNZA School of Veterinary Medicine
- A post graduate education programme at the School
- A highly specialized local teaching staff which has taken over from expatriates
- Research activities at the School which are ongoing
- Veterinary extension services to the livestock farming community
- Strengthening the staffing levels of veterinary personnel in MACO
- Third country training of nationals in the Sub-region targeting Southern Africa Development Community (SADC) countries

In January 2006, the Department of Veterinary and Livestock Development (DVLD) in the Ministry of Agriculture and Cooperatives (MACO) and the School of Veterinary Medicine at the University of Zambia (SVM-UNZA) jointly commenced the implementation of the Project for Improvement of Animal Health and Production Delivery through Extension Services (AHPDE) over a three year period. AHPDE is a technical cooperation project which is supported by the Japan International Cooperation Agency (JICA) and has been operating in seven (7) districts of Southern Province and one (1) district of Western Province of Zambia. These districts include Monze, Sinazongwe, Choma, Namwala, Itezhi-Tezhi, Kalomo, Kazungula and Sesheke.

The Project has targeted providers of veterinary services, who include veterinarians, veterinary assistants, livestock officers and laboratory technicians who are at different levels. The veterinary providers have been receiving training in various aspects of animal health and production in order to strengthen their service delivery capacities. In addition, the veterinary service providers have been equipped with appropriate tools in order to improve both the effectiveness and efficiency of the animal health and production delivery system in their areas of operation.

2 Project Overview

The Project is scheduled to wind-up its activities in January 2009.

AHPDE provided training to field veterinary service providers in various livestock disease diagnostic techniques and production technologies. The technical knowledge acquired during the training sessions was shared among professionals and transferred to the end users, the farmers.

（1） Overall Goal

To strengthened animal disease control and livestock extension services

（2） Project Purpose

Support systems in the areas of animal health and production techniques are strengthened.

（3） Outputs

1） Veterinary service providers who undergo training improve their knowledge of animal health and production techniques.

2）Model of technical exchange among stakeholders is formulated.

（4） Inputs

Japanese side：

Long-term Experts	2	Equipments	25,970,000 Yen
Short-term Experts	3	Local cost	46,210,000 Yen
Trainees received	5 (7.5 man/month)	Others	7,974,000 Yen

Zambia‘s Side：

Counterparts	26	
Equipments	N/A	Local currency (LC) (N/A Yen)
Land and Facilities	Project Office in UNZA; Field Office in Southern Provinces	
	LC (N/A Yen)	
Local Cost	Allowances for training (93VAs) for 2007 and 120VAs for 2008	
	LC (11,738,305 Yen)	
Others	Allowances for training on lab. Technician for 8 districts	
	and 11 technicians in other district	

II. Evaluation Team

Members of Evaluation Team

The Japanese evaluation team members were as follows:

	Name	Mission	Job title
1	Mr. Minoru Miyasaka	Team Leader	Deputy Resident Representative, JICA Zambia Office
2	Dr. Takashi Umemura	Animal Health	Dean, Graduate School of Veterinary Medicine, Hokkaido University, Japan
3	Ms. Mahomi Masuoka	Evaluation Planning 1	Assistant Resident Representative, JICA Zambia Office
4	Mr. Patrick Chibbamulilo	Evaluation Planning 2	Senior Programme Officer, JICA Zambia Office

The Zambian evaluation team members were as follows:

	Name	Job title
1	Dr. Peter G. Sinyangwe	Director, Department of Veterinary and Livestock Development (DVLD), MACO and Project Director
2	Dr. Aaron S. Mweene	Dean, School of Veterinary Medicine, UNZA and Project Manager
3	Dr. Renford S. Gombwa	Local consultant

Other Japanese members who participated in the joint evaluation were as follows:

	Name	Job title
1	Mr. Shiro Nabeya	Resident Representative, JICA Zambia Office
2	Dr. Yusuke Tada	JICA Senior Advisor (Animal Health and Livestock Development)
3	Dr. Madoka Kurata	JICA Project Coordinator/ Animal Health

The Zambian members who participated in the joint evaluation under MACO were as follows:

	Name	Job title
1	Dr. Benson Mwenya	Chief livestock Products Officer, DVLD, MACO and member of the PIU
2	Mr. Joseph Samunete	Chief Livestock Officer, DVLD, MACO
3	Dr. Gregory Mululuma	Senior Veterinary Officer, DVLD, MACO and member of the PIU
4	Dr. Linous Munsimbwe	Provincial Veterinary Officer, DVLD, Southern Province

The Zambian members who participated in the joint evaluation under UNZA were as follows:

	Name	Job title
1	Dr. A.M. Mwanza	Acting Dean, School of Veterinary Medicine, UNZA and Acting Project Manager
2	Dr. Michelo Syakalima	Senior Lecturer, School of Veterinary Medicine, UNZA and Zambian Project Coordinator
3	Dr. Victor Zulu	Lecturer, School of Veterinary Medicine, UNZA and member of the Project Implementation Unit (PIU)
4	Dr. Kaampwe Muzandu	Lecturer, School of Veterinary Medicine, UNZA and member of the PIU

Period of Evaluation	11th ～20th June 2008	Type of Evaluation：Terminal Evaluation

III. Results of Evaluation

1 Summary of Evaluation Results

（1）Relevance

The relevance was quite high because the Fifth National Development Plan (FNDP) of Zambia

considers in-service training, capacity building and improvement of technology in the agriculture sector as high priorities. Further, the National Agricultural Policy (NAP) places importance on animal health, livestock production, livestock research and extension services. Hence AHPDE's objectives were very relevant to Zambia's livestock industry.

(2) Effectiveness

The effectiveness was high.

Operational laboratories in the Project area witnessed an increase in sample submissions and an improvement in quality of samples that were submitted. Field staff are able to get lab results on time either via radio communication or on the same day they submit the samples. Farmers are informed of sample results in time to make intelligent decisions and take appropriate measures. This was not the case previously.

(3) Efficiency

Efficiency was high.

The inputs of the Project are generally good and effectively utilized. The experts dispatched executed their duties as expected and the technical information transfer to the field operatives has been effectively implemented. Implementing the Project activities through already existing MACO instruction and reporting structures also made it easier to reach the target beneficiaries.

(4) Impact

There are indications that the Project had a good impact. Farmers, in some areas adopted animal husbandry practices such as improved housing structure for livestock, fodder preservation and adherence to vaccination schedules among other things. The veterinary service providers demonstrated increased levels of confidence and competency in their routine duties. Veterinary service providers are now motivated and have started organizing extension meetings on their own, a situation which was not the case previously.

(5) Sustainability

Sustainability of the Project activities is relatively high.

Technically, developed training modules and manuals have been appreciated by the users, an indication that they will continue using them. The strengthened human resource is now readily available and sustained in MACO. Institutionally, use of existing reporting and instruction structures of MACO makes it easier to sustain the project activities. The complementarities with other development agents contribute to sustainability. The collaboration between the key implementing organizations (MACO and UNZA) suggests high sustainability of the project activities.

Financially, there are good indications that MACO will continue to provide some budget towards project activities; they did so for some training activities.

2 Factors promoting sustainability and impact

（1） Factors concerning Planning

During Project planning, JICA collaborated with both MACO and UNZA. As a result, the project was designed based on deep understanding of constraints in veterinary service delivery by MACO and the existing potential of training and research at UNZA, School of Veterinary Medicine.

The project was conceived after carrying out a pre-project assessment on the intended target and thus formulated the content of the training course accordingly.

As a result of a well designed project, training modules were tailored to suit field conditions. This significantly contributed to addressing out put 1).

（2） Factors concerning Implementation Process

Enough capacity had been built at UNZA to implement the project as a result of the 25 years support from Japanese Government and Japanese veterinary schools such as Hokkaido University. In addition, more than half of graduates from UNZA are working as veterinary officials in MACO thus making collaboration easier to carry out joint activities between UNZA and MACO.

The functions of the Project Implementation Unit (PIU) which consisted of UNZA lecturers and MACO officials were clearly defined. The PIU utilized the existing structure and the local human resource very effectively. In particular, the project used the existing MACO reporting and instruction structure by strengthening the capability of MACO officials. The use of the existing structure made it possible to implement the Project very effectively and efficiently. Hence out put 2) was by and large achieved because the implementation process brought together UNZA and MACO staff. The Project acted as a means of exchanging information and blending of strengths and creating synergies of the two livestock institutions. Further collaborative arrangements have been forged outside the Project and the two institutions are together on the drawing board mapping out the national disease control strategy.

3 Factors inhibiting sustainability and impact

（1） Factors concerning Planning

N/A

（2） Factors concerning the Implementation Process

In some cases, diagnostic equipment was supplied to stations that were not adequately manned. This tended to jeopardize out put 2) because exchange of technical information among stakeholders slowed down in that aspect.

4 Conclusion

The long standing cooperation between Japan and Zambia has had significant contribution to the success of AHPDE. The Cooperation laid a solid foundation upon which AHPDE built.

AHPDE was very relevant to Zambia's livestock sub-sector as it addressed priorities in the FNDP and NAP. Some of the priorities included in-service training, capacity building and promotion of better technologies in the agricultural sector. In addition, animal health, livestock production and strengthening extension services are some of the areas highlighted in Zambia's agriculture policy. AHPDE's activities were well tailored to contribute to answering these national priorities.

The Project's effectiveness was high as operational laboratories in the Project area witnessed an increase in sample submissions as well as an improvement in quality of samples. Feed back from veterinary service providers to farmers was enhanced as the information passed to farmers was timely. This was not the case previously.

The experts dispatched under AHPDE by JICA executed their duties with diligence. Technical information transfer to field operatives was smoothly implemented. As a result the efficiency of AHPDE was high.

Most farmers in the Project area adopted new technologies that they were taught such as improved housing structures for livestock, fodder preservation and adherence to vaccination schedules an indication that the Project had a good impact.

The use of existing MACO reporting and communication structures assures sustainability as there will be no changes in the post AHPDE period. Further the training modules and field manuals were appreciated by the veterinary service providers, an indication that they will continue using them. The collaboration between MACO and UNZA suggests high sustainability of the technical exchange of information developed by AHPDE. MACO has already shown that it could direct part of its budget towards AHPDE activities as already demonstrated by when it supported part of the training participants.

It is only hoped that the Government of Zambia through its line Ministry of Agriculture and Cooperatives will further build upon the firm foundation that has been laid at the School of Veterinary Medicine. The MACO staff that were trained under AHPDE are just a small fraction of the entire extension staff of MACO. It is strongly recommended that the system established under AHPDE should be extended to the entire country beginning with the provinces with high livestock

densities. Ways to ensure that the field staff reach the farmers should also be explored and implemented.

5 Recommendations

It is recommended that if there could be a follow up phase of AHPDE, consolidation on the gains made so far should be maintained. The following measures are recommended:

1) Extending support to farmer level.

AHPDE has undoubtedly scored well at all levels of implementation save at farmer level. There has been a knowledge build up at province, district and camp levels. There is need to offload this knowledge where it is needed the most, at farmer level. Facilitation of VAs to ensure that they train farmers as expected is of prime importance. In most cases where a VA has had an opportunity to transfer his knowledge, they have been facilitated by some kind of development agent. What of those Project areas where there aren't any other cooperating partners? It is therefore, important to extend the activities of AHPDE to farmer by facilitating VAs to reach the farmer.

2) Radio communication to be spread further and wider than is the case now.

A maximum of three camps have had radio communication equipment installed. This is a drop in an ocean for extensive districts such as Kalomo. With more than twelve (12) camps and only tree camps on radio is certainly insufficient. Efforts have to be made to ensure that at least 80% of camps within a district have radio communication, if MACO is to successfully combat livestock diseases and increase the productivity of the livestock sub-sector. Cabinet Office has already demonstrated in Itezhi-tezhi, where all the camps are now on radio. Ways in which near 100% levels of camps being on radio will greatly advantage the fight against livestock diseases.

3) Adequate staffing, especially at camp level, is necessary in order to fully utilize laboratory equipment

This will optimize use of Project equipment at field level. Some laboratory equipment were under utilized due to staff shortage. In some cases radios were unmanned due to fact that no officer was assigned. Deliberate efforts to station personnel at all levels of implementation will greatly increase efficiency in equipment utilization.

4) HIV/AIDS is of national concern. Consider introducing aspects of HIV/AIDS in the training modules especially at farmer level.

Since HIV/AIDS is a cross cutting matter, it will be important to high profile anti-AIDS activities in AHPDE activities. This could be over and above the sensitization that has been accorded to the scourge in the Project so far.

5) At farmer level, efforts should be made to pay attention to gender balance.

Small ruminant and poultry production are traditionally carried out by women. Training men in these

production techniques where on the ground women are the ones heavily involved might be investing in the wrong gender. It has been observed that traditionally, women tend to be responsible over small stock such goats and chickens. They should therefore be part of the target for training in goat, poultry and pig production.

6 Lessons Learned

During the implementation of the Project, some lessons were picked up. These lessons include:

1) The aligning of AHPDE activities into MACO routine operations resulted into the Project being well received at the field level.

The Project utilized the existing MACO reporting and communication structure. The PVOs and DVOs were seen to champion and lead the Project activities and thus the field staff could not distinguish between Project activities and normal routine MACO programmes. Parallel operational structures were not created during the implementation of AHPDE. This was a very strong feature of the Project and contributed to very high ownership of AHPDE by MACO staff.

