

Project Title Code: 1.3	Enhancing Tropical Beef Cattle Genetics, Reproduction and Animal Breeding Skills
Australian Personnel	Dr Brian M. Burns
Australian Institution	Agency for Food and Fibre Sciences (AFFS) Queensland Beef Industry Institute (QBII) Department of Primary Industries (DPI)
Vietnam Institution	NIAH, Quang Ngai DARD; Hue University (HUAF); DakLak DARD; Tay Nguyen University; Livestock Company of Dak Lak
Project Duration	July 2000 – June 2002

Project Description

To enhance the local capacity for teaching, research and extension in agriculture and rural development, the QBII, AFFS, DPI proposes to focus its project on the key priority area of agriculture, and livestock improvement in Vietnam, and within these areas, to deliver activities in the disciplines of biotechnology and genetic improvement as highlighted as a priority area by the Government of Vietnam (GOV) in the Vietnam - Australia Development Cooperation Program, CARD Program Guidelines. Specifically, this project will focus on specialised training, in Australia and Vietnam, and curriculum development in Vietnamese universities and associated agricultural institutions, in the disciplines of genetic improvement, reproduction and animal breeding.

Objectives

This activity will contribute, directly to the overall goal of the CARD program by enhancing tropical beef cattle genetics, reproduction and animal breeding skills in Vietnamese R&E staff and farming communities by:-

- a) Improving R&E skills by providing short-term R&E staff placements in the tropical beef production region of central Queensland, Australia
- b) Improving Vietnamese R&E staff and farmer skills by providing three strategically located training workshops in 'Tropical Genetics, Reproduction and Animal Breeding', presented by Australian R&E specialists in conjunction with those Vietnamese staff who received specialists training in Australia (Section I) - 'train the trainer'.
- c) Develop new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in 'Tropical Genetics, Reproduction and Animal Breeding'.

Outputs and Performance indicators

1. Ten (10) Vietnamese R&E staff visit the tropical beef cattle production region of Central Queensland Australia, and receive specialist training in R&E techniques and strategies in tropical genetics, animal breeding and reproduction by 31 October 2001.
2. Three training workshops in "Tropical Genetics, Reproduction and Animal Breeding", developed, organised and conducted by 31 March 2001 that-
 - ◆ Included the production of course notes in English and translated into Vietnamese;
 - ◆ Were central around regional farmer groups/communities involved in the established ACIAR Genetics, Breeding and Reproduction Sub-Project sites in Vietnam;
 - ◆ Employed a 'regional beef cattle production systems approach' that-
 - Used collaborative and consultative group strategies between Australian and Vietnamese concerns/issues with respect to profitability and sustainability of their beef cattle enterprises,
 - Resulted in more targeted R&E strategies that effectively addressed these issues, promoted local ownership of both problems and solutions by all members of farming families and communities and R&E specialists through this approach resulting in increased adoption of 'best practice' management strategies; and
 - Assisting in the alleviation of poverty in these local collaborating farming communities, as a direct result of implementation of this 'regional beef cattle production systems approach'.

A feature of these workshops, as identified above, will be activities centred around regional farmer groups, to identify their concerns/issues with respect to profitability and sustainability and to ensure that future research will be based on identified 'issues' - 'issues based research'.

3. A new curriculum on 'Tropical Genetics, Reproduction and Animal Breeding', developed in collaboration with Vietnamese universities and associated agricultural institutions, agreed top by these organisations by 31 March 2002.

PROJECT COMPLETION REPORT

Executive Summary

Provide an overview of the project's progress, the outcomes achieved and the performance of the lead and partner institutions.

Progress of Project

- The purpose of this Capacity for Agriculture and Rural Development (CARD) Project was *to enhance Vietnam's capacity for teaching and research in agriculture and rural development, through the development of productive partnerships between education, research and training institutions in Vietnam and in Australia.*
- A Full Project Budget Acquittal is presented in *Appendix A*. Despite some delays in implementing some initial phases of the project, the project is running close to budget.
- The project focussed on delivering three main objectives which included -

- Improving Research and Extension (R&E) skills by providing short-term R&E staff placements in the tropical beef production region of central Queensland, Australia - 'Train the Trainer' - April-May, 2001- (*See Appendix C*);
- Improving Vietnamese R&E staff and farmer skills by providing three strategically located training workshops in Vietnam in “Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems”, and presented by Australian R&E specialists in conjunction with those Vietnamese staff who received specialist training in Australia (Phase I) – ‘Train the Trainer - May-June, 2001- (*See Appendix D*); and
- Facilitation of the development of new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in “Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems” -
 - ◆ Part 1 - December, 2001 (*See Appendix E*);
 - ◆ Part 2 - April, 2002 (*See Appendix F*); and
 - ◆ Part 3 - December, 2002 (to be completed).
- The modified AusAID CARD Project successfully delivered on all proposed outputs and outcomes and exceeded all time and quality targets, despite an initial setback.
- The subsequent development and production of an 'Independent Curriculum' surpassed the initial objective of 'facilitating the development of a curriculum'. The delivery of this 'additional outcome' was a result of the strong rapport and working relationship between the Australian and Vietnamese AusAID Team Members.
- A Pilot Training Course was requested by the Vietnamese participants to evaluate this 'new curriculum' before it is to be delivered to nominated 'client' groups. As a result this additional task will be completed by late December, 2002.

Outcomes Achieved

- Vietnamese participants received high quality training in the theory and development of practical skills in modern tropical beef cattle genetics, breeding, reproduction and extension principles in Phase I in Australia and in Phase II and III in Vietnam.
- Vietnamese participants gained skills in tropical cattle breeding, e.g., pregnancy testing, bull fertility testing, use of EBVs (Estimated Breeding Values) and group problem solving techniques with farmers and within their own professional teams.
- Vietnamese participants acquired professional contacts, knowledge/information in beef cattle genetics, breeding and reproduction as applied to tropical beef industry supply chain systems, that is, seedstock producers, commercial producers, feedlots, pasture finishing, processing and retail systems.
- Vietnamese participants gained a good understanding of the environment under which the Australian tropical beef cattle breeding and production system functions, e.g., genotypes and relative performance in genotype x environment interactions.
- Vietnamese participants gained an understanding of the use of Australian BREEDPLAN genetic evaluations appropriate for purchasing bull semen for use in projects in Vietnam.
- Queensland Department of Primary Industries' (QDPI's) "Prime Notes" CD (Rural Industries Extension Notes) were used as a model for the Vietnamese to collate and report their own 'extension' material (*See Appendix G*).
- QDPI's "Beef Cattle Performance in Northern Australia" publication (Beef Cattle Research) was used as a model for the Vietnamese to collate and report their own 'research' material (*See Appendix H*).

- QDPI's "Bull Selection" (See *Appendix I*) and "Female Selection" (See *Appendix J*) books are being used as reference sources in North and Central Vietnam Universities and have been translated into Vietnamese.
- The AusAID CARD Proceedings, "Enhancing Tropical Beef Cattle Genetics, Reproduction and Animal Breeding Skills as Applied to Tropical Beef Industry Supply Chain Systems" was translated into Vietnamese and is being used as a reference source in North and Central Vietnam Universities (See *Appendix K*).
- The Agricultural Business Research Institute's, "Herd Magic" Computer Package was provided as a model for developing a computer genetic data management system.
- An 'Independent Curriculum, in "Tropical Beef Cattle Genetics, Breeding and Reproduction", was developed and produced in Vietnamese and is being used as a reference source by all Vietnamese institutions who participated in the AusAID CARD Project. It will be used to target 'client groups' throughout North and Central Vietnam.

Performance of Lead and Partner Institutions

- The Lead Australian Agency was the Agency for Food and Fibre Sciences (Beef) (AFFS (Beef)), Department of Primary Industries (DPI). The performance of the Australian Lead Institution over the life of this project would reflect 'best practice'.
- The Australian Lead Institution received excellent support from its Australian partner institutions which included - the Agricultural Business Research Institute and Animal Genetics and Breeding Unit, University of New England, NSW; Beef Breeding Services, AFFS (Beef), DPI; Central Queensland University; Australian Brahman Breeders' Association; and Consolidated Meat Group Rockhampton, QLD.; the University of Queensland, St. Lucia, QLD.; and the Droughtmaster Stud Breeders' Society, Kenmore, QLD.
- All aspects of the content of the project material and the delivery process were very well received by the Vietnamese participants. This claim is supported by the responses from the 'Workshop Evaluation Sheets', the request by Vietnamese institutions to be involved in the project and for the development of a Second AusAID CARD Project.
- The Lead Vietnamese Agency, the National Institute of Animal Husbandry (NIAH), gave excellent support through the organisation of workshop facilities, equipment, and their colleagues and the interpretation of workshop presentations.
- The NIAH received excellent support from their Vietnamese partners which included – the Hanoi Agricultural University No. 1 and Ministry of Agriculture and Rural Development, both of Hanoi; Hue University of Agriculture and Forestry, Hue; Department of Agriculture and Rural Development, Quang Ngai City, Quang Ngai Province; Tay Nguyen University and The Dak Lak Livestock Company both of Buon Ma Thuot, Dak Lak Province; Vinh University, Vinh; and Thai Nguyen University, Thai Nguyen.

1. Project Description

1.1 Background and preparation

Provide information outlining the original request for the project. This section should also provide key preparation steps and dates, identify stakeholders, and beneficiaries of the project.

Key Preparation Steps and Dates

Since 1997, the AusAID Capacity for Agriculture and Rural Development (CARD) Project Leader (Dr. Burns) was involved in the ACIAR Profitable Beef Cattle Development in Vietnam Project (AS2/97/18), and specifically as Project Leader of Sub-Project 5, Genetics, Breeding and Reproduction. This sub-project proved to be very successful and offered many active learning opportunities for project staff as problems were encountered and subsequently solved through group interaction and discussion. However, this ACIAR Project had a research focus and the project team was not able to extend the successes of this project to the wider farming community. Therefore, towards the conclusion of this project, Dr. Burns identified a lack of funds and poor theoretical and practical skills in Vietnamese Research and Extension (R&E) staff as major limitations to the successful extension of project results to other regional community beef production systems.

The combination of the lack of funds in the above ACIAR Project and the need to develop a project to enhance the skills of Vietnamese R&E staff in modern tropical cattle genetics, breeding, reproduction and extension principles made the advertisement of the AusAID Vietnam-Australia Development Cooperation CARD Program an obvious avenue to progress the training. During an inspection of these ACIAR Project sites, throughout North and Central Vietnam in mid-January, 2000, Dr. Burns organised meetings with a number of Vietnamese universities and R&E institutions and staff throughout these regions to identify and discuss their needs in the area of beef cattle genetics and breeding. With the assistance of these Vietnamese colleagues, in addition to inputs from experienced Australian R&E scientists, the "potential AusAID Team" successfully capitalised on this Pilot AusAID Vietnam CARD Program funding opportunity. As a result, an international multi-disciplinary, multi-organisational project was developed. The project on "Enhancing Tropical Beef Cattle Genetics, Reproduction and Animal Breeding Skills in R&E staff within Vietnam.

Despite comments in the CARD Monitoring Mission Report: September 2001 (, there were 20 people and several universities represented in prior consultation with Dr. Burns (mid-January, 2001). NIAH was the lead agency represented in these negotiations but the extent of the dissemination of the communications within staff at NIAH cannot be documented (See ***Appendix B - Issue 6***).

The proposed project content was discussed with Australian colleagues and regular contact was maintained with key Vietnamese colleagues to keep them informed of the development of the project.

Stakeholders

At this development stage of the project, the key Vietnamese stakeholder groups included -

1. National Institute of Animal Husbandry (NIAH), Thuy Phuong – Tu Liem, Hanoi, Vietnam - Dr. Hoang Kim Giao (Vice Director NIAH) and Mr Vu Chi Cuong (Cattle Department);
2. Ministry of Agriculture and Rural Development (MARD), Hanoi, Vietnam - Professor Dr. Nguyen Ngoc Kinh (Director of Office for National Biotechnology Program) and Mr. Nguyen Viet Hai (Head, International Cooperation Division) - Policy and administration of education/research/training in agriculture/rural development;
3. Quang Ngai Agricultural and Rural Development Department (DARD), Quang Ngai Town, Quang Ngai Province, Vietnam - Mr. Truong Quang Viet (Vice Director, Quang Ngai DARD) and Mr. Cao Hoi (Vice Director, Extension, Quang Ngai DARD).

4. Hue University of Agriculture and Forestry (HUAF), Hue City, Vietnam - Prof. Dr. Le Khac Huy (Rector HUAF) and Prof. Dr. Nguyen Kim Duong (Dean of Animal Breeding and Genetics);
5. Dak Lak DARD, Buon Ma Thuot City, Dak Lak Province, Vietnam - Mr. Phan Qua (Deputy Project Director, DARD);
6. Tay Nguyen University, Buon Ma Thuot City, Dak Lak Province, Vietnam - Mr. Truong Tan Khanh (Head of Nutrition and Forage Department); and
7. The Livestock Company of Dak Lak Province, Buon Ma Thuot, Dak Lak Province, Vietnam - Mr. Pham Chien (Director, The Livestock Company of Dak Lak Province).

Beneficiaries of The Project

The beneficiaries of the project included R&E staff from the seven groups identified above and included -

Phase I - *Improving R&E skills by providing short-term R&E staff placements in the tropical beef production region of central Queensland, Australia - 'Train the Trainer' - 22 April, 2001 – 19 May, 2001*

Phase II - *Improving Vietnamese R&E staff and farmer skills by providing three strategically located training workshops in “Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems”, and presented by Australian R&E specialists in conjunction with those Vietnamese staff who received specialist training in Australia (Phase I) – ‘Train the Trainer’ – 28 May, 2001 to 20 June, 2001.*

A. NIAH, Hanoi - 28 – 31 May 2001

Name	Employment Location and Area
Pham Kim Cuong B Sc	Cattle Science Department NIAH, Hanoi
Nguyen Thanh Trung B Sc	Cattle Science Department NIAH
Nguyen Van Niem MSc	Cattle Science Department NIAH
Trinh Quang Phong MSc	Reproduction and AI
Dr. Phan Van Kiem	Reproduction and AI
Nguyen Thi Kim Anh B Sc	Embryo Transfer Department
Luu Cong Khanh MSc	Embryo Transfer Department
Nguyen Van Son B Sc	Embryo Transfer Department
Vu Thi Khanh Van B Sc	Biodiversity and Rare Animals Department
Pham Doan Lan B Sc	Biodiversity and Rare Animals Department
Tran Thu Thuy B Sc	Biodiversity and Rare Animals Department
Ta Thi Bich Duyen MSc	Genetics Department

Le Van Hoat B Sc	Vinh Truong Extension Service
Ha Van Minh B Sc	Vinh Truong Extension Service
Nguyen Thi Ngoan B Sc	Hanoi Agricultural Service
Dr Nguyen Thi Ngoan Veterinarian	Ba Vi Cattle Research Centre
Su Thanh Long	Hanoi Agricultural University
Nguyen Van Hai B Sc	Hanoi Agricultural University
Dr Van Le Hang	National University
Trinh Van Trung B Sc	Buffalo Science Department, NIAH
Dao Lan Nhi MSc	Buffalo Science Department, NIAH
Dr Dao Duc Tha	Reproduction and AI Department
Dr Le Trong Lap	Ba Vi Cattle Research Centre
Ngo Thanh Vinh B Sc.	Ba Vi Cattle Research Centre
Vu Chi Cuong MSc	Cattle Science Department, NIAH, Hanoi

At the end of this workshop, workshop participants accompanied Australian AusAID CARD Team Members to the ACIAR Profitable Beef Cattle Development project site in Vinh Phuc Province (Vu Di Village – 31 May, 2001). During this visit, animal breeding, crossbreeding, marketing and technology transfer strategies were discussed with R&E staff and farming families (male and female) (See *Appendix B - Issues 2 and 16*) for this regional beef production system. In addition, bull and female (heifer and cow) evaluation and selection procedures were demonstrated.

B. Quang Ngai City, Quang Ngai Province – 7-10 June, 2001

Name	Employment Location and Area
Phan Van Chinh	Hue University of Agriculture and Forestry
Nguyen Van Phong	Hue University of Agriculture and Forestry
Le Dinh Phung	Hue University of Agriculture and Forestry
Nguyen Thi Vinh	Hue University of Agriculture and Forestry
Hoang Van Truong	Centre of Animal Research and Development
Ly Van Vy	Centre of Animal Research and Development of the Centre of Vietnam
Nguyen Van Thong	Centre of Animal Research and Development Binh Dinh Province
Ngo Van Theo	Centre of Animal Research and Development Binh Dinh Province
Nguyen Le Vinh	Extension – Mo Duc District
Dao Trong Nga	Extension – Nghia Thanh District
Nguyen Thanh Luu	Extension – Duc Pho District

Luong Van Mui	Extension – Son Tinh District, Quang Ngai
Nguyen Su	Extension – Tu Nghia - Quang Ngai
Do Van Chung	Extension – Quang Ngai DARD
Nguyen Van Nam	Extension – Quang Ngai Province
Trinh Luong Thom	Extension – Quang Ngai Province
Do Kim Cuong	Extension – Quang Ngai Province
To Ngoc Tan	Extension – Quang Ngai Province
Truong Thi Kim Anh	Extension – Quang Ngai Province
Pham Cuong	DARD - Quang Ngai Town

At the end of this workshop, workshop participants accompanied Australian AusAID CARD Team Members to a local village in Quang Ngai Town, Quang Ngai Province. Animal breeding, crossbreeding, marketing and technology transfer strategies were discussed with R&E staff and village farmers (male and female) (See *Appendix B - Issues 2 and 16*) for this beef production system. Bull and female evaluation and selection procedures were demonstrated in conjunction with discussion with the farmers about the transfer of information from and to the researchers.

C. Central Highlands, Dak Lak Province – 13-16 June, 2001

Name	Employment Location and Area
Tran Van Bui	Extension Officer – Dak Lak Province
Le Van Thieu	Extension Officer - M'Drak District
Dang Ngoc Luyen	Veterinarian - Krong No District.
Nguyen Hai Duong	Department Agriculture - Buon Don District
Cu Duy Loc	Department Agriculture - Buon Don District
Van Phu Bo	Cattle Breeding Centre of Gia Lai Province
Pham Ba Bang	Veterinarian - Krong Pak District
Dang Van Thai	Department Agriculture - Krong Pak District
Vu Dinh Le	DARD
Tran Dinh Binh	DARD
Van Tien Dung	Tay Nguyen University
Tran Van Thuy	Tay Nguyen University
Vu Tien Quang	Tay Nguyen University
Tran Cong Thanh	Tay Nguyen University
Nguyen Manh Thuot	Tay Nguyen University
Nguyen Thi Minh Thu	Department of Science and Environment

Pham The Hue	Tay Nguyen University
Ngo Dinh Nho	M'Drak Cattle Breeding Centre
Nguyen Trong Huyen	M'Drak Cattle Breeding Centre
Hoang Cong Nhieu	Extension - Ea Kar
Mai Anh	Extension - Krong Ana
Le Thi Thu Hong	Tay Nguyen University
Ho Thi Quynh	Tay Nguyen University
Nguyen Thanh Xuan	Student - Tay Nguyen University
Nguyen Thi Hoa	Student - Tay Nguyen University

At the end of this workshop, workshop participants accompanied Australian AusAID CARD Team Members to the ACIAR Profitable Beef Cattle Development project site in Dak Lak Province (M'Drak District). Animal breeding, crossbreeding and marketing and technology transfer strategies were discussed with R&E staff and farming families. Bull and female evaluation and selection procedures were demonstrated and a discussion was held with husband and wife teams (See *Appendix B - Issues 2 and 16*) regarding their beef production system and issues associated with accessing information in the community.

For a detailed report of activities attended by Vietnamese R&E staff in Vietnam See Phase II Report (*Appendix D*).

Phase III - *Facilitation of the development of new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in "Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems"*

Part 1 – Workshop organised at NIAH, Hanoi – 11-13 December, 2001

Name	Organisation	Specialisation
Dr . Dang Vu Binh	Rector, Hanoi Agricultural University (HAU) No. 1, Trau Quy – Gia Lam, Hanoi, Vietnam	Genetics
Dr. Nguyen Xuan Trach	Faculty of Animal and Veterinary Medicine, HAU No. 1, Trau Quy – Gia Lam, Hanoi, Vietnam	Reproduction
Dr. Nguyen Van Thanh	Faculty of Animal and Veterinary Science, HAU No. 1, Trau Quy – Gia Lam, Hanoi, Vietnam	Reproduction
Dr. Nguyen Tan Vui	Faculty of Agriculture and Forestry, Tay Nguyen University, Buon Ma Thuot, Dak Lak Province, Vietnam	Reproduction and Breeding
Dr. Pham The Hue	Faculty of Agriculture and Forestry, Tay Nguyen University, Buon Ma Thuot, Dak	Genetics

	Lak Province, Vietnam	
Mr. Truong Tan Khanh	Faculty of Agriculture and Forestry, Tay Nguyen University, Buon Ma Thuot, Dak Lak Province, Vietnam	Tropical Beef Cattle Production - nutrition
Mr Pham Chien	Director, Dak Lak Livestock Company, Buon Ma Thuot, Dak Lak Province, Vietnam	Extension
Dr Nguyen Kim Duong	Faculty of Agriculture-Forestry-Aquaculture, Vinh University, Vinh, Vietnam	Genetics
Dr. Chu Thanh Nha	Faculty of Animal Science, Hue University of Agriculture and Forestry, Hue City, Vietnam	Reproduction
Mr. Cao Hoi	Center of Forest-Agricultural Technology and Extension, Quang Ngai Department of Agriculture and Rural Development, Quang Ngai City, Quang Ngai Province, Vietnam	Extension
Dr. Cao Van	Thai Nguyen University, Thai Nguyen City, Thai Nguyen Province, Vietnam	Breeding and Reproduction
Dr. Do Kim Tuyen	Livestock Breeding Specialist, Deputy Head of Livestock Production, Department of Agricultural Extension, Ministry of Agriculture and Rural Development (MARD), Hanoi, Vietnam	Reproduction, Breeding and Extension
Mr. Pham Tat Kien	MARD, Hanoi	Extension
Dr. Hoang Kim Giao	Vice Director, National Institute of Animal Husbandry (NIAH), Thuy Phuong – Tu Liem, Hanoi, Vietnam	Reproduction
Dr. Vo Van Su	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Genetics
Dr. Pham Van Kiem	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Reproduction
Mr. Vu Chi Cuong MSc	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	CARD Secretary
Mr. Pham Kim Cuong	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Reproduction
Dr. Dao Duc Tha	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Reproduction
Mr. Luu Cong Khanh	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Reproduction

Mr. Le Van Hoat	Center for Vinhthuong District Agriculture Extension, Department of Agriculture and Rural Development (DARD), Vinh Phuc Province	Extension
Mr. Nguyen Thanh Trung	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Cattle Science
Dr. Trinh Quang Phong	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Reproduction
Ms. Vu Thi Khanh Van	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Genetics
Ms. Ngo The Kim Cuc	NIAH, Thuy Phuong – Tu Liem, Hanoi, Vietnam	Genetics

For a detailed report of activities attended by Vietnamese R&E staff in Vietnam See Phase III, Part 1 Report (*Appendix E*).