2) Ownership is developed if stakeholders are involved from project inception

The initiative to conduct a needs assessment at the beginning of the Project led to the Project being owned by both the veterinary service providers and farmers. This fact is complimentary to the use of existing MACO reporting structure.

3) Project training was well appreciated at farmer level probably because the messenger was a 'native' or familiar face.

The Project's strategy to train local staff who in turn go and train the farmers was a well thought strategy. Farmers get accustomed to people they live with. Farmers would like assurance when they adopt new techniques. They would want to constantly consult as they progress with new things. But also they would want to hold responsible the individual/organization that has led them into a mess.

4) The strong foundation laid by a long standing cooperation between JICA and UNZA made it easier to invite MACO to jointly implement a Project based on the gains made from the previous cooperation.

As a result of the long cooperation between JICA and UNZA, a strong human resource base had been built at UNZA. Both the academic and technical staff at UNZA had over time been building capacity and experience. In addition the equipment at UNZA provided suitable facilities for diagnostic training. Execution of AHPDE was made easier because it was built on the strong human resource base from UNZA and most of it working in MACO.

5） A bottom- to-top approach worked out very well.

A pre-assessment conducted by consulting key stakeholders on what gaps and challenges where in the livestock sector led to a well designed Project implementation.

付　属　資　料

プロジェクト終了時評価調査報告書（英文）

付属資料

Project for

Improvement of Animal Health and Production Delivery through Extension Services

(AHPDE)

FINAL EVALUATION REPORT

Evaluation carried out by:
The Joint Evaluation Team

Local Consultant:
Dr. Renford S Gombwa

July, 2008

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Acronyms and abbreviations

AHPDE	:	Animal Health and Production Delivery through Extension Services
ASP	:	Agriculture Support Programme
CP	:	Counter Part
DVLD	:	Department of Veterinary and Livestock Development
DVO	:	District Veterinary Officer
FAO	:	Food and Agriculture Organization
FDG	:	Focus Group Discussion
FNDP	:	Fifth National Development Plan
FT	:	Field Training
IFAD	:	International Fund for Agricultural Development
JCC	:	Joint Coordination Committee
JICA	:	Japan International Cooperation Agency
JOCV	:	Japan Overseas Cooperation Volunteers
LA	:	Laboratory Assistant
LC	:	Local Consultant
LO	:	Livestock Officer
MACO	:	Ministry of Agriculture and Cooperatives
NALEIC	:	National Livestock Epidemiology and Information Centre
NAP	:	National Agriculture Policy
ODA	:	Overseas Development Administration
PDM	:	Project Design Matrix
PIU	:	Project Implementation Unit
PVO	:	Provincial Veterinary Officer
RNE	:	Royal Netherlands Embassy
RNE	:	Royal Norwegian Embassy
SADC	:	Southern Africa Development Community
SADFS	:	Support to Agriculture Diversification and Food Security
SC	:	Steering Committee
SIDA	:	Swedish International Development Agency
SVM	:	School of Veterinary Medicine
TCTP	:	Third Country Training Programme
ToT	:	Training of Trainers
UNZA	:	University of Zambia
VA	:	Veterinary Assistant
VVOB	:	Flemish Association for Educational Programmes Abroad
ZAWA	:	Zambia Wildlife Authority
WVI	:	World Vision International

DISCLAIMER

This report does not reflect the views of the financiers, Japan International Cooperation Agency (JICA) or the Ministry of Agriculture and Cooperatives (MACO) or School of Veterinary Medicine at the University of Zambia (UNZA), but is an evaluation of the Improvement of Animal Health and Production through Extension Services (AHPDE) based on data collected from secondary sources and interviews of stakeholders.

ACKNOWLEDGEMENTS

The Consultant would like to express his appreciation for the support and cooperation received throughout the preparation and execution of the evaluation. Particularly, I would like to thank the Deputy Resident Representative Mr. Minoru Miyasaka, the Assistant Resident Representative, Ms Mahomi Masuoka and the Senior Programmes Officer Mr. Patrick Chibbamulilo all of JICA Zambia Office. I would also like to mention the invaluable support received from the Project Coordinator, Dr Madoka Kurata, all PIU members and all MACO field staff from Monze, Choma, Kalomo, Kazungula, Sinazongwe and Sesheke districts for sparing their time to give interviews. Gratitude is extended to all the persons that had an input in the evaluation, either by providing information or perspectives that helped to shape the outputs of this study.

EXECUTIVE SUMMARY

I. Background

In January 2006, the Department of Veterinary and Livestock Development (DVLD) in the Ministry of Agriculture and Cooperatives (MACO) and the School of Veterinary Medicine at the University of Zambia (SVM-UNZA) jointly commenced the implementation of the Project for Improvement of Animal Health and Production Delivery through Extension Services (AHPDE) over a three year period. AHPDE is a technical cooperation project which is supported by the Japan International Cooperation Agency (JICA) and has been in operation for the past 2 ½ years in seven (7) districts of Southern Province and one (1) district of Western Province. These districts include Monze, Sinazongwe, Choma, Namwala, Itezhi-Tezhi, Kalomo, Kazungula and Sesheke.

The Project has targeted providers of veterinary services, who include veterinarians, veterinary assistants, livestock officers and laboratory technicians who are at different levels. The veterinary providers have been receiving training in various aspects of animal health and production in order to strengthen their service delivery capacities. In addition, the veterinary providers have been equipped with appropriate tools in order to improve both the effectiveness and efficiency of the animal health and production delivery system in their areas of operation.

The Project has been under implementation for the past two and half (2 ½) years and now is scheduled to wind-up its activities in January 2009.

II. Evaluation methods

In January 2009, AHPDE is scheduled to come to a close. Hence an Evaluation Team compromising representatives of implementing partners and sponsor, namely, DVLD, SVM-UNZA and JICA conducted a final evaluation of the Project whose objects were to:-

- Assess the extent to which AHPDE's objectives have been met in terms of inputs, outputs and purpose;
- Review the capacity built in the development of veterinary service provision as a result of the cooperation between the Japanese and Zambian governments;
- Assess the relevance, efficiency, effectiveness, impact and sustainability of the AHPDE project;
- Provide recommendations to the authorities of the Governments of Japan and Zambia on future projects and to similar ongoing projects based on lessons learnt during the implementation of AHPDE.

The evaluation mostly used qualitative methods, while quantitative data was collected from secondary sources. Qualitative data allowed for the investigation of implementation processes, and thus was used to understand the perceptions of key players and primary beneficiaries of the Project. Secondary sources of information were consulted for quantitative data.

Primary data was collected mainly through In-depth Interviews and Focus Group Discussions (FGDs). These In-depth Interviews and Focus Group Discussions were conducted at five levels, i.e. National, Provincial, District, Camp and Beneficiary levels. Officers from MACO at DVLD headquarters and field staff as well as PIU members and organisations dealing in livestock development were interviewed using both the In-depth Interviews and Focus Group Discussions. More importantly the beneficiaries who constitute farmers had a stake in the evaluation process.

III. Results of AHPDE Activities and Outputs

The activities of AHPDE were mainly training of field operatives in animal health and production techniques as well as collaborative planning meetings with relevant stakeholders. At the inception of the Project a needs assessment was carried out. The assessment identified gaps in the service delivery of veterinary services especially field level practical trainings. As a result eight (8) field modules were developed in disease diagnostics, disease control, livestock production, public health, nutrition, animal production, livestock business and extension. Field operatives felt they needed to consolidate their technical knowledge in these fields.

Three (3) Training of Trainers (ToTs) were conducted and this was followed by twenty-one (21) field trainings that were carried out in all the targeted areas. A total of about three hundred seventy-five (375) veterinary service providers were trained and equipped with necessary diagnostic tools (such as microscopes and autoclaves) and communication equipment to enhance their field operations.

As part of the Project activities eight (8) stakeholders' meetings involving officials at national, provincial, district and camp levels were held to plan and implement Project activities.

AHPDE had two outputs, namely:

i. Veterinary service providers who undergo training improve their knowledge of animal health and production techniques

Most of the participants interviewed expressed satisfaction with the quality, contents and delivery of the training modules. These modules have become reference materials for field operations. Service providers have become more confident in dealing with animal health and production issues after under going training. Those that operate in areas where there are activities of ASP, WVI, SADFS or CARE have already started passing on their knowledge to farmers through farmer training using Project training modules.

ii. Model of technical exchange among stakeholders is formulated

The Project has created a forum on which the School of Veterinary Medicine at UNZA and the Department of Veterinary and Livestock Development, MACO at both headquarters and field levels exchanged technical information. This collaborative arrangement between these two livestock institutions has been extended to other fora outside the Project such as the involvement of School of Veterinary Medicine at UNZA in formulation of a national livestock disease control strategy. Not only has information sharing been enhanced but also jointly planned field training programmes are in the

offing. It is now a common feature for the DVLD directorate as well as the Dean's office to consult each other by phone. Base radios that were installed in some camps in the Project area have enhanced exchange of technical information among field staff.

IV. Evaluation of five criteria

The Project was evaluated using the five criteria, namely, its relevance, effectiveness, efficiency, impact and sustainability.

i. Relevance

The relevance is quite high in that the FNDP considers in-service training, capacity building and improvement of technology in the agriculture sector as high priorities. Further, the Project's curricular was designed after a need assessment was carried in the Project area. Hence the Project's training was suited to address the gaps identified by the needs assessment. The Project's purpose as well of improving and strengthening the delivery of animal health and production techniques through extension services is well supported in both the FNDP and NAP. The Project is also in conformity with Japan's overseas development assistance policy in Zambia.

ii. Effectiveness

The effectiveness is high. The delivery of animal health and production techniques has been strengthened during the implementation of AHPDE. This is well demonstrated especially after the installation of radio communication equipment, delivery of diagnostic equipment and training in different fields of animal health and production. Operational laboratories in the Project area witnessed an increase in sample submissions and an improvement in quality of samples that were submitted, all translating into a better service.

iii. Efficiency

Efficiency was high. The inputs of the Project are generally good and effectively utilized. The Project inputs were executed as planned and on time and the technical information transfer to the field operatives has been effectively delivered.

iv. Impact

There are indications that the Project had a good impact. Farmers, in some areas adopted animal husbandry practices such as improved housing structure for livestock, fodder preservation and adherence to vaccination schedules among other things. The VAs and other veterinary service providers demonstrated increased levels of confidence and competency in their routine duties. The staff are motivated and are organizing extension meetings on their own, a situation which was not the case previously.

v. Sustainability

Sustainability of the Project activities is relatively high. Technically, developed training modules and manuals have been appreciated by the users, an indication that they will continue using them.

The Project used already existing command structures of MACO to deliver Project activities. Thus there was no parallel structures created and field manuals were highly adapted to suit existing field conditions. There are some indications that MACO is beginning to provide some budget for training.

V. Results of Past Cooperation Outputs

JICA Cooperation in the Agricultural sector and specifically in the livestock sub-sector has mainly been in the veterinary field. The culmination of this resulted into the establishment of the School of Veterinary Medicine at the University of Zambia. Because of the past cooperation between JICA and UNZA for the past 25 years, it was easier to implement further projects. The past cooperation has laid a firm foundation upon which projects such as the Third Country Training and currently AHPDE have been built and have scored great successes. Apart from the construction of the School, other major results of the Cooperation are the establishment of:-

- A veterinary education system for under graduate studies at UNZA
- A post graduate education programme
- A highly specialized local teaching staff which has taken over from expatriates
- Research activities at the School of Veterinary Medicine at UNZA which are ongoing
- Third country training of nationals in the Sub-region targeting SADC countries
- Veterinary extension services to the livestock farming community
- Capacity building of veterinary service providers in selected districts of Southern and Western provinces
- Strengthening the staffing levels of veterinary personnel in MACO

VI. Conclusion and recommendations

The long standing cooperation between Japan and Zambia has had significant contribution to the success of AHPDE. The Cooperation laid a solid foundation upon which AHPDE built.

The Cooperation constructed and established both an under graduate and post graduate veterinary education system at UNZA. The School now produces an average of 15 veterinarians each academic year. Most of these graduates have been employed by the Government of Zambia and have contributed to the development of the livestock sector in the Country.

Human resource development was also well supported by the Cooperation resulting in almost all the academic staff members being Zambians. This capacity building also took into consideration the development of the technical staff. This well trained human resource base was instrumental in the successful implementation of the Third Country Training Programme (TCTP). The TCTP provided an opportunity of exposing both the academic and technical staff in handling an international training programme.

The well trained and experienced teaching staff at UNZA School of Veterinary Medicine and well equipped laboratories provided a conducive environment for the implementation AHPDE. AHPDE has added another notch to the UNZA teaching staff by linking theoretical training to field conditions.

The interaction that AHPDE has provided between MACO and UNZA is expected to grow into other collaborative arrangements.

It is only hoped that the Government of Zambia through its line Ministry of Agriculture and Cooperatives will further build upon the firm foundation that has been laid at the School of Veterinary Medicine. The MACO staff that were trained under AHPDE are just a small fraction of the entire extension staff of MACO. It is strongly recommended that the system established under AHPDE should be extended to the entire country beginning with the provinces with high livestock densities. Ways to ensure that the field staff reach the farmers should also be explored and implemented.