Phase III - Facilitation of the development of new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in “Tropical Genetics, Reproduction and Animal Breeding”

Part 2 – Workshop organised in Hanoi at an independent venue – 15-17 April, 2002.

Name	Organisation	Specification
Dang Vu Binh	Hanoi Agriculture University	Genetics
Nguyen Xuan Trach	Hanoi Agriculture University	Reproduction
Phan Xuan Hao	Hanoi Agriculture University	Genetics
Phan The Hue	Tay Nguyen University	Genetics
Van Tien Dung	Tay Nguyen University	Breeding
Nguyen Kim Duong	Vinh University	Genetics
Chu Thanh Nha	Hue University	Reproduction
Pham Khanh Tu	Hue University	Genetics
Cao Van	Thai Nguyen Agriculture and Forestry University	Reproduction
Nguyen Duc Hung	Thai Nguyen Agriculture and Forestry University	Reproduction
Kiyoshi Korematsu	JICA Project	Reproduction
Vincent Porphyre	CIRAD (French)	Extension
Vo Van Su	NIAH	Genetics

Nguyen Thi Binh	NIAH	Extension
Nguyen Van Duc	NIAH	Genetics
Hoang Kim Giao	NIAH	Reproduction
Le Thi Thuy	NIAH	Genetics
Trinh Van Than	NIAH	Reproduction
Dao Duc Tha	NIAH	Reproduction
Do Huu Hoan	NIAH	Reproduction
Dang Vu Hoa	NIAH	Embryo T
Le Thi Thuy	NIAH	Genetics
Nguyen Thi Thoa	NIAH	Embryo T
Vu chi Cuong	NIAH	Cattle Production
Pham Kim Cuong	NIAH	Cattle Production
Nguyen Thanh Trung	NIAH	Cattle Production
Nguyen Xuan Hoa	NIAH	Cattle Production
Pham Hung Cuong	NIAH	Cattle Production
Vu Van Noi	NIAH	Cattle Production

For a detailed report of activities attended by Vietnamese R&E staff in Vietnam See Phase III, Part 2 Report (*Appendix F*).

Knowledge, skills and technology obtained by R&E staff throughout the three Phases of this AusAID CARD Project are assisting in alleviating the poverty of Vietnamese farming communities through the development of more efficient beef cattle production systems.

1.2 Context and rationale

This section should elaborate on the context within which the project has operated. It should further outline relationships with other projects and programs if relevant and options considered and reasons for preferred options chosen by the project team.

Animal breeding and reproduction training in Vietnam universities is limited to a general course that is not species specific. This focus reflects the historical nature of the farmer and village life where duck, chicken, pork, fish, cattle and possibly buffalo are produced. The extension officers (ie MARD and DARD) who are a product of this educational system do not have bovine specific knowledge and skills. Furthermore, they have limited practical training in various husbandry techniques that will assist them in demonstrating to farmers improved production practices.

The overall objective of the CARD was to *enhance the local capacity for teaching, research and extension in agriculture and rural development*. Specifically, this project has focused on specialised training, in Australia and Vietnam, and curriculum development in Vietnamese universities and associated agricultural institutions, in the disciplines of genetic improvement, animal breeding and reproduction. As a result, the AFFS (Beef), DPI focussed its project on

the key priority area of agriculture, and livestock improvement in Vietnam, and within these areas, to deliver activities in the disciplines of biotechnology and genetic improvement as highlighted as a priority area by the Government of Vietnam (GOV) in the Vietnam - Australia Development Cooperation Program, CARD Program Guidelines.

As discussed in 1.0 Project Description, the Sub-Project 5 ACIAR Project (Profitable Beef Cattle Development in Vietnam Project) Team was not able to extend the successes of this project to the wider farming community. In addition, a lack of funds and poor theoretical and practical skills in modern beef cattle genetics, breeding, reproduction and extension principles in Vietnamese R&E staff were major limitations to the successful extension of project results to other regional community beef production systems.

Therefore, after consultation with both Vietnamese and Australian R&E colleagues, it was decided that the development of the Pilot AusAID Vietnam CARD Project offered an ideal opportunity to build on the successes of the ACIAR Project and to develop a project that addressed the limitations and needs identified in this project.

After further consultation between Vietnamese R&E staff and Australian AusAID CARD Team Members, the group identified a number of preferred options that they believed were the most expedient strategies to address these limitations and needs and that would assist in overcoming the poor theoretical and practical skills in modern beef cattle genetics, breeding, reproduction and extension principles in Vietnamese R&E staff. These included -

1. Improving R&E skills by providing short-term R&E staff placements in the tropical beef production region of central Queensland, Australia - 'Train the Trainer'.
2. Improving Vietnamese R&E staff and farmer skills by providing three strategically located training workshops in "Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems", and presented by Australian R&E specialists in conjunction with those Vietnamese staff who received specialist training in Australia (Phase I) – 'Train the Trainer'.
3. Facilitation of the development of new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in "Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems".

1.3 Project objectives and scope at design

This section should provide some information on the objectives envisioned at the commencement of the project and the relevance of the project's design to AusAID country strategies and partner government programs.

The proposed objectives at the commencement of the project included -

1. *Phase I* - To improve R&E skills by providing short-term R&E staff placements in the tropical beef production region of central Queensland, Australia - 'Train the Trainer'.
2. *Phase II* - To improve Vietnamese R&E staff and farmer skills by providing three strategically located training workshops in "Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems", and presented by Australian R&E specialists in conjunction with those Vietnamese staff who received specialist training in Australia (Phase I) – 'Train the Trainer'.

3. *Phase III* - To facilitate the development of new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in “Tropical Genetics, Reproduction and Animal Breeding”.

The initial focus of the Phase III objective was to 'facilitate the development of a new curriculum'. This overall objective was achieved in consultation with workshop participants and divided into three manageable activities - Parts 1, 2 & 3.

Part 1

- To present an overview of the content of tropical environment curricula in 'Beef Cattle Genetics, Breeding and Reproduction' as applicable to Vietnam, Australia and the United States;
- To identify strengths, weaknesses, opportunities and threats of existing curricula;
- To identify problems with existing curricula before identifying solutions using a 'Nominal Group Technique';
- To convert problems into goals;
- To identify 'Important Focussed Issues'; and
- To develop an agreed Action Plan to deliver on identified 'Important Focussed Issues'.

Part 2

- To identify the requirements for the development of a new curriculum - operating within the GOV guidelines.
- To agree on an overall curriculum profile and potential sources of material; and
- To develop an Action Plan to progress the development of a new curriculum and to translate reference material.

Part 3

- To conduct a Pilot Training Course Workshop with representatives from each collaborating Vietnamese institution to evaluate the 'New Curriculum' before its delivery to identified groups; and
- To identify supporting activities to strengthen the adoption of the curriculum and the implementation of breeding strategies by the farmers throughout Vietnam.

These three objectives were directly focussed on the agreed country strategy for Australian aid to Vietnam, that is, the main priority area of rural development and specifically on the GOV's desire to direct more resources to disadvantaged rural populations. These objectives also focussed on the key priority area of agriculture, and livestock improvement in Vietnam, and within these areas, they delivered activities in the disciplines of biotechnology and genetic improvement, as highlighted as a priority area by the GOV in the Vietnam - Australia Development Cooperation Program, CARD Program Guidelines.

At all times, the Australian CARD Team was aware that -

- *"Vietnam did not have a breed improvement policy; and*

- *Breed improvement requiring higher management and feed inputs carries potential benefit, but also considerable risk for resource poor, farmers, particularly in a market that doesn't differentiate on beef quality".*

The Australian AusAID CARD Team agrees with the previous observation/paragraph as reported by the CARD Monitoring Mission: September 2001 (See *Appendix B - Issue 4*).

However, a main focus of this project was to update Vietnamese R&E participants on the latest information and technology in these modern genetics, breeding, reproduction and extension disciplines and systems and to discuss how some of these concepts may be applied to their Vietnamese beef industry. That is, this project offered Vietnam the opportunity to evaluate a more 'systems oriented approach' to improving tropical beef production.

At no point has the Australian AusAID CARD Team suggested or recommended that Vietnam should adopt or implement any of tropical Queensland's higher management systems in isolation.

1.4 Implementation arrangements

Briefly, in one paragraph, discuss the management and institutional arrangements for the project.

The Lead Australian Agency was the AFFS (Beef), DPI and the respective Project Leader and Project Manager were Dr. Brian Burns and Mr. Greg Bell. Mr. Bell was responsible for management of the project's budget. Supporting agencies and organisations included -

- Agricultural Business Research Institute, University of New England, NSW;
- Animal Genetics and Breeding Unit, University of New England, NSW;
- Beef Breeding Services, QBII, AFFS (Beef) , DPI, Rockhampton, QLD.;
- Central Queensland University, Rockhampton, QLD.;
- University of Queensland, St. Lucia, QLD.;
- Australian Brahman Breeders' Association, Rockhampton, QLD.;
- Droughtmaster Stud Breeders' Society, Kenmore, QLD.; and
- Consolidated Meat Group, Rockhampton, QLD..

The Lead Vietnamese Agency was the NIAH, Hanoi and the respective Project Leader and Project Manager were Assoc. Prof. Hoang Kim Giao and Mr. Vu Chi Cuong. Mr. Cuong was responsible for handling the budget for this project in Vietnam, the organisation of facilities, equipment and participants and also for the translation and interpretation of material in Vietnam. Initial supporting agencies and organisations included -

- Hanoi Agricultural University No. 1, Hanoi;
- Ministry of Agriculture and Rural Development, Hanoi;
- Hue University of Agriculture and Forestry, Hue;
- Department of Agriculture and Rural Development, Quang Ngai City, Quang Ngai Province;
- Tay Nguyen University, Buon Ma Thuot, Dak Lak Province;
- The Dak Lak Livestock Company, Buon Ma Thuot, Dak Lak Province

After the commencement of the project other supporting agencies and organisations included-

- Vinh University, Vinh; and
- Thai Nguyen University, Thai Nguyen.

2.0 Appropriateness of Project Design and Objectives

2.1 Appropriateness of Objectives

List the project objectives and provide a rating for the appropriateness of each objective using the scale listed below.

5- Best Practice; 4- Fully Satisfactory; 3- Satisfactory overall; 2- Marginally Satisfactory; 1- Weak

Objective No (1, 2, 3, etc)	Objective description	Appropriateness Rating
1.	To improve Vietnamese R&E skills by providing short term R&E staff placements in the tropical bee production region of central Queensland, Australia 'Train the Trainer'.	5
2.	To improve Vietnamese R&E staff and farmer skills by providing three strategically located training workshop in "Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems" and presented by Australian R&E specialists in conjunction with those Vietnamese staff who received specialist training in Australia (Phase I) 'Train the Trainer'.	5
3.	To facilitate the development of new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in "Tropical Genetics, Reproduction and Animal Breeding as Applied to Tropical Beef Industry Supply Chain Systems".	5

2.2 Appropriateness of Design

Outline the key features of the selected project design and discuss the appropriateness of these, provide a rating of the appropriateness of each design feature using the scale listed below.