PART I: IMPROVEMENT OF ANIMAL HEALTH AND PRODUCTION THROUGH DELIVERY OF EXTENSION SERVICES

1.0 INTRODUCTION

1.1. Summary of the Joint Evaluation Team

The Team was composed of Japanese and Zambian members. The Team Leader was Mr. Minoru MIYASAKA, who is also Deputy Resident Representative at the JICA Zambia Office. Altogether there were seven (7) members from the Japanese side while there were ten (10) members from the Zambian side. These members were drawn from different agricultural specialties.

Among the notable members was the Dean of the Graduate School of Veterinary Medicine at Hokkaido University, Dr. Takashi Umemura who contributed a lot on the technical aspect of the Japan – Zambia Cooperation. He also provided valuable information on the `bilateral relationship' between the University of Zambia (UNZA) School of Veterinary Medicine and Hokkaido University. Dr. Yusuke Tada provided the historical background of the JICA – UNZA Technical Cooperation leading to the inception of AHPDE. He was one of the experts dispatched from Japan during the early years of cooperation, to establish the veterinary education system in Zambia. He was very instrumental in shading more light on the events and underlying reasons that led to particular developments of the veterinary education system at the School of Veterinary Medicine.

On the Zambian team, Dr. Peter Sinyangwe who is both Director of the Department of Veterinary and Livestock Development (DVLD) and Project Director provided guidance on the operational framework of the Improvement of Animal Health and Production through Delivery of Extension Services (AHPDE) Project in relation to the development of veterinary service delivery in Zambia. He provided a wealth of experience stemming from his work as one of the directors in the Ministry of Agriculture and Cooperatives (MACO) who has served for over fifteen (15) years.

Their detailed names and occupations are listed in the tables below.

Table 1: Japanese evaluation team members

	Name	Mission	Job title
1	Mr. Minoru Miyasaka	Team Leader	Deputy Resident Representative, JICA Zambia Office
2	Dr. Takashi Umemura	Animal Health	Dean, Graduate School of Veterinary Medicine, Hokkaido University
3	Ms. Mahomi Masuoka	Evaluation Planning 1	Assistant Resident Representative, JICA

	Name	Mission	Job title
			Zambia Office
4	Mr. Patrick Chibbamulilo	Evaluation Planning 2	Senior Programme Officer, JICA Zambia Office

Table 2: Zambian evaluation team members

	Name	Job title
1	Dr. P. G. Sinyangwe	Director, Department of Veterinary and Livestock Development (DVLD), MACO and Project Director
2	Dr. A. S. Mweene	Dean, School of Veterinary Medicine, UNZA and Project Manager

Dr. Renford Gombwa was also part of the Joint Evaluation Team as a local consultant, with his role being that of evaluation analysis.

Table 3: Other Japanese members who participated in the joint evaluation through advice and other forms of support

	Name	Job title
1	Mr. Shiro Nabeya	Resident Representative, JICA Zambia Office
2	Dr. Yusuke Tada	JICA Senior Advisor (Animal Health and Livestock Development)
3	Dr. Madoka Kurata	JICA Project Coordinator/ Animal Health

Table 4: Zambian members who participated in joint evaluation under MACO

	Name	Job title
1	Dr. Benson Mwenya	Chief livestock Products Officer, DVLD, MACO and member of the PIU
2	Mr. Joseph Samunete	Chief Livestock Officer, DVLD, MACO
3	Dr. Gregory Mululuma	Senior Veterinary Officer, DVLD, MACO and member of the PIU
4	Dr. Linous Munsimbwe	Provincial Veterinary Officer, DVLD, Southern Province

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Table 5: Zambian members who participated in joint evaluation under UNZA

	Name	Job title
1	Dr. A.M. Mwanza	Acting Dean, School of Veterinary Medicine, UNZA and Acting Project Manager
2	Dr. Michelo Syakalima	Senior Lecturer, School of Veterinary Medicine, UNZA and Zambian Project Coordinator

	Name	Job title
3	Dr. Victor Zulu	Lecturer, School of Veterinary Medicine, UNZA and member of the Project Implementation Unit (PIU)
4	Dr. Kaampwe Muzandu	Lecturer, School of Veterinary Medicine, UNZA and member of the PIU

The purpose of the Team was to confirm the achievements made during the three year's cooperation period, and to make the final evaluation for AHPDE.

1.2. Background of the Project

The Agriculture Sector in Zambia accounts for 18% to 20% of GDP. According to CSO data, the livestock sub-sector accounts for 35% of total agricultural production or about 6% of GDP. This does not, however, include indirect contributions of the sector such as provision for: animal draught power, organic fertilizers used in crop production; and, as a source of raw materials for processed livestock by-products (e.g. skins, hides, bones, hove, feathers and wool) that are currently recorded under manufacturing.

The livestock population comprises of approximately 2.8 million cattle, 80,000 Sheep, 1million goats, 0.48 million pigs. According to the Poultry Association of Zambia (2007), poultry production is estimated at 26 million broilers per year and about 1.7 million pullet layers for egg production in the emergent and small-scale sector. In addition, more than 60% of Zambia's population is engaged in agriculture production as small scale farmers. Small scale farmers in rural areas are classified as the poorest group in Fifth National Development Plan, and 80% of them are categorized as living under the poverty datum line. Most of these small scale farmers practice mixed farming including livestock production. However, the productivity of the livestock sector is very low due to frequent outbreaks of diseases coupled with inappropriate livestock husbandry management practices.

The livestock sector comprises the traditional and commercial entities, with the former having a larger population of animals. According to the Livestock Development Plan (2000), the traditional sector accounts for the following proportions of the total animal populations in the country: cattle – 97%, pigs – 90%, and sheep – 64%.

The 2004 Living Conditions Monitoring Survey (LCMS) report published by the CSO indicated that, an estimated 434,345 national agricultural households (i.e. representing about 32% of households in Zambia) raise livestock including cattle, goats, pigs, sheep, donkeys and poultry to support their livelihoods. The distribution of livestock owning households by province, shows that the highest number of households owning livestock are in Southern Province (49%), followed by Eastern Province

(43%), Lusaka Province (38%), Central Province (31%) and Western Province (30%).

However, the growth of the livestock sub-sector has been below expectation at around 2% per year. This is due to prevalence of animal diseases; inadequate livestock extension and health services; poor access to veterinary drugs; inadequate livestock nutrition; as well as poor husbandry management practices and inadequate marketing infrastructure. According to the National Livestock Epidemiology and Information Centre (NALEIC), this growth rate reduced to 0.5% between 2003 and 2004, largely caused by disease outbreaks and drought. For example, by 2005 the national cattle population dropped to 2.1 million from 2.5 million in 2003, representing a 25% decline in less than two years. The Government's capacity to address the situation is further compromised by shortage of field staff and weak extension services.

Because of the aforementioned, the Zambian Government requested Japanese Government for support for Improvement of Animal Health and Production Delivery through Extension Services (AHPDE) under the technical cooperation scheme. The outline of the Project is summarized as below:

The Project's overall goal is to strengthen disease control and livestock extension services;
The Project's purpose is to strengthen support systems in the areas of animal health and production techniques.
Outputs:

i. Veterinary service providers who undergo training improve their knowledge of animal health and production techniques.
ii. Model of technical exchange among stakeholders is formulated.

Activities: Various activities were undertaken. Details are in the Project Design Matrix (PDM) in appendix I.

1.3. Policies and strategies in the livestock sector

The livestock sub-sector is highlighted as a key component of the agriculture sector in both the National Agriculture Policy (NAP) and Fifth National Development Plan (FNDP). The agriculture policy on livestock development places great importance on animal health, production and livestock research.

The overall objective of the livestock policy is to improve the productive efficiency of the livestock sector in a sustainable manner and support the marketing of both livestock and livestock products so as to contribute to food security and income generation (NAP, 2004 pp 26).

The specific objectives in animal health include control of diseases of national economic importance.

While under animal production and extension, specific objectives include promotion of appropriate husbandry practices and provision of a harmonised efficient livestock extension system as a means of transferring proven technologies as well as empowering small scale farmers with better management skills.

Some of the strategies to attain the policy objectives include the following:-

- Production and distribution of livestock training and extension materials/manuals for both farmers and field staff
- Monitoring and regulating disease and vector control programmes in priority areas such as Southern, Western and Eastern provinces
- Training field staff in extension methodologies, which meet the farmers' needs
- Devising efficient and sustainable diagnostic techniques in investigations of diseases of national importance (NAP, 2004 pp 28).

1.4. Activities of other development agents in the livestock sector

Several Non – Governmental Organisations (NGOs)/development agents operate in the livestock sector. Major NGOs involved in the livestock sector are listed in the table 6 below.

Table 6: Summarised activities of development agents in the livestock sector

Name of development agent	**Major Cooperating partner (Donor)**	**Geographical coverage**	**Major activity in the livestock sector**
Heifer Project International (HPI)	Ireland	Southern, Lusaka, Central, Eastern and Copperbelt provinces	Dairy cattle, milk goats and other livestock pass-on gifts especially to women groups
Livestock Development Trust (LDT)	GRZ, RNE & RNE	Southern, Lusaka, Central, Western, Northern and North-western provinces	Livestock breeding and training in dairy and livestock management
Golden Valley Agriculture Research Trust (GART)	RNE, RNE, EU, SIDA	Southern and Central provinces	Promotion of cross breed dairy cattle, boar goat breeding and support to smallholder dairy producers
Agriculture Support Program (ASP)	SIDA	All provinces apart from Western	Commercialisation of dairy, pig and goat cooperatives

Name of development agent	Major Cooperating partner (Donor)	Geographical coverage	Major activity in the livestock sector
		North-western and Luapula	under SLIC
Support to Agriculture Diversification and Food Security (SADFS)	European Union	Western and North-western provinces	Promotion of better livestock husbandry practices to enhance food security
Land O' Lakes	USAID	Southern, Lusaka and Copperbelt provinces	Promotion of smallholder dairy production and increased milk consumption in primary schools
Smallholder Livestock Investment Project (SLIP)	IFAD	All provinces	Disease control, restocking and promotion of animal draft power
World Vision International (WVI)	Multilateral	All provinces	Restocking of beef, dairy and village chicken among orphaned families

Most of these development agents have been complementary to AHPDE activities. For example, ASP, SADFS and WVI have been instrumental in facilitating veterinary service providers teach farmers in various livestock production disciplines in Kazungula and Sesheke districts. This has greatly enhanced the impact of the Project. SLIP plans to provide transport for veterinary service providers in Southern Province. This will address one of the concerns of AHPDE. Lack of mobility at field level is threatening to undermine the transfer of knowledge to the farmer especially in areas where there are no other development agents in the livestock sector such as Sinazongwe District. In order to synergise efforts in livestock development, complimentarity of different development agents is required to maximise gains and increase efficiency.

2.0 EVALUATION PROCESS

2.1. Objectives of the evaluation

The objectives of the evaluation were to:-

i. Assess the extent to which AHPDE's objectives have been met in terms of inputs, outputs and purpose;
ii. Review the capacity built in the development of veterinary service provision as a result of the cooperation between the Japanese and Zambian governments;
iii. Assess the relevance, efficiency, effectiveness, impact and sustainability of the AHPDE project;
iv. Provide recommendations to the authorities of the Governments of Japan and Zambia on future projects and to similar ongoing projects based on lessons learnt during the implementation of AHPDE.

2.2. Methods of Evaluation

The Joint Evaluation Team conducted surveys in the project area and interviewed counterpart personnel, field staff, farmers and other stakeholders. In addition, the local consultant carried out the evaluation at five levels (at national, provincial, district, camp and beneficiary).

At field level veterinary officers, veterinary assistants, livestock officers and farmers were targeted. In each district that was visited interviews were held using the structured questionnaires and a checklist for either Focus Group Discussions (FGDs) or in-depth interviews as the situation dictated. The research instruments were design to address the five criteria of evaluation. Thus data collected was focused to address issues of relevance, effectiveness, efficiency, impact and sustainability of AHPDE.

Both Focus Group Discussions and in-depth interviews sought to get information on the nature and kind of latest knowledge which service providers appreciated. Respondents were asked to find out if the knowledge they acquired from Project training was relevant to their daily routine work and immediately applicable. FGDs provided a conducive environment through which diverse perspectives and expectations were highlighted from most participants.

The training manuals produced by the Project were also subjected to scrutiny to find out whether they met the service providers' expectations and whether they were user friendly. The autoclaves, microscopes and radios were checked to find out utility levels. Feed back mechanisms to either farmers or field staff from laboratory technicians was investigated to assess changes in efficiency as a result of presence of diagnostic tools in the project area. Laboratory and radio message records were of interest as well.

A few farmers were also interviewed to find out whether they were trained by veterinary service

providers. Those trained were further assessed to find out if they translated their knowledge into action.

In order to understand the organization arrangements of AHPDE and challenges faced during implementation, a series of interviews were held with PIU members. PIU members were asked what challenges were encountered in jointly implementing a Project by both MACO and UNZA. Issues of relevance, impact and sustainability were also raised.

Project documents were also reviewed to understand the objectives, activities and operations of AHPDE.

2.3. Criteria for Evaluation

The evaluation was anchored on five pillars, namely;

(1) Relevance: Relevance of the Project is reviewed by the validity of the Project Purpose and Overall Goal in connection with the government development policy and the needs in Zambia.

(2) Effectiveness: Effectiveness is assessed to what extent the Project has achieved its Project Purpose, clarifying the relationship between the Project Purpose and Outputs.

(3) Efficiency: Efficiency of the Project implementation is analyzed with emphasis on the relationship between Outputs and Inputs in terms of timing, quality and quantity.

(4) Impact: Impact of the Project is assessed in terms of positive/negative, and intended/unintended influence caused by the Project.

(5) Sustainability: Sustainability of the Project is assessed in terms of institutional, financial and technical aspects by examining the extent to which the achievements of the Project will be sustained after the Project is completed.

The above five criteria were assessed in the evaluation of the Project.

2.4. Limitation of the evaluation

By and large the evaluation process did not have major hiccups. To a limited extent, some individuals with a stake in the Project were not reached for interviews due to their busy schedules. However, those who were interviewed gave in-depth insight to the evaluation process.

3.0 ACHIEVEMENTS AND IMPLEMENTATION PROCESS

This section reviews the achievements of the Project based on the inputs, activities, outputs, and the purpose. The implementation work is also reviewed.

3.1. Inputs

The Project had inputs from both the Japanese and Zambian Governments. A number of personnel were committed to the Project.

3.1 (a) Japanese side

The Japanese dispatched two long-term experts and three short-term experts since the commencement of the Project. Funds were made available by JICA for operational costs estimated at 642,981,710.15 Zambian Kwacha, equivalent to 24,992,582.10 Japanese Yen. This cost includes the counterparts' training in Japan, the provision of equipment and local costs. Some of the capital items purchased using these funds included a twenty-six (26) seater Mini bus, a Pajero 4X4 station Wagon, eight (8) optical microscopes and nine (9) autoclaves. In addition JICA supported short trainings in Japan for five (5) project Zambian counter parts. These counter parts attended training in various fields of livestock health and production. A detailed list of inputs (equipment and names of trained staff) is attached in appendix 13.

3.2 (b) Zambian side

While the Zambian Government made available a total of twenty-six (26) Project counterpart personnel. These were all government salaried officials. The Zambian side also provided a project field office and facilities, utility costs and human resource other than the counterparts. A partial support of the training expenses, which totals to 168,025,000 Zambian Kwacha as of June 2008 was provided by the Government of Zambia. The training expenses also include the expenditure for participants from outside the project area. The detailed expenses are listed in Appendix 13.

3.2. Results of Activities

Activities are presented in chronological order as implemented in the Project.

3.2.1 Information gathering on livestock industry in Zambia and problems in animal health & production – Needs Assessment

Before commencing any interventions at field level, the Project conducted a needs assessment survey to understand the prevailing challenges obtaining in the livestock sector. Thus needs assessment workshops were held involving all local stakeholders in the selected Project areas. As a result of this survey, training of veterinary service providers was identified as one of the major challenges facing the livestock sector. Almost all the field staff interviewed indicated that they had not undergone any kind of refresher course to bring them up to speed with latest diagnostic techniques or better animal husbandry practices recommended for Zambian conditions. Some of the staff were near their

retirement age yet without any information on latest developments in the livestock sector.

The Project then proceeded with development of training manuals to specifically address the challenges that were identified. Disease diagnostics, disease control, livestock production, animal nutrition, animal production, livestock business, public health and extension were identified as areas of concern.

3.2.2 Development of a training curriculum

The needs assessment survey provided an opportunity for UNZA lecturers and researchers to interact with the realities obtaining at field level. As a result, the lecturers developed eight (8) training modules. These modules developed to address the challenges identified in disease diagnostics, disease control, livestock production, animal nutrition, animal production, livestock business, public health and extension. The quality of these modules is highly recommended by the field staff. The lay out was also appreciated because it made it easier for the modules to be used as field reference manuals. The quality of pictures in the manual was one feature that came out strongly from all the field staff. Because of the good quality of pictures in the manuals, field staff testified to the fact that it enhanced their diagnostic abilities at field level.

3.2.3 Provide training to veterinary service providers

After the development of training manuals, the Project started conducting training workshops. These workshops were conducted at two levels. The first level was targeted at Provincial and District Veterinary Officers. These were trained as Trainer of Trainers (ToTs). After receiving training as ToTs, they were expected to provide the same training to their field staff. They also act as reservoirs of this knowledge from which new government field appointees would draw. A total of three (3) ToTs were conducted with an average attendance of nine (9) participants. All eight (8) modules have so far been taught to the ToTs.

The second level of training was targeted at field operatives i.e. Veterinary Assistants, Livestock Officers and Laboratory Technicians. These trainings were conducted in the participants' areas of operation. The ToT participants were instrumental in the delivery of course materials at these sessions. This was deliberate so that the courses would be tailored to specific field conditions. After every module, field practicals were organized to aid participants appreciate the training and instill confidence in them. Five (5) field training modules have been conducted in all the targeted districts. In the first year courses in Disease diagnosis and Disease control were conducted. In the second year field staff were taught in Livestock reproduction, Animal nutrition and Animal production.

The Laboratory Technicians' course was held at UNZA to take advantage of the laboratory facilities at

the School of Veterinary Medicine. The availability of laboratory diagnostic equipment at the School just under scores the foundation laid by the JICA – UNZA past cooperation contributing to future success of projects in the area of veterinary development. Eight (8) lab personnel were trained from the Project target areas. However, DVLD took advantage of this training and sponsored eleven (11) staff from outside the Project area. This goes to show how MACO has appreciated the contribution of AHPDE to the livestock sector. Further it also points to the fact that AHPDE's activities are in line with MACO's policy objectives.

In addition, practical surveys on sampling in cattle brucellosis and tuberculosis were conducted in Monze, Namwala and Itezhi-tezhi districts. This was done as a way of research as well as to expose field project staff to research oriented field work.

3.2.4 Monitor veterinary service provider who have undergone training.

The radios that were installed by the Project enhanced communication between camps and the field office. In addition the radios are being used to monitor the activities of the veterinary service providers. The mere fact that the is established radio communication, the veterinary service provider is consciously aware that their activities are under spot light. Times have been set for radio calls. Early morning, mid day and just before 17 hours are designated times for radio calls. Provision for emergencies has been made any time round the clock.

In the first quarter of 2008, an evaluation and monitoring assessment was carried out to find out whether VAs are transmitting information to the intended targets, the farmers. This exercise also acted as a monitoring activity to the VAs.

The PIU members also conduct monitoring surveys three (3) times a year to assess both farmers and VAs in Project areas.

3.3. Results of Outputs

3.3.1: Veterinary service providers who undergo training improve their knowledge of animal health and production techniques.

After a pre-implementation needs assessment, eight (8) training modules were developed in Disease diagnosis, Disease control, Livestock reproduction, Animal nutrition, Animal production, Livestock business, Public health and Extension. Five (5) modules have so far been taught to both ToTs and field staff. The three (3) remaining modules will be taught before the end of this year. A total of about three hundred seventy-five (375) veterinary service providers received training in the modules taught so far.

Most of the service providers expressed a lot of confidence in what they were trainedn. The providers

acknowledged that apart from the trainings refreshing them in disciplines they were taught at college, latest information was exchanged as well. Simple techniques in blood collection, pregnancy diagnosis and feed formulation among others were highly appreciated by most participants. For example, about 30% of all cows passed for slaughter in Sinazongwe were found to be in-calf at the abattoir. After the training in livestock reproduction, only about 5% are found to be in-calf upon slaughter at the abattoir. This is an indication of the effectiveness of the training programme. In Kazungula, one farmer visited explained how she was about to sell her sow just before the local VA taught her group in pig, goat and poultry production. After the short training she decided to keep her pig and tried to implement what she learnt. At time of the evaluation, her sow had furrowed thirteen (13) piglets. She boasted about her newly acquired knowledge.

In early 2007, Kazungula District experienced an outbreak of Contagious Bovine Pleuro-pneumonia (CBPP). Most farmers in this area are cattle keepers. Goat production has not been popular. However, because their cattle were decimated, FAO restocked them with goats. Most of the farmers had no knowledge of goat production. The VA took up the challenge and has been training farmers in goat production using AHPDE manuals. One farmer visited in Kazuni Village of Mambova Camp in Kazungula expressed appreciation of the knowledge he learnt on goat production from the VA. The farmer was one of the recipients of FAO goats. He is now confident of his newly acquired enterprise. He looks forward to start offloading his goats onto the market.

Most of the development agents in the Project area have realized that the veterinary service providers have a rich resource of animal health and production information. These development agents have been calling upon the service providers to educate their target groups especially women. The service providers have in almost all the cases used the Project field manuals to empower farmers on other development agent's programmes. This was a common finding in Project areas where World Vision International (WVI), Agricultural Support Programme (ASP) and Support to Agriculture Diversification and Food Security (SADFS) are operating. All the farmers that were trained by the Masese VA in Sesheke were facilitated by SADFS. The case in Kazungula on training in goat production was facilitated by ASP. This was a positive revelation that AHPDE has created positive complementarity with other development agents as opposed to duplication of works.

The veterinary service providers who have had the opportunity to train farmers in their catchment areas in livestock production and nutrition have experienced an increase in small stock production such as goat, pig and village chickens. This has been attributed to sound vaccination schedules, better housing structures and preservation of fodder for dry season feeding. This was evident in Livingstone and Kazungula districts. In Kasiya area of Livingstone, one farmer visited who received training in 2007 has increased his Village Chicken production and ventured into Guinea Fowl, Duck, Pigeon, Goat and Pig production. This farmer also attributed his success partly to prompt diagnostic services he receives from the Livingstone Veterinary Office. For example, in five (5) camps of the Project area a

total of 172 farmers have been trained. Observations in the field showed that all the four (4) of the farmers visited in Kazungula had adopted acceptable animal husbandry practices. Table 2 below shows numbers of farmers trained in the five (5) veterinary camps visited. Table below shows number of farmers trained so far in the five camps visited.

Table 7: Numbers of farmers trained by service providers in the five camps visited

Responsible officer	District	Camp	Farmers trained
L/stone central VA (Mr. Songiso)	Livingstone	Livingstone central	10
Mukuni VA	Livingstone	Mukuni	65
Kazungula central VA (Mr. Hamankolo)	Kazungula	Mambova	29
Masase VA (Mr. Hamulinda)	Sesheke	Masase	30
Mwandi VA (Mr. Siafumpa)	Sesheke	Mwandi	38
		Total	**172**

It was revealed during the evaluation process that the training modules were user friendly and highly adaptable to local conditions. This helped in quick knowledge assimilation and further transmission to end users. Most participants appreciated the colour pictures that were inserted in field manuals because they aided in disease identification. The quality of the pictures is very good. These manuals have motivated the service providers to face most disease cases with confidence. It is also true when training farmers in livestock production. The VAs are very confident of what they are teaching about. They draw this confidence from the fact that they were taught by highly specialized UNZA lecturers.

Personal initiatives in some camps after receiving AHPDE training have been initiated. For example, the VA in Siakasenke Camp has facilitated the monthly trainings of the Kalibonene farmers Group. This group operates a community dip tank. The farmer turn out is good for the meetings because they coincide with dipping days. After dipping their animals they hold meetings in which the VA takes advantage to train farmers in various animal husbandry and disease prevention practices using the AHPDE field training manuals.

Those trained in disease diagnosis and laboratory techniques felt they were now adequately empowered to conduct bacteria culture and sensitivity analysis. These sentiments were echoed in Monze and Kalomo.

However the non use of laboratory equipment in some stations like Livingstone office is of concern.

3.3.2: Model of technical information exchange among stakeholders is formulated.

AHPDE's planning activities entail meeting frequently. For example the PIU members meet monthly, SC meets twice a year and the JCC meets on an annual basis. These interactions between MACO staff and UNZA lecturers have provided fertile grounds for further corroborative initiatives.

The Project has created a forum on which the School of Veterinary Medicine at UNZA and the Department of Veterinary and Livestock Development, MACO at both headquarters and field levels exchanged technical information. This collaborative arrangement between these two livestock institutions has been extended to other fora outside the Project such as the involvement of School of Veterinary Medicine at UNZA in formulation of a national livestock disease control strategy. Not only has information sharing been enhanced but also jointly planned field training programmes are in the offing. It is now a common feature for the DVLD directorate as well as the Dean's office to consult each other by phone on matters concerning livestock development in the country.

Base radios that were installed in some camps in the Project area have enhanced exchange of technical information among field staff. One VA in Monze District got to know about the evaluation process through radio communication. This is so important because her Camp has no mobile phone service coverage.

In addition, linkages have been forged between School of Veterinary Medicine lecturers and researchers at UNZA and MACO field staff. Field staff has been accorded an opportunity to directly consult UNZA lectures and researchers on various aspects of disease control and animal production.

Synergy fostering between the School of Veterinary Medicine and School of Agriculture at UNZA have been created through the production of training manuals. Lecturers from both schools worked together to produce and deliver lectures in the field. This created a symbiotic environment.

Other development agents have found it relatively easy in the Project area to deliver their capacity building programmes because of this collaborative arrangement. For example, some lecturers and researchers have been involved in FAO small livestock programmes in Kazungula and Choma. Because there is already an established network between School of Veterinary Medicine at UNZA and DVLD, these programmes have received support at the field level.