Description of design feature	Appropriateness Rating
Eleven Vietmanese R&E staff travelled to Queensland to develop theoretical knowledge and practical skills in modern beef cattle genetics, breeding, reproduction and extension principles as applied	5

<p>to tropical beef industry supply chain systems - 'Train the Trainer'</p> <ul style="list-style-type: none"> • Theoretical lectures in modern beef cattle genetics, breeding, reproduction and extension principles; • Practical skills development in modern beef cattle genetics, breeding, reproduction and extension; • Inspection of all sectors of tropical beef industry supply chain systems <ul style="list-style-type: none"> ➤ Seedstock industry (stud cattle); ➤ Commercial beef production; ➤ Grazing and feedlot finishing systems; ➤ Selling systems; ➤ Processing plants; ➤ Retail outlets; ➤ Meat Quality evaluation; and ➤ Restaurant • <i>Botanical Training</i> - pasture evaluation. 	<p>5</p> <p>5</p> <p>5</p> <p>5</p>
<p>Conduct three strategically located workshops throughout North and Central Vietnam and visit collaborating institutions and farming community sites to develop practical skills in cattle handling and management and extension skills between R&E staff and farmers (male, female and children). Use Vietnamese R&E staff who received training in Australia to assist Australian CARD Team Members with delivery of material to workshop participants in Vietnam</p> <ul style="list-style-type: none"> • NIAH, Hanoi Workshop and Vinh Phuc Province (Vu Di Village) - North; • Quang Ngai City, Quang Ngai Province and local village on outskirts of town - Central Coastal; and • Tay Nguyen University, Buon Ma Thuot, Dak Lak Province and village in M'Drak District - Central Highlands. 	<p>5</p> <p>5</p> <p>5</p> <p>5</p>
<p>Conduct three workshops in Vietnam to facilitate the development of new educational materials through consultation and interaction with Vietnamese universities and associated agricultural institutions to develop a new curriculum in “Tropical Genetics, Reproduction and Animal Breeding”.</p> <p><u>Part 1 - 11-13 December, 2001</u></p> <ul style="list-style-type: none"> • Presentations outlining genetics, breeding and reproduction curricula content and staff and student numbers by representatives from North and Central Vietnam Universities ("Service Providers"). • The "Consumer" groups, namely, MARD, NIAH and Provincial DARDs discussed their structure; research, development and extension (RD&E) focus and activities and needs. • Foster a participatory and interactive approach to ensure all parties had the opportunity to present their department's/organisation's case, to comment on each presentation and contribute to development of a new curriculum. 	<p>5</p> <p>5</p> <p>5</p>

<ul style="list-style-type: none"> • Ensure maximum results obtained from a problem solving session by employing a “problem solving” technique known as the “Nominal Group Technique” to identify the problems before identifying solutions. • Employ an open forum strategy so that participants can identify the “strengths and weaknesses of present university courses in genetics, reproduction and breeding” and what “opportunities exist for progress and change in these disciplines”. • Collation of individual common ideas to a problem or a group of problems and defined. • Conversion of problems into goals and participants to nominate favourable and restraining forces with respect to these goals and then 'rank' these factors. • Identification of Important Focussed Issues. • Identification by participants of Goals, Solutions and Action Plans and Who Does What and Timeframes for each of these issues. • Development of a List of Work Activities by all participants. 	<p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>5</p>
<p><u>Part 2 - 15-17 April, 2002</u></p>	
<ul style="list-style-type: none"> • Report on progress of Actions identified in the Phase III Part 1 Workshop, Basic Course/Curriculum Development in Vietnam and an Overview of Japanese Course/Curriculum Development were presented. <ul style="list-style-type: none"> ➤ Presentation of Vietnam requirements for the development of a new curriculum; ➤ Recognise the GOV constraints to the introduction of a new curriculum; ➤ Obtain the necessary support within the various stakeholder organisations in Vietnam; ➤ Develop an “Independent Curriculum” as recommended by the group and that did not affect government policy/support; and ➤ The curriculum must be modern, scientific and have a Vietnam orientation/perspective. • In consultation with the workshop participants – <ul style="list-style-type: none"> ➤ Develop an Overall Curriculum Profile; ➤ Identify sources of material for this curriculum; ➤ Agree upon content of this 'Independent Curriculum'; ➤ Identify Course Aids; and ➤ Identify Three Discipline Coordinators (Genetics, Breeding and Reproduction) and nominate course presenters. • Organise a Pilot Training Course Workshop so that representatives from each organisation can evaluate the 'Independent Curriculum Course' content before it is delivered to identified groups, Veterinary or Agricultural Extension Officers/Services, throughout North and Central Vietnam. 	<p>5</p> <p>5</p> <p>5</p>

<ul style="list-style-type: none"> • Identification of a number of 'Actions' – <ul style="list-style-type: none"> ➤ Translation of Enhancing of Tropical Beef Cattle Genetics, Reproduction and Animal Breeding Skills as Applied to Tropical Beef Industry Supply Chain Systems Proceedings from English into Vietnamese – 15 June, 2002; ➤ Translation of Bull Selection and Female Selection Books from English into Vietnamese – 15 June, 2002; ➤ Collate all Curriculum Material – 15 June, 2002; ➤ Plan and develop a Pilot Training Workshop to evaluate material – 15 June, 2002 and Workshop completed by December, 2002; and ➤ Funding to be supplied to finance these activities - 30 April, 2002 and ongoing. <p>-----</p> <p><u>NOTE:</u></p> <ul style="list-style-type: none"> ➤ See Capacity Building for Agriculture and Rural Development Program Monitoring Mission: September 2001 Report (<i>Appendix B - Issues 1&2</i>)– “<i>failure to translate training material</i>”. ➤ An ‘Action Plan’ was agreed to by all Vietnamese workshop participants – <ul style="list-style-type: none"> ◆ Vietnamese participants responsible; ◆ Completion date; and ◆ Funding supplied by Australian AusAID CARD Project Leader. <p>-----</p>	5
<ul style="list-style-type: none"> • Workshop Evaluation Process. <p><u>Part 3 - December, 2002</u></p> <ul style="list-style-type: none"> • Organisation of a Pilot Training Course Workshop so that representatives from each organisation can evaluate the 'Independent Curriculum Course' content before it is delivered to identified groups, Veterinary or Agricultural Extension Officers/Services, throughout North and Central Vietnam. • Discuss development of a 'Strategy to address issues not covered within this First AusAID Project' and to develop an outline of a 'New Second Phase AusAID Vietnam CARD Project' (2003) – <ul style="list-style-type: none"> ➤ Need to ensure consultation with potential Vietnamese project participants, and ➤ Develop and maintain a consistent/common team throughout this development phase and the life of the project. 	5 5 5
<p>Final Project Report - February, 2003</p>	5

<p>Consultation with Vietnamese Team Members to develop a Second AusAID Vietnam CARD Project in consultation with 'common Vietnamese/Australian team' and based on 'needs' identified from First AusAID Vietnam CARD Project - February - March, 2003.</p>	<p>5</p>
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5- Best Practice; 4- Fully Satisfactory; 3- Satisfactory overall; 2- Marginally Satisfactory; 1- Weak

3.0 Implementation Performance

3.1 Project Components and Outputs

Component No.	Component Description	Outputs	Performance Indicators	Performance Rating
1.	Improve R&E knowledge and skills in modern beef cattle genetics, breeding and reproduction and extension disciplines in a select group of Vietnamese staff in a tropically developed environment - 'Train the Trainer'.	(i) (a) 11 Vietnamese R&E (participants) staff travelled to Queensland; (b) 11 participants improve knowledge and skills	(i) (a) Vietnamese participants (NIAH, DARDs and Hanoi Agricultural University, Hue University of Agriculture and Forestry and Tay Nguyen University) travelled to Queensland and attended lectures and demonstrations from 23 April to 19 May, 2002. (b) Participants improved knowledge and skills (modern genetics, breeding, reproduction (3 semen collections, manual pregnancy diagnosis, artificial insemination, embryo transfer, scanning of reproductive tract) and active participation in testing extension strategies (identified list of problems with respect to delivery of information to Vietnamese farmers) from 23 April to 19 May, 2002. (c) Assist AusAID Team Members in delivery of 3 successful workshops in Vietnam.	5

		<p>(i) 11 participants developed good working knowledge of all sectors of tropical beef industry supply chain system.</p> <p>(iii) Production of a Workshop Proceedings covering all material covered in presentations.</p>	<p>(d) Responses on Workshop Evaluation Forms from participants in Vietnam.</p> <p>(e) Request for further workshops.</p> <p>(i) Participants evaluated tropical beef industry supply chain system - visited 5 seedstock producers, 2 commercial producers, 1 processor, 1 retailer from 25 May, 2001 to 20 June, 2001.</p> <p>(iii) Proceedings prepared in English and completed by 21 April, 2001 and distributed to participants.</p>	
2.	Improve Vietnamese R&E staff and farmer skills in North and Central Vietnam in modern beef cattle genetics breeding and reproduction and extension disciplines	<p>(i) Three strategically located workshops in North, Central Coastal and Central Highlands of Vietnam for R&E staff.</p> <p>(ii) Visit three universities in North Central Coastal and Central Highlands to discuss development of a new curriculum.</p> <p>(iii) (a) Workshop presenters and participants visited three villages in Vietnam;</p>	<p>(i) Three strategically located workshops delivered in North (Hanoi), Central Coastal (Quang Ngai Town) and Central Highlands (Buon Ma Thuot) of Vietnam.</p> <p>(ii) Discussed new curriculum development in with university staff at Hanoi Agricultural University, Hue University and Tay Nguyen University to during period 28 May to 20 June, 2001.</p> <p>(iii) (a) Visited 3 villages in Vietnam (North -(Vinh Phuc Province - Vu Di village); Central Coastal</p>	5

		(b) Demonstrated modern bee cattle genetics, breeding and reproduction and extension disciplines to participants and interacted with farmers.	(Quang Ngai Town village) and Central Highlands (M'Drak village)) from 28 May to 20 June, 2001. (b) i. Evaluated 2 bulls; inspected ACIAR Project village cows; discussed problems of transfer of information to farmers; discussed project with Chairman of Communist Party in Vinh Phuc Province; ii. Palpated 6 bulls for reproductive soundness; discussed physical attributes of another 8 bulls and cows; and discussed limitations of dissemination of production information to farmers with approximately 50 male and female farmers; and iii. Palpated 4 bulls; inspected ACIAR breeding herds; and discussed technology transfer with a group of local farmers (50% women attended).	
3. Part 1	Facilitation of the development of a new curriculum in modern bee cattle genetics, breeding and reproduction and extension disciplines	(i) Workshop participants and presenters - (a) Conducted an overview of existing curricula	(i) Phase III Part 1 activities of facilitation of a 'new curriculum' - (a) Completed an international curricula overview from 8-16 December, 2001;	5

			<p>(b) Attended by 22 participants from NIAH, MARD, Provincial DARDs, Hanoi Agricultural University, Hue University, Tay Nguyen University, Vinh University and Thai Nguyen University during period from 8-16 December, 2001.</p> <p>(c) Conducted a SWOT analysis of present curricula;</p> <p>(d) Identified 'Important Focused Issues', and</p> <p>(e) Developed an Action Plan</p>	
3. Part 2	Facilitation of the development of a new curriculum in modern beef cattle genetics, breeding and reproduction and extension disciplines	<p>(i) Develop a 'new curriculum' in tropical genetics, breeding and reproduction</p> <p>(a) Vietnam's education and political demands identified the need to introduce a post-graduate training program rather than change the existing curricula.</p>	<p>(i) Phase III Part 2 activities of facilitation of a 'new curriculum' completed between 15-17 April, 2002 -</p> <p>(a) Vietnam requirements for the development of a new curriculum investigated and discussed;</p> <p>(b) Developed an overall curriculum profile;</p> <p>(c) Identified deficiencies in existing Vietnamese curriculum and sources of new material;</p> <p>(d) Agreed on content of 'Independent Curriculum' (80% core material and 20% local material);</p> <p>(e) Identified three discipline coordinators (Genetics (Dr.</p>	5

			<p>Nguyen Kim Duong), Breeding (Dr. Nguyen Van Duc) and Reproduction (Dr. Nguyen Xuan Trach) and course presenters nominated; and</p> <p>(f) Translated reference material into Vietnamese -</p> <ul style="list-style-type: none"> • Bull Selection; • Female Selection; and • AusAID CARD Course Proceedings. 	
3. Part 3	Facilitation of the development of a new curriculum in modern beef cattle genetics, breeding and reproduction and extension disciplines	<p>(i) (a) Organisation of a Pilot Training Course to evaluate 'New Curriculum'.</p> <p>(b) Development of an outline for an extension of the CARD Project to a Second AusAID CARD Project</p>	<p>(i) Phase III Part 3 activities of facilitation of a 'new curriculum' completed by end December, 2002</p> <p>(a) Pilot Training Course to evaluate 'New Curriculum' completed.</p> <p>(b) Outline for a potential extension of the CARD Project to a Second AusAID CARD Project completed.</p>	5

5: Exceeding time and quality targets, 4: Achieving time and quality targets and on budget; 3: Moderate progress towards targets, some issues about quality, budgets or costs but these are being adequately addressed; 2: Some progress towards targets, but slippage in schedule and cost overruns; & 1: Significant problems in achieving targets, quality outputs unlikely to be achieved and substantial cost increases affecting overall budget.

Changes during Implementation

1. An initial setback occurred in the delivery of Phases I and II of the project as a result of serious illness to the Australian Project Leader. The Project Leader contacted both Illawarra International Technology Corporation Ltd., University of Wollongong and AusAID and informed them of this situation. A modified plan was developed to ensure the expedient delivery of the project objectives. This initial setback had no impact on the project with all expected outcomes attained within the initial timeframe of the project.
2. During the delivery on Phase III of the project, both the Vietnamese and Australian CARD Team Members recognised the GOV constraints to the introduction of a new curriculum. Through a group problem solving process it was agreed to develop an 'Independent Curriculum' that did not affect government policy/support.
3. In addition, the project has delivered on further outputs and outcomes from what was originally identified in the initial Phase III objective. Instead of 'facilitating the development of a curriculum', both the Australian and Vietnamese AusAID CARD Teams planned and developed an 'Independent Curriculum' in "Tropical Beef Cattle Genetics, Breeding and Reproduction" that will represent 80% of the core curriculum to be used by all participating organisations. In addition, the participants identified the need for a Pilot Training Course to evaluate this 'new curriculum' before it is to be implemented. Finally, the participants strongly supported the need to develop a Second AusAID CARD Project to build on the success of the first project, to deal with new issues/needs identified throughout the project and to ensure the sustainability of outputs and outcomes from the first project.

Therefore, the additional two Phase III trips to Vietnam were/will be undertaken to ensure-

- Close liaison with Vietnamese colleagues;
- The agreed technology was transcribed into their language;
- The focus of the project was meeting their expectations; and
- Identification of any ongoing obstacles to smooth implementation were dealt with given that not all points/issues were raised early in the project.

These 'additional outputs' were/will be achieved within budget but slightly over the identified timeframe of the project.

3.2 Project Outcomes

Preliminary Assessment of Project Effectiveness

The main purpose of this CARD Project was *to enhance Vietnam's capacity for teaching and research in agriculture and rural development, through the development of productive partnerships between education, research and training institutions in Vietnam and in Australia.*

This AusAID CARD Project has successfully built on the the outputs/outcomes of the ACIAR Profitable Beef Cattle Development in Vietnam Project (AS2/97/18), Sub-Project 5, Genetics, Breeding and Reproduction. The design of this AusAID CARD Project was focussed on -

- Evaluation of all sectors of tropical beef supply chain systems in a developed country;
- The delivery of theoretical lectures in modern genetics, breeding, reproduction and extension principles and the use of the 'Train the Trainer' concept;
- The development of practical skills in these disciplines (on-farm visits and training in Australia and Vietnam and interaction with farmers, with an emphasis on discussions with female farmers);
- Facilitation and development of a new 'Independent Curriculum'; and
- The use of a Pilot Training Course to evaluate this curriculum before its delivery to target 'client' groups.

As a result, this project has enhanced Vietnam's capacity for teaching and research in agriculture and rural development and strong working relationships were further enhanced with a number of institutions in Vietnam because of their collaborative involvement in this AusAID CARD project. Therefore, this AusAID CARD Project has successfully met this overall purpose/objective and has exceeded all time and quality targets.

Key Outcomes

- Vietnmaese participants received high quality training in the theory and development of practical skills in modern cattle genetics, breeding, reproduction and extension principles in Phase I in Australia; and in Phases II and III in Vietnam. This knowledge and skills have be actively embraced by Vietnamese workshop participants.

NOTE:

Further, participants had opportunities throughout the project to practise these strategies with each other and also during their visits to the identified farming communities in the North, Central Coastal and Central Highlands regions of Vietnam. These sessions proved to be one of the most popular segments of the AusAID CARD Project for both Vietnamese workshop participants and farmers during the Phase III Project 'village visits'. These claims are reinforced in the respective 'Workshop Evaluation Sheets'. In addition, these modern extension principles that focussed on 'learning by doing' adult learning principles were reinforced by Australian CARD Team Members by employing them/demonstrating their use throughout all phases/activities of the project.

See the CARD Program Monitoring Mission: September 2001 Report (*Appendix B - Issues 12 & 14*) that identified the following -

Project Design	Project Design/Progress Reporting	Monitoring Mission Comment
<i>Capacity Building</i> Social capital	An extension methodology is proposed that will "ensure that all family groups (wives, husbands and children) will be involved in issues affecting the sustainability of their farming enterprise	No evidence to this effect is provided in the progress report and the analysis appears to the Mission to be overly simplistic in Vietnam's diverse cultural and socio-economic milieu.
<i>Project Outcomes</i>	The project (through the	The profitability of high input beef

Financial benefit	development of modified regional beef cattle production systems) will "lead to profitable and sustainable beef production systems in harmony with the environment"	production in a market that does not yet differentiate on beef quality requires further evaluation and risk assessment. <u>The capacity of Vietnam to adopt the proposed extension system also requires further evaluation, particularly given the limitations of pasture based beef production in Vietnam.</u>
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See - 3.3 Sectoral Impact for- *Comment on the ways the project may have assisted women, minority communities and other disadvantaged groups. (Appendix B - Issues 16)*

Key Outcomes (continued)

- Vietnamese participants gained skills in tropical cattle breeding, e.g., pregnancy testing, bull fertility testing, use of EBVs and group techniques with farmers and within their own professional teams.
- Vietnamese participants acquired professional contacts, knowledge/information in beef cattle genetics, breeding and reproduction as applied to tropical beef industry supply chain systems, that is, seedstock producers, commercial producers, feedlots, pasture finishing, processing and retail systems.
- Vietnamese participants gained a good understanding of the environment under which the Australian tropical beef cattle breeding and production system functions, e.g., genotypes and relative performance in genotype x environment interactions and how the different genotypes may perform in their environment.
- Vietnamese participants gained an understanding of the use of Australian BREEDPLAN sire genetics when purchasing bull semen for use in projects in Vietnam.
Use of Queensland Department of Primary Industries' (QDPI's) "Prime Notes" CD (Rural Industries Extension Notes) as a model for the Vietnamese to collate their own 'extension' material (*Appendix G*).
- Use of QDPI's "Beef Cattle Performance in Northern Australia" publication (Beef Cattle Research) as a model for the Vietnamese to collate their own 'research' material (*Appendix H*).
- Use of QDPI's "Bull Selection" and "Female Selection" books as a reference source in North and Central Vietnam Universities (translated into Vietnamese) (*Appendix I & J*).
- Use of QDPI's "Enhancing Tropical Beef Cattle Genetics, Reproduction and Animal Breeding Skills as Applied to Tropical Beef Industry Supply Chain Systems" Proceedings (AusAID CARD Publication) as a reference source in North and Central Vietnam Universities (translated into Vietnamese) (*Appendix K*).
- Use of Agricultural Business Research Institute's "Herd Magic" Computer Package as model for developing a computer genetic data management system.
- Development of an "Independent Curriculum" in "Tropical Beef Cattle Genetics, Breeding and Reproduction" (in Vietnamese) for use by -
 - NIAH;
 - Hanoi Agricultural University No. 1, Hanoi;
 - Ministry of Agriculture and Rural Development, Hanoi;
 - Hue University of Agriculture and Forestry, Hue;

- Department of Agriculture and Rural Development, Quang Ngai City, Quang Ngai Province;
 - Tay Nguyen University, Buon Ma Thuot, Dak Lak Province;
 - The Dak Lak Livestock Company, Buon Ma Thuot, Dak Lak Province;
 - Department of Agriculture and Rural Development, Dak Lak Province;
 - Vinh University, Vinh; and
 - Thai Nguyen University, Thai Nguyen.
- Vietnamese participants refined their cross cultural skills in written and spoken English.

NOTE:

The CARD Program Monitoring Mission: September 2001 Report (*Appendix B - Issues 17-19*) identified that -

Project Design	Project Design/Progress Reporting	Monitoring Mission Comment
<i>Project Outcomes</i> Environment impact	Cow/calf well being improved and responsible grazing promoted.	Environmental impact will be limited by frequent herding of grazed cattle and dependence on crop residues rather than extensive grazing.
Sustainability	Contractors research development, education, extension and training (RDEET) approach will ensure effective knowledge transfer and productive institutional partnerships	Need to ensure the relevance of all training material (including CD ROM) and its translation into Vietnamese to ensure sustainability
Australian identity	Australian identification on training material	Satisfactory

RESPONSE:

The focus of using 'Australian material/information' was to expose the Vietnamese participants to the latest information, technology, skills and practices and for them to adopt 'concepts'.

As identified earlier, a main focus of this project was to update Vietnamese R&E participants on the latest information and technology in these modern genetics, breeding, reproduction and extension disciplines and systems and to discuss how some of these concepts may be applied to their Vietnamese beef industry. A special session was conducted during the Phase II workshops to profile the comparative relationships of Vietnam's beef industry relative to the tropical northern Australia industry and to recognise where Vietnam needs to place its emphasis. Therefore, this project offered Vietnam the opportunity to evaluate a more 'systems oriented approach' to improving tropical beef production. The Australian Team was always well aware of the fact that *"environmental impact will be limited by frequent herding of grazed cattle and dependence on crop residues rather than extensive grazing"*. However, the Team, through its promotion of a 'systems approach' to beef production, were advocating that 'environmental impact' issues should always be considered. For example, the use of certain supplements for animal survival and finishing is now being promoted for use by Vietnamese

farmers in different areas. The impact of nitrogen and phosphorous on the environment will need to be seriously considered. Further, erosion is another important issue that should be considered where cattle are herded and grazed in the more 'extensive' hill country of the Central Highlands of Vietnam.

Therefore, at no point has the Australian AusAID CARD Team suggested or recommended that Vietnam should adopt or implement any of tropical Queensland's higher management systems without considerable consultation, planning and risk management evaluation.

Issues

Achievement of Project Outcomes

As discussed above, the achievement of proposed project outcomes is a direct consequence of the strong working relationships that were developed with a number of institutions throughout Vietnam because of their collaborative involvement in the ACIAR and AusAID CARD Projects.