3.4. Implementation Process

To ensure smooth implementation of activities, a Project Implementation Unit (PIU) was set up. The PIU is housed at the School of Veterinary Medicine and is responsible for day to day management and coordination of Project activities.

AHPDE's supreme policy making body is the Joint Coordination Committee (JCC) which approves expenditures and work plans for the Project. The JCC has a high profile representation of both MACO and UNZA. MACO is represented at Director level while UNZA School of Veterinary Medicine is represented at Dean of School level. The JCC meetings are held once every year. It is chaired by the Project Manager who is also the Dean of the School of Veterinary Medicine and co-chaired by the Project Director who at the same time is the Director of the Department of Veterinary and Livestock Development.

The Steering Committee (SC) develops detailed project activities and monitors project implementation. It is chaired by the Project Manager. The SC meets quarterly and whenever necessary.

The composition of the PIU has senior members from both MACO and UNZA. The JICA expert who is also Project Coordinator, is a member of the PIU. The PIU ensures timely implementation of activities, procurement of equipment and providing secretariat services to the Project. Hence the PIU is the hub of the implementation process of AHPDE, though it was not in the initial Project design but constituted later in the early life of Project implementation. It, more often than not, meets more than once a month to plan and review Project Activities. In summary, AHPDE has both a policy flow structure and implementation as shown in figures 1 and 2.

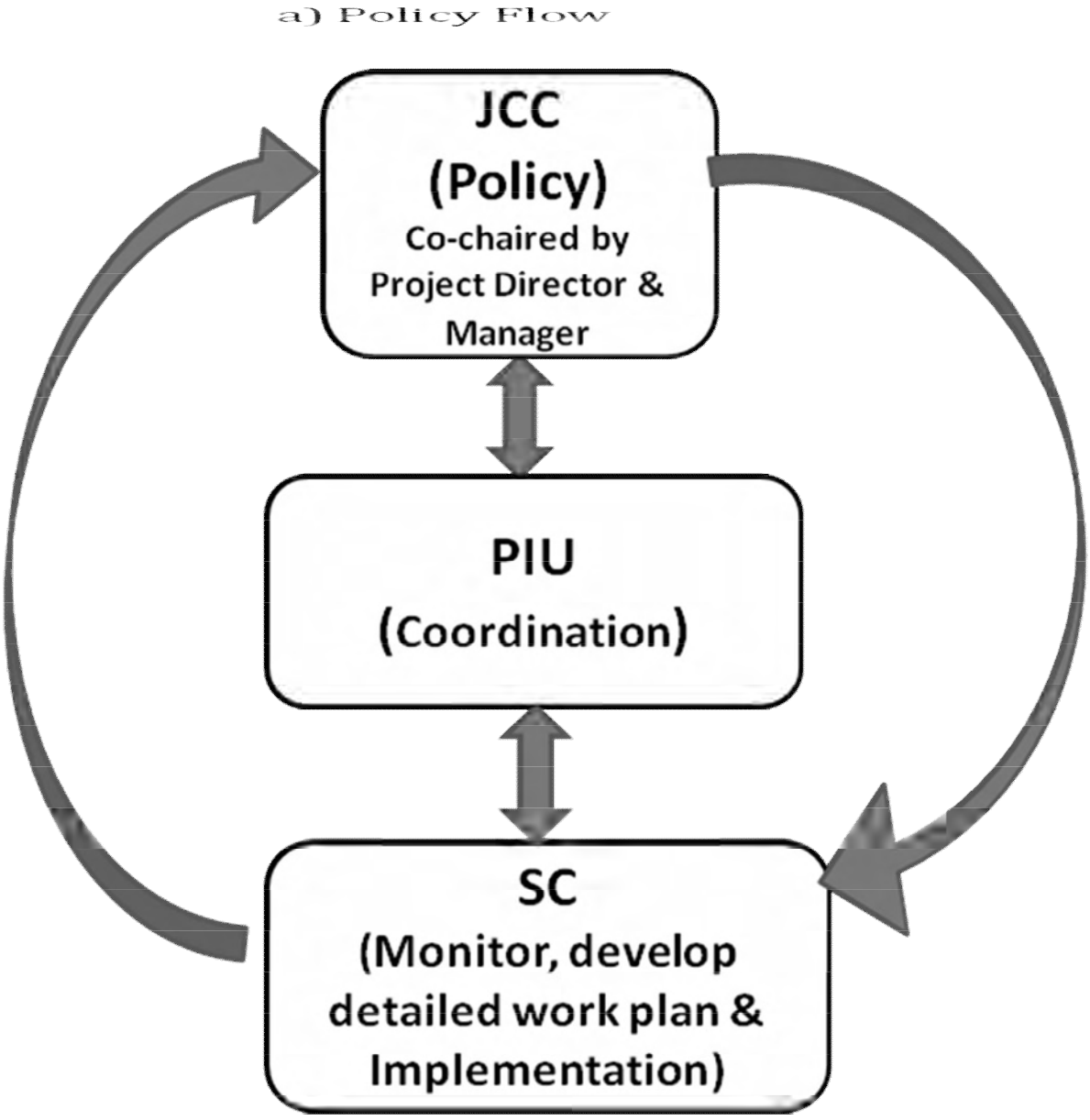


Figure 1: AHPDE Operational Structure (Policy)

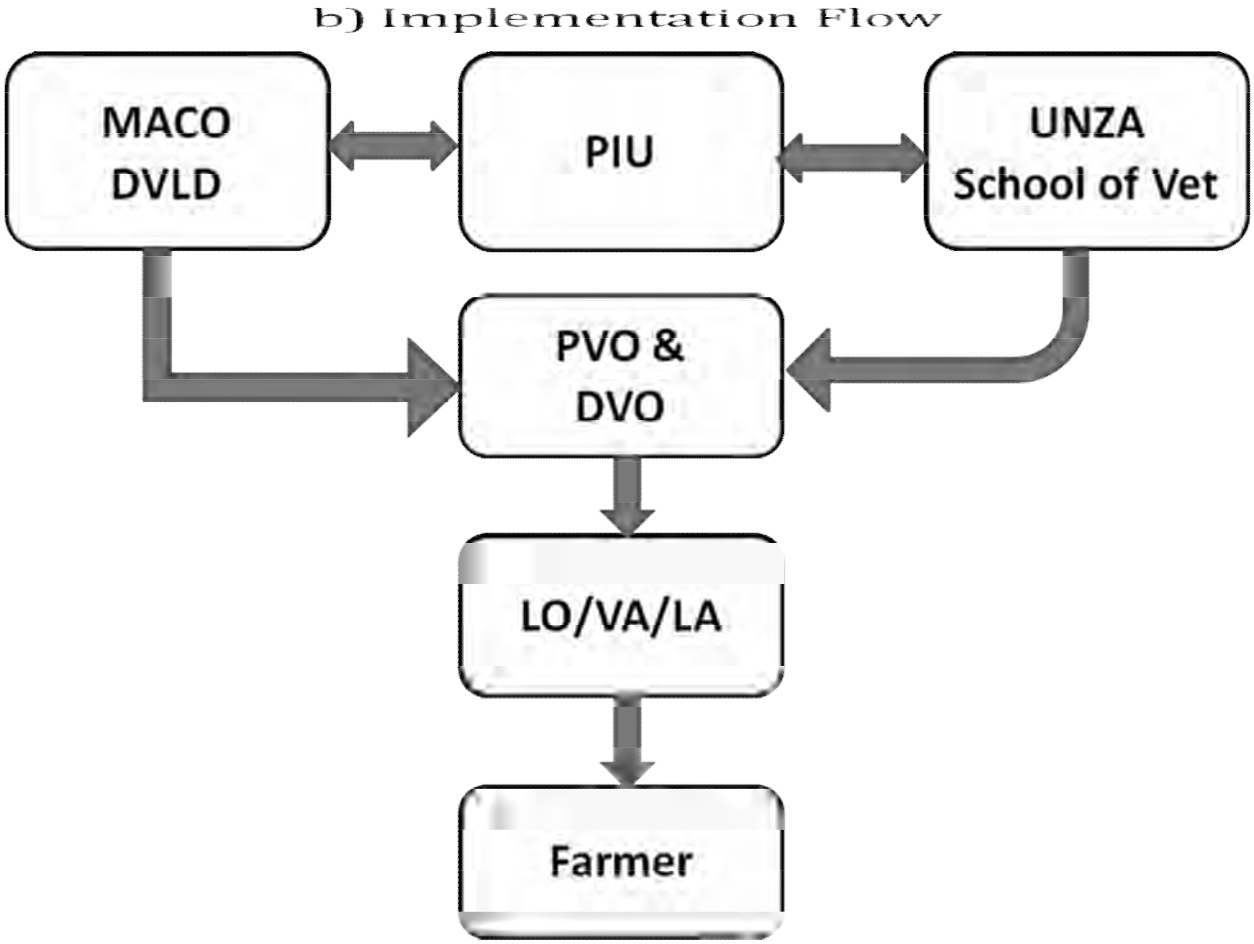


Figure 2: AHPDE Operational Structure (Implementation)

The DVLD instruction and reporting structure is used by AHPDE to implement its activities. The PVOs and DVOs are actively involved in Project implementation. They train veterinary service providers and monitor Project implementation at framer level.

In order to ensure close supervision, a field office was set up in Choma to coordinate all field activities and exchange of information in the Project area. The office was strengthened with communication and laboratory equipment.

4.0 EVALUATION BY FIVE CRITERIA

4.1. Relevance

The relevance is quite high in that the Fifth National Development Plan (FNDP) considers in-service training, capacity building and improvement of technology in the agriculture sector as high priorities. Further, the livestock sub-sector is one of the important building blocks of development in FNDP. The National Agricultural Plan (NAP) places importance on animal health, livestock production, livestock research and extension services. The Plan also promotes linkages and partnerships of development agents in the agriculture sector. The partnering of JICA with the School of Veterinary Medicine at UNZA and MACO on this Project is a demonstration of working towards the realization of the aspirations of both the FNDP and NAP. The Project's interventions were also relevant to the needs of stakeholders. This is especially so considering that a needs assessment was held.

The Project's purpose of improving and strengthening the delivery of animal health and production techniques through extension services is well supported in both the FNDP and NAP. Hence the Project's objectives are very relevant to Zambia's agriculture policy. In addition the Project's purpose was also well accommodated in Japan's policy of agriculture development assistance.

4.2. Effectiveness

The effectiveness is high.

The delivery of animal health and production techniques were strengthened during the implementation of the Project. This was well demonstrated after the installation of radio communication equipment, delivery of diagnostic equipment and training in different fields of animal health and production.

Operational laboratories in the Project area witnessed an increase in sample submissions. There was also an improvement in quality of samples that were submitted. This is as a result of VAs appreciating the Field need for diagnostic services and feed back to farmer. In addition, the training in sampling techniques gave them the confidence to submit samples. They have the confidence that they are requesting for the right kind of lab examination. Further, staff are able to get lab results on time either via radio communication or on the same day they submit the samples. In this way they have been empowered to delivery quality service to the farmers. Farmers are informed of sample results in time to make intelligent decisions and take appropriate measures. In addition, the district staff are now well informed of disease status in their camps through salient surveillance prompted by better diagnostic equipment.

The collaboration between UNZA and MACO has exposed field staff to latest technical information and sampling techniques. Field staff also have been accorded the opportunity not only to consult their superiors via the MACO reporting channel but also directly to UNZA lectures and researchers for

second opinions over technical issues.

4.3. Efficiency

Efficiency was high.

The inputs of the Project are generally good and effectively utilized. The experts dispatched executed their duties as expected and the technical information transfer to the field operatives has been effectively implemented. This is despite the death of the JICA Project Coordinator at the beginning of the Project. A replacement was sent in time to carry on with the Project activities.

A body of knowledge has been built at field level in terms of human capacity and reference manuals made available. The output on improved knowledge and efficiency at which the end user is using this information is immeasurable compared to input.

The ownership by the Zambian counter parts was high. This could be attributed to the efficient utilization of the long standing relationship of UNZA and JICA. Implementing the Project activities through already existing MACO structures also made it easier. At field level the Project wore the face of MACO and distilled the extension messages as DVLD avoiding duplication of roles.

4.4. Impact

There are indications that the Project had a good impact. Farmers, in some areas adopted animal husbandry practices such as improved housing structure for livestock, fodder preservation, adherence to vaccination schedules. The VAs and other veterinary service providers demonstrated increased levels of confidence and competency in their routine duties. The staff are motivated and are organizing extension meetings on their own, a situation which was not the case previously.

The good work attitude has resulted in demand for their services. Consequently, other Non-governmental Organizations (NGO) and other development agents are utilizing them to provide services to farmers. This created an atmosphere of complimentarity which is well appreciated by the Project. Other development agents such as the Agriculture Support Project (ASP), World Vision International (WVI), Support for Agriculture Diversification and Food Security (SADFS) are utilizing field staff trained by the Project to teach their farmers in various aspects of animal health and production. Though the farmers praise their sponsors, the materials and training from the instructors is by the Project.

4.5. Sustainability

Sustainability of the Project activities is relatively high.