In the Pilot AusAID Vietnam-Australia Development Cooperation Program Guidelines, AusAID identified that 'curriculum development exercises' were a preferred CARD activity. However, it was not until the final Phase III of this project that the Australian CARD Team fully appreciated the intricacies of implementing a 'new curriculum' structure in Vietnam. The introduction of a new curriculum into Vietnam is not a simple process and requires support of the GOV. Through a group problem solving process, the development of an 'Independent Curriculum' in "Tropical Beef Cattle Genetics, Breeding and Reproduction" was identified as the most expedient strategy that did not require government support and that would satisfy the final Phase III objective. The subsequent development of this 'Independent Curriculum' surpassed the initial objective of 'facilitating the development of a curriculum'. The delivery of this 'additional outcome' reflects the strong working relationship identified above.

Project Purpose

The main purpose of this CARD Project was *to enhance Vietnam's capacity for teaching and research in agriculture and rural development, through the development of productive partnerships between education, research and training institutions in Vietnam and in Australia.*

The professional contacts developed in a previous ACIAR project were beneficial to the AusAID CARD Team to successfully deliver productive outputs and outcomes in this project. In addition, the professional rapport developed between the Australian and Vietnamese AusAID CARD Teams has assisted the successful delivery of this project and has exceeded all time and quality targets.

All Vietnamese R&E staff who participated in the three phases of this project have been exposed to all aspects of the latest beef cattle genetics, breeding and reproduction and extension principles. In addition, a number of productive partnerships have been forged between Vietnam and Australian organisations which include -

Vietnam

- NIAH;
- Hanoi Agricultural University No. 1, Hanoi;
- Ministry of Agriculture and Rural Development, Hanoi;
- Hue University of Agriculture and Forestry, Hue;
- Department of Agriculture and Rural Development, Quang Ngai City, Quang Ngai Province;
- Tay Nguyen University, Buon Ma Thuot, Dak Lak Province;
- The Dak Lak Livestock Company, Buon Ma Thuot, Dak Lak Province;
- Department of Agriculture and Rural Development, Dak Lak Province;
- Vinh University, Vinh; and
- Thai Nguyen University, Thai Nguyen.

Australia

- Agricultural Business Research Institute, University of New England, NSW;
- Animal Genetics and Breeding Unit, University of New England, NSW;
- Beef Breeding Services, QBII, AFFS, DPI, Rockhampton, QLD.;
- Central Queensland University, Rockhampton, QLD.;
- University of Queensland, St. Lucia, QLD.;
- Australian Brahman Breeders' Association; Rockhampton, QLD.;
- Droughtmaster Stud Breeders' Society, Kenmore, Brisbane, QLD; and
- Consolidated Meat Group, Rockhampton, QLD.

This project enabled Vietnamese participants to become involved in the Queensland beef production system - 'experiential learning'. This involvement which occurred during the first phase enabled the Vietnamese to make comparisons with their industry which was further supported at each of the workshops held in Vietnam. The sharing and translation from English to Vietnamese of various breeding and genetics booklets used by producers in the northern Australian beef industry is evidence of the way this project has enhanced the capacity for teaching and research in agriculture.

Further Actions to Improve Future Performance

As part of increasing the capacity for teaching and research in agriculture and rural development, this project compared and contrasted production issues between Australia and Vietnam. Australian approaches to addressing the various production issues encouraged the development of productive partnerships particularly at the DPI – NIAH and Vietnam university level representing training institutions. *Further Actions to Improve Future Performance* relevant to these issues includes -

- Continued profiling of Vietnam's beef industry relative to the tropical northern Australia industry and recognising Vietnam's strengths and weaknesses. For example, the need to improve on the present beef production system with respect to the use of 5-10% artificial insemination of cattle and 85-90% uncontrolled natural mating of cattle. Improvements in the Vietnamese 'beef cattle industry' will come from better bull selection and more controlled mating practices and the development of more targeted genetics and breeding programs.

In addition, through the interactive and structured workshop process fostered by Australian CARD Team Members, including the use of 'Workshop Evaluation Forms', Vietnamese participants identified the strengths, weaknesses, opportunities and threats of the present *education, research and training institutions, processes and activities*. Action Plans to improve future performance included -

- Allocating adequate funding in the Second AusAID CARD Project to develop facilities to ensure development of practical skills for students and staff;
- Developing and promoting strategies to create a two way flow of information between universities, R&E institutions and farming communities;
- Promoting the need to the GOV to develop an effective/efficient Agricultural Extension Service (Livestock);
- Focussing discipline activities on Vietnam conditions;
- Developing strategies to meet the needs of the different rural regions of Vietnam - a 'regional systems approach';
- Allocating some future project funding for overseas training by select Vietnamese project participants;
- Developing 'model farm' sites to be used as potential training venues;
- Implementation of farming community management programs with a 'whole of village'/'whole of commune' focus, in addition to an integrated beef industry supply chain systems approach;
- Measurement of basic production performance indicators occurs at the field/village level;
- Develop and formalise a strategy to efficiently collect, document and disseminate research results so that it does not sit in draws, which is generally the present practice;
- Use of 'neutral' workshop locations to benefit all Vietnamese organisations by providing an opportunity to promote their concerns/needs; and
- Continuing to address the Gender Balance issue with respect to involvement in training activities and attendance at workshops.

The Vietnam beef cattle industry is at a reasonably early stage of development and has no formal "Beef Cattle Industry Development Policy". Further, the CARD Program Monitoring Mission: September 2001 Report reported that "*Viet Nam does not have a breed improvement policy*". The Australian AusAID CARD Team has discussed these issues with both NIAH and MARD personnel. Therefore, an urgent *further action to improve future performance* is to develop a formal "Beef Cattle Industry Development Policy" (See *Appendix B - Issue 4*)..

3.3 Sectoral Impact

Throughout the development and delivery of this project the Australian AusAID CARD Team has always stressed the importance of the 'gender balance issue' to its Vietnamese colleagues. The results of our efforts are presented below.

Women in a professional capacity

At all stages in the development and implementation of this project, the Australian AusAID CARD Team has insisted on the involvement of female scientists and farmers in all aspects of project consultation, training and attendance at workshops. Further, selection criteria were drafted to ensure that females would have the opportunity to travel to Australia for training

and to attend the workshops organised throughout Vietnam. Finally, female scientists were encouraged to take responsibility, where possible, for delivering some components of the training workshops.

The Hanoi workshop was attended by 32% women; the Quang Ngai workshop by 8% women and the Dak Lak workshop by 18% women, respectively. These percentages may reflect the 'regional gender structure' in Vietnamese society in the Agricultural profession. These women represented various disciplines and they gained knowledge and skills in disciplines across a broader range than their immediate field. Specifically, this project allowed Vietnamese female scientists to be exposed to modern beef cattle genetics, breeding and reproduction and extension principles and to contribute to the identification of problems with curricula and to offer solutions to these problems. Many appreciated the benefits of the opportunity to communicate in English as the majority of their day to day communication is in Vietnamese.

Women in farming communities/villages

Further, a critical component of the promotion of an “integrated regional beef cattle supply chain systems approach” in this project was to ensure that all members of the family group (wives, husbands and children) had the opportunity to be involved in activities at the farming community level. Approximately 80 women farmers attended the 'village discussion group' activities during the three workshops. Women play a major role in the nutrition of livestock in Vietnam. In particular, women are involved in the husbandry and management of cattle, where the herd size is larger in the Central and Central Highlands of Vietnam, and which is aligned with some of the minority groups. Specific sites involving female farmers included -

- North Vietnam - Vu Di Village, Vinh Phuc Province;
- Central Coastal Vietnam - Quang Ngai City Village, Quang Ngai Province - high poverty level' and
- Central Highlands - M'Drak District, Dak Lak Province - minority communities.

During village visits, female farmers were encouraged to be involved in identifying issues that they believed were affecting the profitability and sustainability of their farming enterprise, and then were encouraged to participate in the development of possible solutions. This strategy highlighted the importance of the role of female farmers, with respect to decision making in animal management, to the Vietnamese R&E staff. This phase of the AusAID CARD Project also presented active learning opportunities in the use of a suite of extension strategies for both female and male Vietnamese R&E staff.

3.4 Costs and Financing

Despite some delays in implementing the project, the project is running close to budget. The entries for this financial year have not been fully processed within the DPI Financial System. Therefore, the report does not include all salary and associated costs for this year, as well as a few alterations for last year.

Further, the AusAID CARD Project Leader is planning a final project trip to Vietnam in December, 2002 to facilitate a Pilot Training Course. This course will focus on finalising the 'new curriculum' and evaluating the performance of nominated Vietnamese presenters of the 'new curriculum' before it is delivered to target 'client' groups. Some training in delivery techniques/processes will be offered if required.

Following finalisation of the project in Vietnam, the Australian based AusAID CARD Team Members will attend a workshop to review, analyse and evaluate the teams performance and project outputs and outcomes. This activity will enhance the effectiveness of any future collaborative work.

Sufficient funds are available to finalise the project within budget (See *Appendix A*)

3.5 Monitoring of project

Four main project monitoring strategies were employed -

- (i) 'Expectations';
- (ii) 'Reflection';
- (iii) Workshop Evaluation Sheet; and
- (iv) 'Informal Discussion'/'Individual Perceptions'.

After a brief overview of the proposed workshop agenda and objectives at the start of the workshop, an Australian CARD Team Member conducted a session where all participants were asked to identify their (i) 'Expectations' of the workshop. In addition, all participants had the opportunity to suggest modifications to the workshop agenda.

At various stages throughout the workshop, the facilitator would revisit the 'Expectations' to determine if specific expectations had been discussed. Finally, at the conclusion of each day, participants were consulted to determine if their issues had been effectively discussed. This strategy proved to be very successful.

At the start of each day during the workshop, an Australian CARD Team Facilitator asked the workshop participants to (ii) Reflect on the previous day's activities and for each participant to volunteer the 'lessons learnt'. If an issue from a previous Project Phase was raised during the workshop, participants were also asked to 'reflect' on their experiences with the issue. The CARD Program Monitoring Mission: September, 2001 Report (See *Appendix B - Issue 7 & 11*) does not reflect what actually happened in these reflection periods which are supported by the workshop notes/proceedings where participants revisited their comments and acknowledged adequate discussion.

At the conclusion of each workshop, all participants were supplied with a (iii) 'Workshop Evaluation Sheet' (a quantitative indication of 'usefulness') that they could fill in anonymously and through which their respective attitudes and perceptions could be monitored. The evaluations focussed on the workshop content and the environment under which the workshop was conducted. Feedback from these evaluation sheets was used during the course of the project to accommodate the perceptions of participants and to modify the content, delivery process or venue of the previous workshop if requested.

'Workshop Evaluation Sheets' are available in the Appendices of each workshop report.

Activities (i) and (ii) enabled the Australian Team Members to evaluate issues raised and to implement appropriate changes.

The final monitoring strategy involved (iv) Informal Discussions with participants to ascertain their concerns and needs (deal with Individual Perceptions).

See Appendices C - F.

3.6 Technical Assistance, Training and Capacity Building

Assistance in Capacity Building

The CARD Program Monitoring Mission: September 2001 Report Team Members (See Appendix B - Issues 10-13) reported that -

Project Design	Project Design/Progress Reporting	Monitoring Mission Comment
<i>Capacity Building</i> Physical capacity	No equipment inputs under the project	Some audio-visual equipment would have strengthened NIAH's training capacity, particularly for computer assisted learning.
Human capacity	10 persons provided experiential training in Australia and up to 90 trained in 3 workshops in Vietnam (actual numbers not provided in progress report)	The in-country training would have benefited from a longer period of reflection on what lessons learned in Australia could be incorporated in the local training. The availability of the CD Rom only in English limits the training value. Training materials have not been entirely suited to local context and have not always been distributed in time for adequate preparation.
Social capital	An extension methodology is proposed that will "ensure that all family groups (wives, husbands and children) will be involved in issues affecting the sustainability of their farming enterprise.	No evidence to this effect is provided in the progress report and the analysis appears to the Mission to be overly simplistic in Vietnam's diverse cultural and socio-economic milieu.
Institutional capacity	The training and curriculum development will strengthen NIAH and participating university capacity	In designing the curricula, further consideration may be required on the future structure and resource base of Vietnam's beef herd

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Project Design	Project Design/Progress Reporting	Monitoring Mission Comment
<p><u>Capacity Building</u></p> <p>Physical capacity</p>	<p>No equipment inputs supplied under the project</p>	<p>To assist with the delivery and reporting of the project NIAH has been supplied with funding to purchase -</p> <ul style="list-style-type: none"> • 2 Pentium Laptop computers • 1 Overhead Projector • Workshop materials • 2 Scrotal tapes for reproductive evaluations of bulls.
<p>Human capacity</p>	<p><u>Phase I</u></p> <ul style="list-style-type: none"> • 11 (not 10) people were provided with theoretical, experiential and practical training in Australia. <p><u>Phase II</u></p> <ul style="list-style-type: none"> • Approximately 69 R&E staff were trained in 3 workshops in Vietnam. • Approximately 140 farmers (female and male) attended 'village visit' meetings at 3 locations in Vietnam <p><u>Phase III</u></p> <p>Part 1</p> <ul style="list-style-type: none"> • 25 R&E staff participated in the 'curriculum development workshop in Hanoi <p>Part 2</p> <ul style="list-style-type: none"> • 30 R&E staff participated in the 'curriculum development workshop in 	<p>See 3.5 Monitoring of Project</p> <ul style="list-style-type: none"> • At the start of each day during the workshop, an Australian CARD Team Facilitator would ask the workshop participants to (ii) <u>Reflect</u> on the previous day's activities and for each participant to volunteer the 'lessons learnt'. If an issue from a previous Project Phase was raised during the workshop, participants were also asked to 'reflect' on their experiences with the issue. • Continued profiling the comparative relationships of Vietnam's beef industry relative to the tropical northern Australia industry ('reflection') was employed to assist participants in recognising where Vietnam needs to place its emphasis. This practice occurred throughout the three phases of the in-country training of this project. • These strategies allowed reflection on what lessons learned in Australia could be incorporated into the local training. • As discussed in 3.2 Project Outcomes, the focus of using 'Australian material/information' was to expose the Vietnamese participants to the latest information, technology, skills and practices and for them to adopt 'concepts'. • In Phase II of the project, the Australian Team identified that very limited accurate and recorded information was available on the Vietnam beef industry. Therefore, as discussed above, profiling the comparative relationships of Vietnam's beef industry relative to the tropical northern Australia industry was employed to discuss how some of these 'Australian' concepts might be applied to their Vietnamese beef industry. • The recording and reporting of information in

	Hanoi	<p>Vietnam was poor to non-existent. The Australian Team provided examples of how research and extension results/information can be stored and used for distribution. These included -</p> <ul style="list-style-type: none"> ➤ QDPI's "Prime Notes" CD (Rural Industries Extension Notes) as a model for the Vietnamese to collate and report their own 'extension' material. ➤ QDPI's "Beef Cattle Performance in Northern Australia" publication (Beef Cattle Research) as a model for the Vietnamese to collate and report their own 'research' material. ➤ QDPI's "Bull Selection" and "Female Selection" books as reference sources in North and Central Vietnam Universities (translated into Vietnamese). ➤ QDPI's "Enhancing Tropical Beef Cattle Genetics, Reproduction and Animal Breeding Skills as Applied to Tropical Beef Industry Supply Chain Systems" Proceedings (AusAID CARD Publication) as a reference source in North and Central Vietnam Universities (translated into Vietnamese). ➤ Agricultural Business Research Institute's "Herd Magic" Computer Package as a model for developing a computer genetic data management system. <ul style="list-style-type: none"> • Distribution of translated material was the responsibility of the Vietnamese Project Leaders. Funding was supplied to finance this activity.
Social capital	<p>An extension methodology is proposed that will ensure that all family groups (wives, husbands and children) will be involved in issues affecting the sustainability of their farming enterprise.</p>	<ul style="list-style-type: none"> • A major issue identified by workshop participants with respect to the efficient transfer of technology and information was the lack of and subsequent need for the GOV to develop an effective/efficient Agricultural Extension Service (Livestock); • As a consequence, Vietnamese participants received high quality training in the theory and development of practical skills in modern extension principles in Phase I in Australia and in Phase II and III in Vietnam. This knowledge and skills have been actively embraced by Vietnamese workshop participants. • Further, participants had opportunities throughout the project to practice these strategies with each other and also during their visits to the identified farming communities in the North, Central Coastal and Central Highlands regions of Vietnam. These interactive sessions proved to be one of the most popular segments of the AusAID

		<p>CARD Project for both Vietnamese workshop participants and farmers during the Phase III Project 'village visits'. These claims are reinforced in the respective 'Workshop Evaluation Sheets'. In addition, these modern extension principles that focussed on 'learning by doing' adult learning principles were reinforced by Australian CARD Team Members by employing them/demonstrating their use throughout all phases/activities of the project.</p> <ul style="list-style-type: none"> • Therefore, this evidence suggests that the 'extension methodology' delivered in this project has a significant role to play in identifying problems and subsequent solutions to issues affecting the sustainability of 'farming enterprises' in Vietnam's diverse cultural and socio-economic milieu.
<p>Institutional capacity</p>	<p>The training and curriculum development will strengthen the capacity of NIAH and participating universities</p>	<ul style="list-style-type: none"> • The CARD Monitoring Team (September, 2001) has correctly identified 'that - <ul style="list-style-type: none"> ➤ Vietnam does not have a breed improvement policy; and ➤ Breed improvement requiring higher management and feed inputs carries potential benefit, but also considerable risk for resource poor farmers, particularly in a market that doesn't differentiate on beef quality (<i>Appendix B - Issue 4</i>). • In designing this 'new curriculum', the participants were asked to reflect on and consider - <ul style="list-style-type: none"> ➤ The modern genetics, breeding and reproduction material and principles that they had been exposed to throughout this AusAID CARD Project; ➤ The information from the profiling exercise that compared the tropical Australian and Vietnamese beef industries; ➤ The first hand experience gained by the Phase I, 'Train the Trainer' participants in Queensland; and ➤ The future structure and resource base of Vietnam's beef herd. (See CARD Program Monitoring Mission: September 2001 Report (<i>Appendix B - Issue 13</i>). • Through discussion with Vietnamese R&E staff, the Australian AusAID CARD Team identified that - <ul style="list-style-type: none"> ➤ There was a lot of variation with various cattle

		<p>genetics, breeding and reproduction curricula in Vietnam;</p> <ul style="list-style-type: none"> ➤ The present curricula were drawn from many sources around the world; ➤ The curricula did not necessarily contain the latest information; ➤ There was an urgent need to introduce some uniformity in curriculum content across the various institutions; ➤ There was a need to maintain some 'local/regional' content; and ➤ The introduction of a new curriculum in Vietnam was not a simple process and required support of the GOV. <ul style="list-style-type: none"> • The Vietnamese and Australian AusAID Project Team Members agreed to develop an 'Independent Curriculum' that did not require government support. • It needed to be modern, scientific and have a Vietnam orientation /perspective (with consideration of the future structure and resource base of Vietnam's beef herd (<i>Appendix B - Issue 4</i>)). • The agreed 'Independent Curriculum' in “Tropical Beef Cattle Genetics, Breeding and Reproduction” would represent 80% of the core curriculum that will be used by all participating organisations - with 20% local content. • Vietnamese participants requested a Pilot Training Course to evaluate this ‘new curriculum’ before it was delivered to nominated ‘client’ groups. • Vietnamese participants identified the need to develop a Second AusAID CARD Project to build on the success of the first project, to deal with new issues/needs identified throughout the project and to ensure the sustainability of outputs and outcomes from the first project. • Vietnamese participants identified the need to establish a consistent/core team for project development and identify project leaders/key people at sites for the delivery/implementation of project activities.
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Analyse and assess positive and negative aspects of the recruitment, management and performance of the project team

Activity	Strengths:	Weaknesses:
Recruitment of project team	<ul style="list-style-type: none"> • Range of skills. • High level of experience in different knowledge and skills. • Some team members with previous skills in undeveloped countries. • Based on performance in other aid projects. • Range of geographic locations. 	<ul style="list-style-type: none"> • Not project teams prior to start of project. • Team started as group of individuals. • Not all Vietnamese workshop participants who visited Queensland were able to assist in the subsequent 3 Vietnam workshops.
Management of project team	<ul style="list-style-type: none"> • Single leader. • Delegation of some leadership/management responsibilities. • Retained strict budgetary control. • Keep focus on project objectives. 	<ul style="list-style-type: none"> • Need for additional delegation of responsibilities because of size of project.
Performance of project team	<ul style="list-style-type: none"> • Diverse skills meant ability to accommodate a range of issues. • Initial Queensland tour provided a profile of environment and genotype performance. • Excellent results because of use of a focussed workshop process. • Consistency of a number of Australian and Vietnamese staff throughout project. • Good liaison between DPI and NIAH throughout project. • Team focused on issues raised in the evaluations and perceptions of the Vietnamese counterparts. • Reinforced 'learning by doing' adult learning principles by employing them/demonstrating their use throughout all phases/activities of the project. • Met all Vietnamese issues raised. • Provided relationship building and networks. • Took activities into the field to demonstrate how they could be implemented. • Australian Team gained a greater understanding of 'what' and 'how' technology could be adopted into Vietnam. • Provided a base for more targeted assistance in future built on the knowledge gained. 	<ul style="list-style-type: none"> • Required that at least 3 people were on each visit.

3.7 Management of Constraints, Issues, Risks and Change

The major difficulty encountered in this project was to ensure that the Australian AusAID CARD Team effectively addressed the needs of the participants. The enthusiasm for knowledge and skills development and needs identified by the participants were at times overwhelming.

A constraint for a number of the Australian AusAID CARD Team Members was their limited experience in undeveloped countries such as Vietnam. However, through the very structured workshop process employed, the Australian AusAID CARD Team was successful in identifying the real needs and problems of R&E staff in Vietnam. This process involved the use of specialised problem solving techniques and strategies that ensured that all participant's issues and ideas were captured. These techniques allowed the identification and ranking of the importance of constraints, issues and risks to change. Through an open forum process participants were encouraged to offer solutions to these constraints, issues and risks to change. Action Plans were developed in consultation with participants and tasks delegated.

A major problem was encountered during Phase III of the project. One of the major priority areas identified by AusAID was the 'facilitation of the development of new curricula'. However, during an open forum discussion of the Vietnam requirements for the development of a new curriculum, it became evident that the introduction of a new curriculum in Vietnam was not a simple process and required support of the GOV. A major risk in developing this curriculum could have been the lack of support from the GOV. This situation could have become very complicated and could have extended beyond the life of the project. However, after considerable discussion of this issue, it was agreed that the most expedient course of action was to develop an 'Independent Curriculum' that did not require government support. Further discussion identified that three criteria had to be also addressed when developing a curriculum. It needed to be modern, scientific and Vietnam orientated /perspective.

Concern was also raised with respect to the quality control of the delivery process of this new 'Independent Curriculum'. After some group discussion, the Vietnamese participants were unanimous in the support for a Pilot Training Course to evaluate this 'new curriculum' before it was delivered to nominated 'client' groups.