Technically, developed training modules and manuals have been appreciated by the users, an

indication that they will continue using them. The strengthened human resources are now readily available and sustained in the country. At institutional level, use of existing structures of MACO makes it easier to sustain the project activities. The complementarities with other development agents contribute to sustainability. The collaboration between the key implementing organizations (MACO and UNZA) suggests high sustainability of the project activities. In terms of finances, there are good indications that MACO will continue to provide some budget towards project activities; they did so for some training activities.

Technology being taught is also applicable. Manual produced are useful for field use. Farmers and field officers are able to relate manuals to their needs.

5.0 RECOMMENDATIONS AND LESSONS LEARNED

5.1. Recommendations

It is recommended that if there could be a follow up phase of AHPDE, consolidation on the gains made so far should be maintained. The following measures are recommended:

i. Extending support to farmer level.

AHPDE has undoubtedly scored well at all levels of implementation save at farmer level. There has been a knowledge build up at province, district and camp levels. There is need to offload this knowledge where it is needed the most, at farmer level. Facilitation of VAs to ensure that they train farmers as expected is of prime importance. In most cases where a VA has had an opportunity to transfer his knowledge, they have been facilitated by some kind of development agent. What of those Project areas where there aren't any other cooperating partners? It is therefore, important to extend the activities of AHPDE to farmer by facilitating VAs to reach the farmer.

ii. Radio communication to be spread further and wider than is the case now.

A maximum of three camps have had radio communication equipment installed. This is a drop in an ocean for extensive districts such as Kalomo. With more than twelve (12) camps and only tree camps on radio is certainly insufficient. Efforts have to be made to ensure that at least 80% of camps within a district have radio communication, if MACO is to successfully combat livestock diseases and increase the productivity of the livestock sub-sector. Cabinet Office has already demonstrated in Itezhi-tezhi, where all the camps are now on radio. Ways in which near 100% levels of camps being on radio will greatly advantage the fight against livestock diseases.

iii. Adequate staffing, especially at camp level, is necessary in order to fully utilize laboratory equipment

This will optimize use of Project equipment at field level. Some laboratory equipment were under utilized due to staff shortage. In some cases radios were unmanned due to fact that no officer was assigned. Deliberate efforts to station personnel at all levels of implementation will greatly increase efficiency in equipment utilization.

iv. HIV/AIDS is of national concern. Consider introducing aspects of HIV/AIDS in the training modules especially at farmer level.

Since HIV/AIDS is a cross cutting matter, it will be important to high profile anti-AIDS activities in

AHPDE activities. This could be over and above the sensitization that has been accorded to the scourge in the Project so far.

v. At farmer level, efforts should be made to pay attention to gender balance.

Small ruminant and poultry production are traditionally carried out by women. Training men in these production techniques where on the ground women are the ones heavily involved might be investing in the wrong gender. It has been observed that traditionally, women tend to be responsible over small stock such goats and chickens. They should therefore be part of the target for training in goat, poultry and pig production.

5.2. Lessons Learned

During the implementation of the Project, some lessons were picked up. The se lessons include:

i. The aligning of AHPDE activities into MACO routine operations resulted into the Project being well received at the field level.

The Project utilized the existing MACO reporting and communication structure. The PVOs and DVOs were seen to champion and lead the Project activities and thus the field staff could not distinguish between Project activities and normal routine MACO programmes. Parallel operational structures were not created during the implementation of AHPDE. This was a very strong feature of the Project and contributed to very high ownership of AHPDE by MACO staff.

ii. Ownership is developed if stakeholders are involved from project inception

The initiative to conduct a needs assessment at the beginning of the Project led to the Project being owned by both the veterinary service providers and farmers. This fact is complimentary to the use of existing MACO reporting structure.

iii. Project training was well appreciated at farmer level probably because the messenger was a 'native' or familiar face.

The Project's strategy to train local staff who in turn go and train the farmers was a well thought strategy. Farmers get accustomed to people they live with. Farmers would like assurance when they adopt new techniques. They would want to constantly consult as they progress with new things. But also they would want to hold responsible the individual/organization that has led them into a mess.

iv. The strong foundation laid by a long standing cooperation between JICA and UNZA made it easier to invite MACO to jointly implement a Project based on the gains made from the previous cooperation.

As a result of the long cooperation between JICA and UNZA, a strong human resource base had been built at UNZA. Both the academic and technical staff at UNZA had over time been building capacity and experience. In addition the equipment at UNZA provided suitable facilities for diagnostic training. Execution of AHPDE was made easier because it was built on the strong human resource base from UNZA and most of it working in MACO.

v. A bottom- to-top approach worked out very well.

A pre-assessment conducted by consulting key stakeholders on what gaps and challenges where in the livestock sector led to a well designed Project implementation.

PART II: COOPERATION BETWEEN JAPAN AND ZAMBIA IN THE AREA OF VETERINARY DEVELOPMENT

6.0 INTRODUCTION

This section discusses the cooperation between the Governments of Japan and Zambia in the development of the veterinary fraternity in Zambia. The section is divided into three parts:

i. Part I is the historical background of the cooperation
ii. Part II shows the contribution of the cooperation in the development of the veterinary fraternity at different levels (at UNZA, in Zambia, regionally and internationally)
iii. Part III briefly highlights the contribution of other cooperating partners to the development of the School of Veterinary Medicine.
iv. Part IV draws a summary and concludes.

6.1. Historical Background of the Cooperation

There was no School of Veterinary Medicine at the time the University of Zambia was established in 1965. The idea to introduce a School of Veterinary Medicine at UNZA was suggested by FAO in 1979 when it dispatched an identification mission to consider veterinary training in Southern Africa. This was fourteen (14) years after UNZA was established.

Zambia was identified as a suitable location and hence FAO advised that a School of Veterinary Medicine be established in the country to address the possible threat of animal diseases in the region. Further, there was a growing need to strengthen veterinary service provision in Zambia as well.

On the other hand, the Southern African Development Coordinating Committee (SADCC) with support from the European Union was planning to establish a regional school of veterinary sciences at the University of Zimbabwe. This was to address the growing demand for veterinary services in the region. However, the University of Zimbabwe was only prepared to admit a few students from Zambia. This would have taken a long to time for Zambia to establish its own veterinary services. As a result the establishment of the School of Veterinary Medicine at the University of Zambia was accepted by SADCC as of national priority.

Hence in 1982 the Government of Japan, in response to a request from the Government of Zambia, undertook to build and equip the Veterinary School at UNZA at a cost of approximately 2.4 million Japanese Yen (an equivalent of 12 million US Dollars in 1983). Construction began in March 1984 and completed in early 1986.

Prior to the establishment of the School of Veterinary Medicine, there were only a total of 70 veterinarians in Zambia. Of these only 8 (about 11%) were Zambian nationals, i.e. 89% were foreign nationals. Currently the School has produced over 280 graduates, the majority of whom are working in the public sector under the Ministry of Agriculture and Cooperatives. This under scores the important role the School has played in contributing to livestock development in Zambia.

The development stages of the School to-date may be divided into various phases as described below:

6.1.1 Grant Aid Phase: 1984 - 1986

During the Grant Aid Phase the main School buildings and peripheral facilities were constructed with funding from the Japanese Government. The construction of the main School buildings began in 1984 at a cost of JPY 2.4 Million. In the course of construction works of the main building, the Governments of Japan and Zambia signed a second mutual agreement for the construction of peripheral facilities to the main School building including procurement of equipment at a cost of JPY 1.483 Million. The construction of both the main School facility and associated peripheral structures was completed in March 1986. The Samora Machel School of Veterinary Medicine was officially opened by the First Republican President of Zambia, His Excellency Dr. K. D. Kaunda, in October 1986.

About a year before the construction of the School commenced the first ever intake of veterinary medicine under graduate students was enrolled in September 1983. This was in anticipation of the establishment of the School of Veterinary Medicine because the Government of Zambia had already officially requested for grant aid as well as technical cooperation from the Japanese Government in August 1982. The students were temporarily accommodated in the School of Mines though they were still taking most courses taught in the Schools of Agriculture and Natural Sciences. The table below shows key events during this phase.

Table 8: Summary of Grand Aid Phase

Period (1984 – 1986)	**Key events**
August 1983	• Japan and Zambian Government Authorities sign a mutual agreement worth JPY 2.4 Million for construction of the main school facility
March 1984	• Construction of the main school facility begins
July 1984	• Japan and Zambian Government Authorities sign a mutual

Period (1984 – 1986)	Key events
	agreement worth JPY 1.483 Million for construction of peripheral school facilities as well as procurement of their equipment
March 1986	• Construction of school and its peripheral facilities are completed
October 1986	• First Republican President of Zambia, Dr. K. D. Kaunda officially opens the School of Veterinary Medicine

6.1.2 Technical Cooperation of Veterinary Education Project Phase I

JICA – UNZA Technical Cooperation Phase I was for a period of five (5) years from 1985 to 1990. But this phase was extended for an extra two years upto July 1992. This was after recommendations from a Joint Evaluation of the Project.

The major objectives of Phase I were to:-

- Support academic course work by way of dispatch of short and long term experts and JOCV
- Establish the education system for under graduate studies
- Establish the basis of teaching staff requirements
- Establish the basis for further research work with other training institutions

Table below shows the key events that took place during phase I.

Table 9: Summary of Veterinary Education Project (Phase I)

Period (1985 – 1992)	Key events
January 1985	• JICA dispatched an Implementation Survey Team to formulate project formulation and implementation plans as well as sign R/D. The five year technical cooperation of UNZA Vet School starts
August 1985	• JICA dispatch the first expert team. Veterinary School students still housed in the Schools of Mines and Natural Sciences
October 1985	• Japanese experts start delivering lectures and exposing students to veterinary practicals
July 1986	• JOCV dispatched to UNZA School of Veterinary Medicine
August 1988	• First 13 veterinarians graduate from the School of Veterinary Medicine

At the beginning of phase I, the 1st veterinary class of students was in their fourth year. The fifth and sixth year curricular had not yet been tested. The input from the Japanese experts as well as

other cooperating partners was very valuable and critical during this phase. Initially there were only three (3) Zambian nationals out of thirty (30) members of academic staff at the School. By the end of phase I there were nine (9) Zambian lecturers. The School's academic establishment is forty-two (42) lecturers. It is during this phase that the first thirteen (13) students graduated from the School of Veterinary Medicine in August 1988.

The Japanese Government provided assistance to Zambia in the form of human resource as JOCV. These were veterinarian volunteers who assisted in the running of veterinary services in various districts in Zambia. From 1985 to 1997 several JOCV worked as District Veterinary Officers. As more and more graduates from the School of Veterinary Medicine were joining the Department of Veterinary, the number of JOCV decreased. This was to pave way for the new Zambian veterinary graduates to take over the running of the State Veterinary Services. Figure 3 below shows the gradual replacement of the JOCV by the Zambian veterinarians. Appendix 13 details the number of JOCV members and their stations in Zambia.

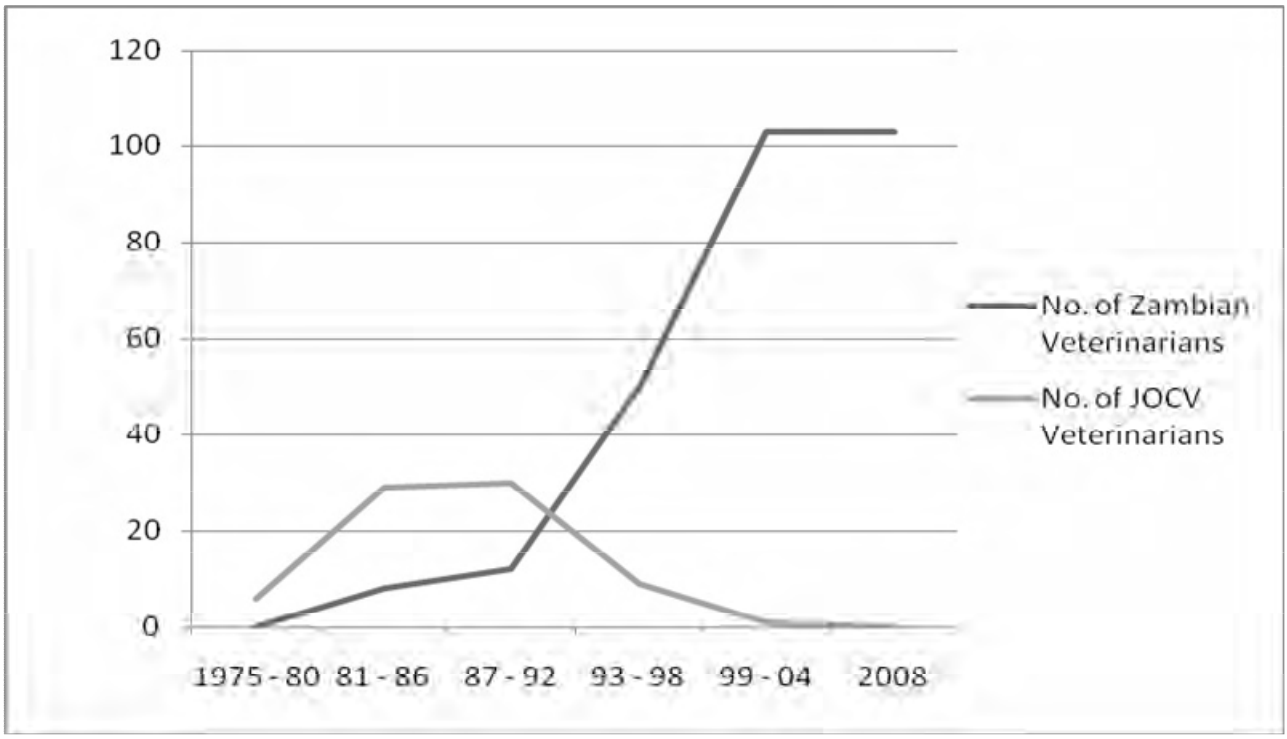


Figure 3: Graphical replacement of JOCV Vets by Zambian Vets

6.1.3 Technical Cooperation of Veterinary Education Project Phase II

Phase II of the Technical Cooperation between JICA and UNZA was from 1992 – 1997. The outputs of the Cooperation were to:-

- Establish a post graduate education programme

- Strengthen research activities
- Maintain and strengthen under graduate education programme
- Strengthen extension services

The table below is a summary of key events during phase II.