Another potential issue/risk was the situation where the Australian AusAID CARD Team may not have received support for their activities in Vietnam and for the subsequent delivery of outputs/outcomes from the project workshops. However, the Australian AusAID CARD Team, with the assistance of key Vietnamese colleagues, was successful in developing a very strong and focussed working group of R&E staff. As a result, these staff were strongly committed to improving not only their own knowledge and skills but also that of their colleagues. This focus and commitment is assisting in the alleviation of poverty of smallholder farming communities through the development of more integrated and sustainable farming systems.

Finally, some concern was identified with respect to the successful delivery, implementation and sustainability of the project outputs and outcomes. Once again, through the use of a structured problem solving process, discipline leaders were identified to manage the delivery project outputs and outcomes. To ensure the future sustainability of project outputs and outcomes, the Vietnamese participants recommended the development of a 'New Second

Phase AusAID Vietnam CARD Project' (2003). Further, they also insisted that in the development of this new project that -

- Consultation occurred with all potential Vietnamese project participants, and
- There was a need to develop and maintain a consistent/common team throughout this development phase and for the life of the project to ensure a successful outcome would be achieved.

3.8 Project Management

5: Best Practice; 4: Fully Satisfactory; 3: Satisfactory Overall; 2: Marginally Satisfactory; 1: Weak.

The performance of the Australian AusAID CARD Lead Institution, that is, AFFS (Beef), DPI over the life of this project would attract a rating of 5, that reflects 'best practice'. All aspects of the content of the project material and the delivery process by the Australian AusAID CARD Team have been very well received by our Vietnamese colleagues. This claim is supported by the responses from the 'Workshop Evaluation Sheets', the request by other Vietnamese institutions to be involved in the project and for the development of a Second AusAID CARD Project.

Similarly, the performance of the Vietnamese partner institution, namely, the NIAH, would also attract a rating of 5. In particular, Assoc. Prof. Dr. Hoang Kim Giao and Mr. Vu Chi Cuong and their staff deserve special acknowledgment because of their tireless efforts to provide quality venues and equipment. In addition, Mr. Cuong provided an excellent service through his interpretation of difficult concepts to his Vietnamese colleagues.

4.0 Performance and Outcomes

4.1 Assessment of Performance Against Objectives and Design

Operation of the Project and the Extent of Attainment of the Expected Outcomes

The operation of the project occurred according to our overall proposed project work plan and in fact exceeded our original expectations. An initial setback occurred in the delivery of Phases I and II of the project as a result of serious illness to the Australian Project Leader. However, all expected outcomes were attained within the initial timeframe of the project. In addition, the project has delivered on further outputs and outcomes from that which was originally identified in the initial Phase III objective. That is, instead of just 'facilitating the development of a curriculum', both the Australian and Vietnamese AusAID CARD Teams have actually planned and developed an 'Independent Curriculum' in "Tropical Beef Cattle Genetics, Breeding and Reproduction" that will represent 80% of the core curriculum to be used by all participating organisations. Further, the workshop group also insisted on the need for a Pilot Training Course to evaluate this 'new curriculum' before it was delivered to target 'client' groups.

Once again, the success of this project is a reflection of the rapport that has developed between the Australian and Vietnamese Team Members as a result of the relationship developed in the previous ACIAR Project and the well structured training and workshop process implemented throughout the AusAID CARD Project.

Factors which may Accelerate or Slow Down Realisation of Outcomes

A major factor that was of concern to the Australian CARD Team, with respect to realisation of project outcomes, was the short project time of two years nominated for the delivery of the objectives of this Pilot Project. This concern may be a result of the overambitious task set by the Australian CARD Team. In addition, the initial lack of a clear understanding of achievable changes in the education and training system in Vietnam by the full complement of workshop attendees limited an early focus on outcomes.

Other factors identified by the Vietnamese workshop participants that may influence the realisation of project outcomes included –

- Translation of project documents into Vietnamese;
- The need to ensure some continuity in the development of –
 - knowledge and skills;
 - a two way communication process between universities, R&E organisations and farmers;
 - a 'New Second Phase AusAID Vietnam CARD Project' (2003);
 - a consistent/common team throughout this development phase and the life of the project; and
 - an effective communication strategy between all participants;
- Adequate facilities for training and development of practical skills;
- Development of 'model farm' sites;
- Adequate funding to ensure –
 - the implementation of a new project;
 - the development of adequate training facilities to develop practical skills; and
 - that sufficient people can participate in training activities;
- Lack of an Agricultural Extension Service (Livestock); and
- Translation of Project documents into Vietnamese.

However, a series of 'Action Plans' were developed in consultation with Vietnamese participants and the majority of these factors will be successfully dealt with in time, resulting in the realisation of project outcomes.

4.2 Sustainability

The sustainability of the project, based on the initial project design, and addressing the issues addressed above, namely, financial, institutional, technical (including curricula), environmental, social/community and gender sustainability, is in a reasonably strong position.

However, the main issues identified with respect to the continuation of benefits are the lack of available funds to university, educational and R&E institutions –

- To maintain the delivery of 'new curricula'; and
- To develop adequate facilities for training and development of practical skills.

Therefore, to ensure the maintenance of the initial momentum created from this First AusAID CARD Project and a continuation of benefits, it is paramount that a longer Second AusAID Project be developed and supported. This longer Second AusAID Project should focus on the identification and/or development of facilities for the reinforcement of knowledge through

training and the development of practical skills. The development of 'model farm' sites through promotion of collaborative arrangements between smallholder farming communities, R&E organisations and universities could result in mutual benefits for all parties. Under such an arrangement, universities and R&E organisations could use these sites to train their respective students and staff through the collection of animal performance data. These groups could then collate and analyse these data, interpret the data and make appropriate management recommendations to improve the productivity and profitability of these smallholder farming enterprises.

Overall Rating of Sustainability - 5: Best Practice.

4.3 Development Impact

Likely development impact of the project

- Vietnamese R&E and university staff with enhanced capacity for teaching, research and extension in agriculture and rural development;
- Vietnamese R&E university staff with enhanced knowledge and skills in tropical beef cattle genetics, breeding, reproduction and extension skills;
- The successful implementation of a curriculum in 'Tropical Beef Cattle Genetics, Breeding and Reproduction'; and
- Vietnamese R&E university staff with enhanced skills in identifying the real needs and problems facing smallholder farmers and the ability to develop solutions to these problems.

Likely future impact (three years and beyond).

- New Vietnamese R&E staff, with improved knowledge and skills in modern genetics, breeding and reproduction, produced from the universities that collaborated with AusAID CARD Project;
- Outputs and outcomes developed by these Vietnamese R&E staff to improve the profitability of smallholder farming communities;
- Development of a modern system for the collation and dissemination of research results;
- Development of a modern extension system for the dissemination of information to farmers; and
- Greater liaison between the University of Queensland and state DPI institutions and similar institutions in Vietnam.

5.0 Conclusions

5.1. Overall assessment

Assessment of Project Achievements – Outcomes and Objectives

Within the overall two year timeframe of this Pilot AusAID CARD Project, the Australian and Vietnamese CARD Teams have delivered on all proposed project objectives and outputs and outcomes have exceeded time and quality targets. Additional outputs and outcomes will be delivered within budget.

Relevance/Appropriateness of the Adopted Design

The design of this project was developed as a direct result of the needs identified from an earlier ACIAR Profitable Beef Cattle Development in Vietnam Project. These needs included the improvement of the theoretical knowledge and practical skills in modern beef cattle genetics, breeding, reproduction and extension principles of Vietnamese R&E and university staff.

Further reinforcement for these needs to be addressed and an agreement of a suitable project design were identified during an inspection of ACIAR Project sites throughout North and Central Vietnam in January, 2000. Therefore, the adopted project design proved to be very appropriate to meet the needs identified.

This Pilot Vietnam Capacity Building for Agriculture and Rural Development Program has proved to be an overwhelming success. This claim is supported by comments made by Vietnamese workshop participants in this project's 'Workshop Evaluation Process' for the structure of this First AusAID CARD Project and for their support for the development of a Second AusAID CARD Project.

5.2 Lessons Learned

- In the development of any future AusAID CARD Projects, there is a need to provide both time and 'seed' funding for 'Project Development' in Vietnam to ensure -
 - adequate consultation with all potential Vietnamese participating institutions for discussion and identification of their needs;
 - the development of a 'Project Action Plan' that meets the requirements of both the Vietnamese and Australian partners; and
 - the development of more effective budgets reflecting both Vietnamese and Australian needs.

The recent AusAID CARD project would not have achieved the reported outputs and outcomes in the two year timeframe if the needs of Vietnamese university and R&E staff and smallholder farming communities had not been identified in an earlier ACIAR Project.

- Throughout the recent AusAID CARD Project, there was a need to maintain a flexible delivery approach. In addition, there was a need for the modification of various delivery techniques when it was realised that there was some substantial variation in the knowledge and skills of workshop participants, from one organisation to another and also from one region to another. The use of a structured workshop process by the Australian AusAID CARD Team ensured that all issues/problems of the participants were identified through a group problem solving strategy and adequate solutions were then developed to address these needs/problems. Further, the use of a number of monitoring strategies, namely, Identification of Expectations; Reflection; Workshop Evaluation Sheet; and Informal Discussion/Identification of Individual Perceptions all assisted in ensuring that all of the issues/problems of the participants were captured and addressed.
- Substantial differences in the curricula used by the various universities were identified in the early phase of this project. However, there was an attempt by the 'university system' in Vietnam to standardise some of the core discipline material. These differences were often reflected by the financial and academic status of the universities and needed to be considered in the facilitation of a 'new curriculum'.

- At the outset of the project, the Australian AusAID CARD Team and many of the Vietnamese participants were unaware of the some of the complexities that needed to be considered when attempting to facilitate the development of a 'new curriculum'. The introduction of new curricula in Vietnam is not a simple process and requires support of the GOV. This process can become very complicated and drawn out. Further, curricula development needs to be modern, scientific and have a Vietnam orientation/perspective.
- From the Project Leader's experience in Vietnam over the last five years, it has become apparent that some International Aid Programs are poorly focussed and coordinated in the delivery of their projects. This situation is resulting in a substantial amount of duplication and waste of funding. Therefore, there is an urgent need to identify future collaborative opportunities with different Aid Groups to minimise the duplication of activities.
- While International Aid Agencies consult with the GOV to identify priority areas for funding for Vietnam, these priority areas are often not translated into useful outputs and outcomes. There is an urgent need for these Aid Agencies and the GOV to consult with experienced 'delivery practitioners' who have strong scientific and practical skills in the required discipline and have served an apprenticeship in this discipline in Vietnam. This practice will result in the identification of the 'real' needs of farming communities and the implementation of strategies and funding of projects that will result in outputs and outcomes that will have a significant effect in alleviating the poverty of smallholder farming communities in countries such as Vietnam.
- Two and three year funding of aid projects will generally not result in any significant outputs and outcomes unless a strong base/structure exists from previous projects. If funding has to be implemented in two to three year periods of time, it is important that some form of process is put in place that will allow further periods of funding as long as a number of milestones have been achieved.
- The Vietnam beef cattle industry is at a reasonably early stage of development and has no formal "Beef Cattle Industry Development Policy". Further, the CARD Program Monitoring Mission: September 2001 Report reported that "*Viet Nam does not have a breed improvement policy*". Therefore, there is an urgent need for the GOV to develop a formal "Beef Cattle Industry Development Policy". This action ensures that a definite framework/strategy is implemented that will set the direction for future targeted R&D that will ensure productive outputs and outcomes for the Vietnamese beef cattle industry and assist in the alleviation of poverty of farming communities.