Table 10: Summary of Veterinary Education Project (Phase II)

Period (1992 – 1997)	**Key events**
January 1994	• Veterinary School enrolls the first four students for a Masters; Course
March 1995	• JICA finishes dispatch of JOCV to the School
October 1996	• Infectious diseases laboratory study facility's construction is completed
April 1997	• 10th anniversary symposium of the School of Vet is held
July 1997	• Phase II of Veterinary Education Project comes to a close

The period 1992 to 1997 represented phase II of technical cooperation. During this period the main thrust of phase II was to establish a local post graduate education programme which will contribute to capacity development of Zambian nationals. This was to ensure sustainability of the Veterinary Education Project, there was need to build local capacity to take over the administration of the School. During Phase II, seventeen (17) Zambian nationals were working as lecturers at the School while fourteen (14) were under going post graduate training abroad. This represented a significant increase (41%) in Zambian nationals engaged in lecturing at the School. By the end of the phase, the number of Zambians lecturing had increased to twenty-one (21) and the number of those pursuing higher degrees abroad had risen to thirty-four (34).

Appendix 6 tabulates chronological events from 1981 to 1997.

6.1.4 Third Country Training: Phase III (1999 – 2003)

The Government of Zambia through UNZA in conjunction with JICA agreed to commence a sub regional course on the Diagnosis, Control and Prevention of Tropical Livestock Diseases. This course was for five years from 1999 to 2003. The training course was implemented by the School of Veterinary Medicine. The training was intended for SADC member states which include Angola, Botswana, Congo D. R. , Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania Zambia and Zimbabwe.

The training comprised five (5) modules as follows:-

- Ticks and tick-borne diseases 1999
- Zoonoses 2000
- Trans-border diseases 2001
- Poultry diseases 2002
- Wildlife and fish diseases 2003

An average of Twenty (20) participants attended each module for forty-five (45) days. A total of 99 participants attended the five modules.

The table below shows the number of participants and the courses they attended.

Table 11: Third Country Course participants

Year	Course	No. of Participants		Total
		Foreigners	Zambians	
1999	Tick Borne Diseases	-	-	20
2000	Zoonotic diseases	15	4	19
2001	Trans Border Diseases	16	4	20
2002	Poultry Diseases	16	4	20
2003	Wild Life Management	16	4	20
Grand Total				**99**

Apart from local resource persons, others were also drafted into the training programmes. Most of the foreign resource persons came from the SADC region and Japan. The blend of local and foreign resource persons enriched the pool of experience and knowledge available to the participants. Of the local resource persons, a number were drawn from other institutions outside UNZA. These institutions included MACO, Zambia Wildlife Authority (ZAWA), Zambia Electricity Supply Company (ZESCO) and the game farming community.

The influence of the school at SADC regional level has surely been appreciated. The feedback and number of applications received from both within the SADC region and outside indicated to the fact that the Third Country Course had gained a high level of popularity. The participants and their supervisors testified to the effect that the programme was very useful and the course materials, lectures and practicals were of very high standard. The Programme facilitated an on-the-spot visit of the organizers to Tanzania. Findings were that all the ex-participants were given new responsibilities after the training and that there was tremendous improvement in their work performance.

As a result of the Third Country Training, the School has been receiving foreign students to enroll for under graduate programmes. In 2007, two foreign students from Lesotho graduated from the School.

This once again, demonstrates that the investment of the Japan – Zambia Cooperation in veterinary development in Zambia has become mature to compete to international standards.

6.1.5 AHPDE: Phase IV (2006 – 2009)

Initially the School of Veterinary Medicine concentrated on training students in under and post graduate veterinary studies. The School channeled out graduates without a programme in place to follow them up in the industry. The main employer of the graduates is the Ministry of Agriculture and Cooperatives. Between the School and the Ministry, there was no formal and adequate exchange of information on harmonizing theoretical lessons with what obtains practically at field level.

AHPDE was formulated to expose UNZA to field conditions as well as create exchange of technical information with MACO. It was the concern of AHPDE to provide an environment through which MACO and UNZA would be planning together the way forward in the development of the livestock sector. MACO and UNZA could develop livestock research activities that are tailored to suit Zambian conditions and answer to gaps in the Sector.

6.1.6 Other Forms of Support

The School has been able to collaborate with other training institutions outside Zambia especially in Japan. As mentioned earlier, Hokkaido University has had a long cordial relationship with UNZA. A total of thirteen (13) Zambian lecturers obtained their PhD degrees from Hokkaido. This represents 76% of all PhD holders trained in phase II.

In addition, collaborative research activities have been carried between UNZA and Hokkaido. From 1998 to date four (4) research works have been carried out. The latest is a research on Wild Animal diseases caused by chemical pollutants and susceptibility determinants of those animals to the pollutants. This research is currently on-going.

Further, in 2008 the Centre for Zoonosis Control of Hokkaido University established a P2 and P3 laboratories within some facility at UNZA School of Veterinary Medicine. P2 and P3 refer to laboratories with very high levels of diagnostic capacities. Two faculty members of the Centre for Zoonosis Control are currently resident at the laboratories. They are engaged in field survey on zoonotic diseases of Zambia in collaboration with local UNZA researchers.

6.2. Key contributions – Outcomes of the Collaboration

Among the key outcomes of the Japan – Zambia Cooperation is the construction and establishment of the School of Veterinary Medicine at the University of Zambia. The School has significantly contributed to the training of veterinary personnel who have served at very high level of responsibility not only in Zambia and the sub- region but outside the African continent as well.

6.2.1 Training at UNZA School of Veterinary Medicine

i. Under Graduate Training

Currently the School administers an average of about ninety (90) students per academic stream. It has the capacity to admit a total of 150 students each academic year. However, due to a relatively high cost incurred to sponsor each student, high entry qualifications and limited overall accommodation at UNZA, total student numbers have been less than a hundred per academic stream.

After the introduction of the Third Country Training Course, the School has witnessed an increased number of enquiries from prospective foreign students. For example, in 2001/2002 academic year the School received seven (7) applications and admitted three (3) foreign students. Two (2) were from Malawi and one (1) from Rwanda. The figure below shows progression of graduates in the School since inception.

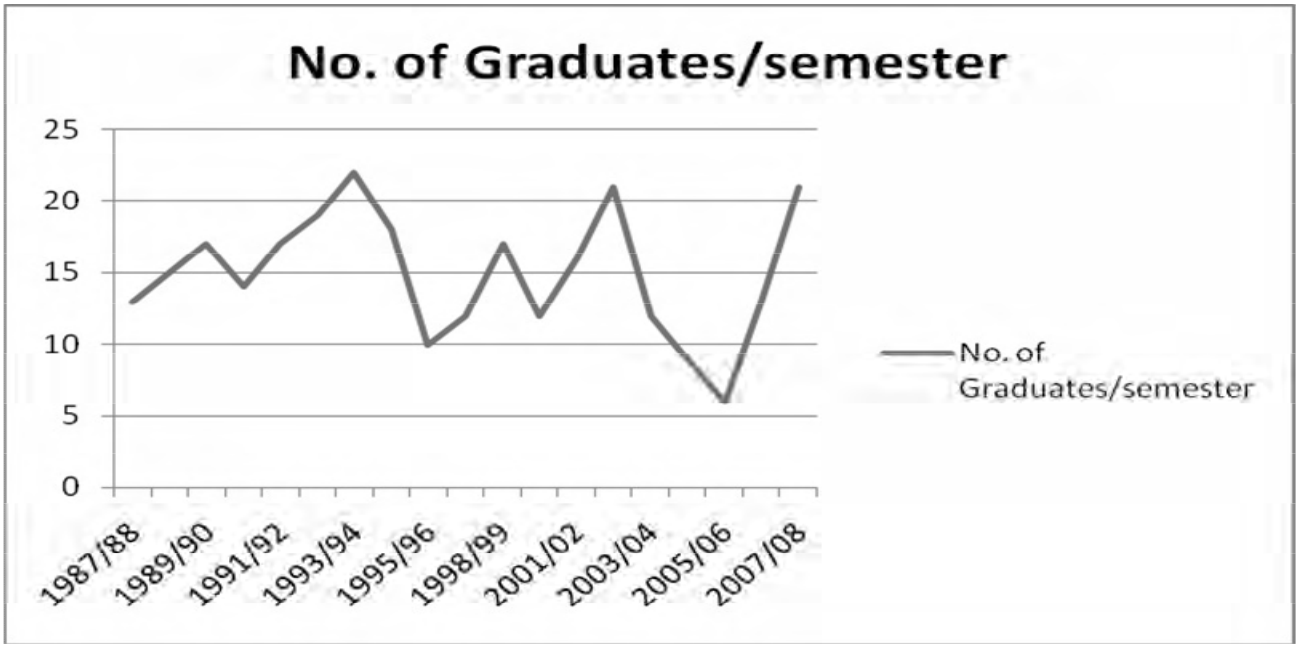


Figure 4: Trend of graduates from 1988 to 2008

An average of fifteen (15) students has graduated since 1988 every academic year. A total of 284

students have graduated from the School of Veterinary Medicine since its establishment in 1983. Phase II's target was to graduate 300 students by 1997. A total of 157 students had graduated by the end of phase II representing 52% of the target.

ii. Post Graduate Training

The School began offering post graduate programmes at Masters (MSc) and Doctor of Philosophy (PhD) levels after 1994. Two Masters Programmes are offered. One leads to Master of Science (MSC in Veterinary Medicine, by research) and the other leads to Master of Veterinary Medicine (M. Vet. Med), by course work. Doctor of Philosophy degree is only offered by research.

iii. Human Resource Capacity Building (Lecturers)

Most of the lecturers were trained during phase II. The majority of them obtained their post graduate degrees from Hokkaido University in Japan. Out of a total of nineteen (19) lecturers trained in Japan, thirteen (13) i.e. 89% were trained at Hokkaido. Appendix 7 lists the names of lecturers and universities that they attended. In addition nine (9) Zambian lecturers and one house surgeon attended short courses in Japan at various universities. Appendix 8 is a list of short courses and their duration.

Not only was phase II concerned with development of academic staff but also the School's technical staff. A total of twenty-two (22) technical staff members attended diagnostic courses for periods ranging from three (3) to nine (9) months. This was part of the local human capacity building that the Technical Cooperation invested in. Some technicians that have left the School are working in regional laboratories within and outside the country. A number of them have rendered appreciable service in the Human Medical Field. Appendix 5 shows names of those trained in Japan. The figure below indicates the development of a Zambian academic staff which was gradually taking over from expatriates.

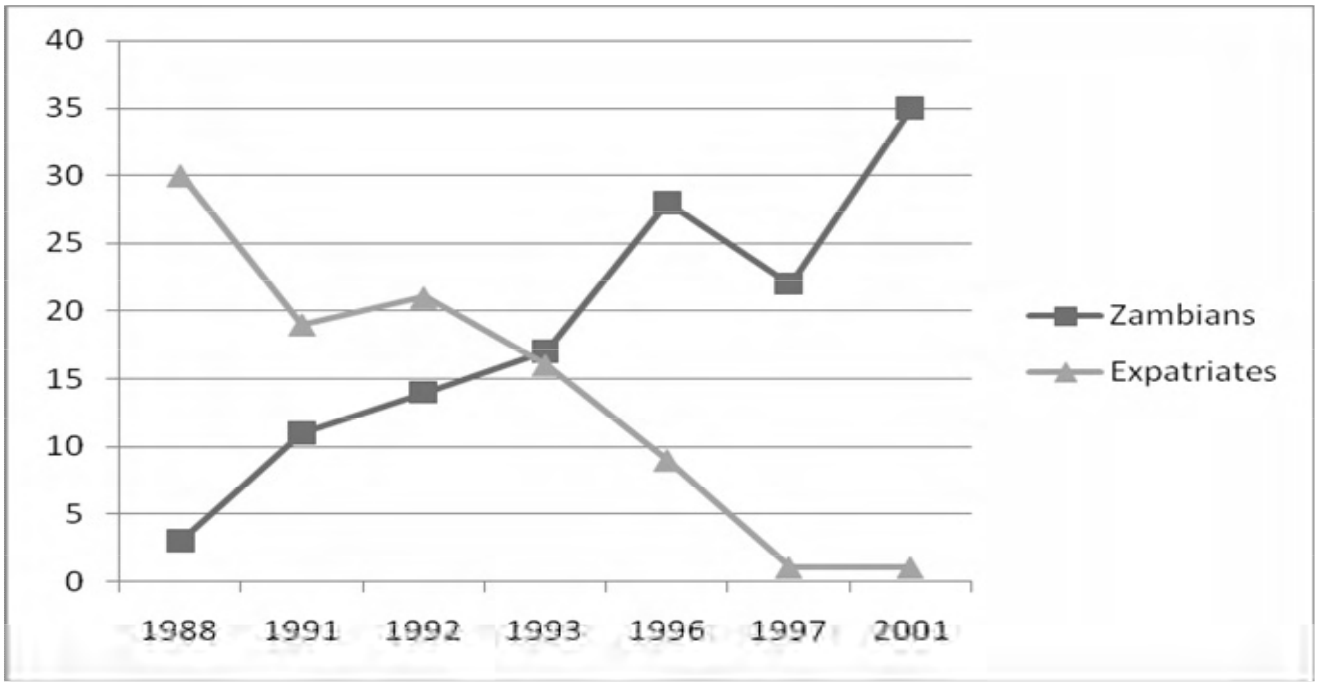


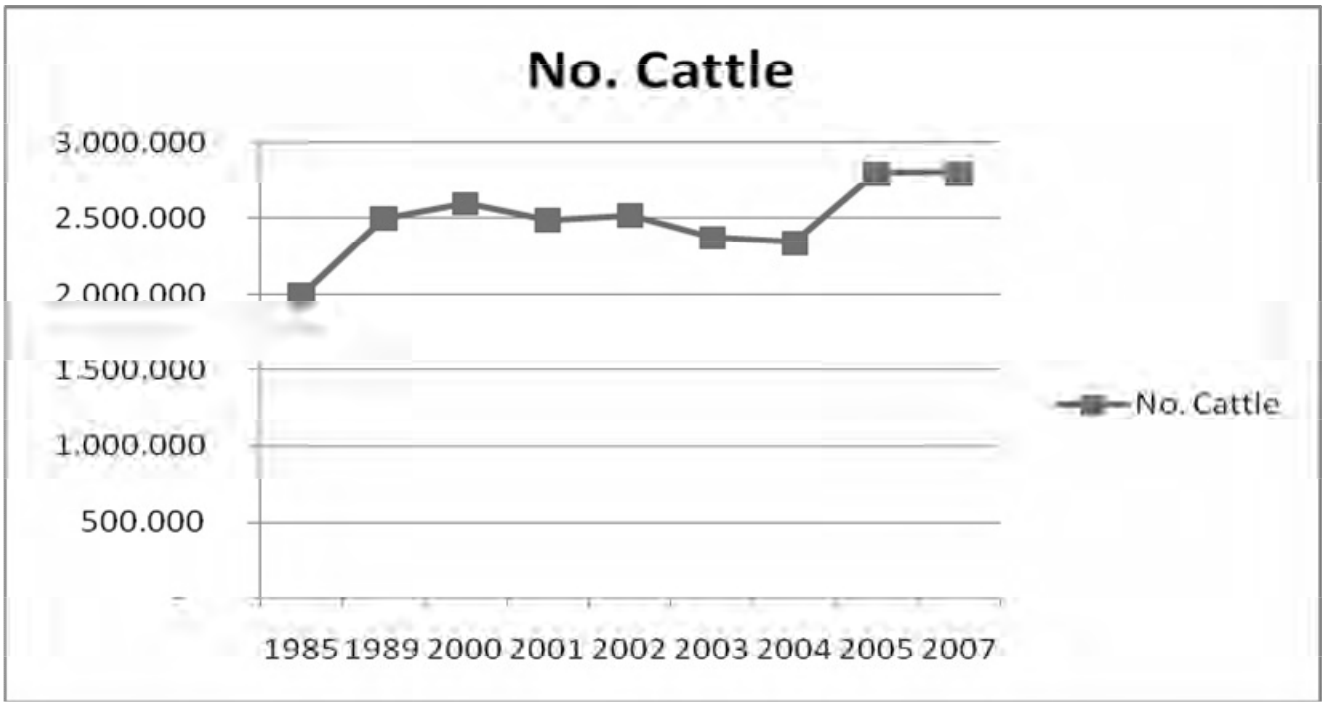
Figure 5: Graphic representation of Zambianisation of academic staff

6.2.2 Contribution to Professional Development at National level

i. Number of Veterinarians at National Level

The Government of Zambia is the major beneficiary of the veterinary training as it employs most of the graduates. Only 8 Zambian veterinarians were practicing their profession before the School started producing veterinary surgeons in 1983. Currently there are about 173 gradates from the School of Veterinary Medicine working in Zambia. Five (5) are working under the Ministry Home Affairs, One (1) under the Ministry of Tourism, four (4) are with NGOs, two (2) with financial institutions, One (1) with the Ministry of Health, about thirty (30) with training institutions, Ten (10) are running private clinics and close to a hundred (100) with the Ministry of Agriculture and Cooperatives. More than five work in the Sub- region while about seven (7) work outside the African continent.

It is an incredible task to try and measure the impact the UNZA School of Veterinary graduates have had on the livestock sector in the country. Apart from livestock diseases, other factors affect cattle population such as natural calamities like droughts and floods. Man made calamities also have an effect on livestock population dynamics such as Civil Wars and National budgetary allocations to the sector. Could the veterinary professionals from UNZA contributed to the growth pattern show in figure 6 below?



Source: NALEIC, 2008

Figure 6: Trend of national cattle population from 1985 - 2007

ii. **Contribution through AHPDE**

The Project to Improve Animal Health and Production through Delivery of Extension services, targetered eight (8) districts whose cattle population is about 500,000. AHPDE trained all the veterinary service providers operating in these districts. About 96 veterinary service providers have been trained in all the modules. Though it was not AHPDE's objective to achieve lower service provider to animal ratio, an approximate ratio of one veterinary service provider to 5,200 cattle in all the 8 districts now exists. An average house hold owns 80 cattle. This translates to one service provider against 65 house holds. These ratios are manageable if service providers are adequately empowered, feeder road network is in acceptable condition and both human and cattle populations were evenly distributed.

6.2.3 Regions and International Contribution to Veterinary Professional Development

The Third Country Training Course not only imparted valuable knowledge to all the participants but also exposed the regional experts to each other and to that of Japan. Linkages have obviously been created and who knows what information exchange has been going on through electronic transfers at different levels of participation due to this programme. The organizers deliberately compiled a list of all participants with their addresses to promote a network of participants in the

region.

There were plans to develop a website for ex-participants or introduce a news letter to foster already existing interrelationships.

6.3. Contribution of other cooperating partners to the development of the School of Veterinary Medicine

Other cooperating partners contributed to the smooth establishment of the School of Veterinary Medicine in the form of provision of highly qualified human resources and scientific equipments. The narration of their contribution in this section is not exhaustive but glances at some of their key contributions.

The two departments of Biomedical and Clinical Studies were not only initially part of the JICA sponsorship. These two departments were mainly supported by the British, Irish, Belgium and Norwegian governments. Specific contributions of individual donor countries included the followings.

i. United Kingdom

The support from the British Government was channelled through the Overseas Development Administration (ODA) and the British Council. The ODA and British Council support included provision of four academic staff, two Master training wards per year to deserving graduates from the School of Veterinary Medicine specialized equipment, materials, drugs and chemicals and also the provision of books and reference materials. In addition to the British Council providing Master scholarships attainable at Glasgow University, the Council also supported short term lecturers in large animal medicine. The British support ended in May 1994 at a total cost of approximately pound 407,190.00.

ii. Ireland

The Irish Government supported the School of Veterinary Medicine from 1984 to 1989 through the Higher Education Development Cooperation (HEDCO) by providing long term technical experts to the Department of Biochemical Studies. The support included provision of three (3) long term posts (inclusive the inaugural dean), two (2) short term teaching visits to Zambia per year, one (1) long term training attachment in Ireland and approximately Pound 10,000.00 per year for equipments. Throughout 1987, finance was provided in support of a veterinary nurse. A substantial grant was also made for equipments, books and consumables.

iii. Belgium

The Flemish Association for Educational Programes Abroad (VVOB) recruited and provided salary supplementation for three (3) members of academic staff. The Belgian Government also provided Master scholarship to graduates of the School through the Belgium Technical Cooperation (BTC). Further, the Belgian assistance supported the establishment of the Ambulatory Clinic which became an important means of practical training for students as well as providing valuable veterinary extension services to commercial farms located around Lusaka.

iv. Norway

The Government of the Kingdom of Norway founded over nine (9) research projects in various veterinary disciplines across all the four departments of the School from 1984 to the late 90's. The Kingdom also provided financial support for an In-service Training Programme of Technical staff in order to improve the quality of technical personnel.

v. Sweden

The Swedish Government through SIDA paid for subscriptions for forty-four (44) scientific journals for the School of Veterinary Library.

vi. Germany

The Germany Church organization (Dienste in Ubersec) supplemented the salary of a long term member of staff from 1987 to 1990.

vii. Denmark

The Danish Volunteers Service (DVS) made available one veterinary expert to the School for eighteen (18) months in 1988. The expert was fully funded by DVS.

6.4. Summary and Conclusion

The survey indicated that the contribution of the Japan – Zambia cooperation in the field of veterinary development was significant.

Quantification of the full extent of the contribution of the Cooperation in the area of veterinary development to Zambia is difficult because some benefits are qualitative. However, suffice to mention here that the establishment of the School of Veterinary Medicine will for a long time to come bear witness to the success of the cooperation. Investments in physical infrastructure, state-of-the-art equipment and development of a highly qualified/specialized human resource base have an enormous bearing on the Zambian economy as a whole.

The support of the Third Country Training Programme further elevated the School to international standards. Initially the School's major goal was to produce qualified veterinarians to take responsibility of running Zambia's veterinary services. Conducting the TCTP unleashed an international dimension the School. The School has now attained international recognition and has started admitting students from the Sub region.

Locally the School has extended its influence to the field level through AHPDE. The School through collaborative arrangements with MACO is now poised to contribute significantly to formulation of national disease control measures. In addition, the School will by and large tailor its curricular towards answering the gaps in Zambia's livestock sector. Training of the veterinary service providers through AHPDE is definitely a step in the right direction towards strengthening veterinary services in Zambia.

The Government of Zambia has been the major beneficially by employing almost all the qualified veterinarians from the School. The following are some of the positives accrued to Government:-

- ✓ There has been professional presence at district level which has guaranteed professional advice and supervision to field operatives
- ✓ Field level capacity and strategic approach to disease control has been enhanced
- ✓ Information flow between MACO headquarters and field staff has improved in terms of understanding of livestock issues being considered
- ✓ Disease control implementation has been made easier because of professional input at field level
- ✓ Cost of disease campaign mobilization has been reduced. No need to mobilize staff from other provinces to beef up personnel in disease affected areas as was the practice previously because of availability of professional staff at most district level

A few challenges, however, remain to be addressed. These include:

- ✓ Systematic reduced budgetary allocations to DVLD since 1991 has masked the contribution of the Japan – Zambia cooperation in the field of livestock development. Operatives have been working with very minimal resources availed to them due to budgetary constraints.
- ✓ Introduction of socio-economic aspects in the orientation of veterinary professionals is now more eminent than ever before. Options to institute market led disease control programmes have to be considered. Any traditional disease control strategy must consider socio-economic implications so as to serve the livestock rearing community better.

REFERENCES

Kanagawa, H. and Mwauluka, K. (18 August, 1989) Minutes of Meeting: Joint evaluation of the Veterinary Education Project.

Ogata, M. and Mtonga, J. (23 January 1985) Records of Discussions: JICA Veterinary Education Implementation Survey Team.

Arakawa, A. and Siwela, A. (18 December 1992) Minutes of Discussions: Japanese Consultation Survey Team on the Veterinary Education Project Phase II.

Kanagawa, H. and Sinyangwe, P. (29 November 1996) Evaluation Report on the Veterinary Education Project Phase II, Lusaka.

Seath, M. and Bell, L. (1993) Monitoring Report, UNZA Veterinary Education Project.

Project Memorandum, UNZA Veterinary Education Project, British Development Division in Central Africa, Zambia, Ref: 072/951/009.

Inui, E., Sinyangwe, P. G. and Nambota, A. M. (9 September 2005) Records of Discussions: the Project for Improvement of Animal Health and Production Delivery through Extension services, Lusaka.

Takeuchi, A. and Mwauluka, K. (12 August 1988) Records of Discussions: Japanese Technical Guidance Team on the Veterinary Education Project, Lusaka.

Project Implementation Unit (2007) Smallholder Livestock Investment Project, Work plan and Budget

National Livestock Epidemiology and Information Centre, (2007) Department of Veterinary and Livestock Development, Annual Report

National Agricultural Policy (2004 – 2015), Ministry of Agriculture and Cooperatives, October 2004

Nambota, A. M. (2000 – 2003) Third Country Course Reports.

National Livestock Epidemiology and Information Centre, (1983-1996) Department of Veterinary and Livestock Development, Annual Report