

Sida Support to the Asian Institute of Technology

Annex 1 The Aqua Outreach Programme

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**Department for Natural
Resources and the
Environment**

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Sida Evaluation 00/10:1

**Department for Natural
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Environment**

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FOREWORD

Sida has during a number of years supported the Asian Institute of Technology (AIT) in Bangkok. In 1988 Sida initiated i.a. funding of environment oriented masters scholarships. In 1993 Sida agreed to support a programme for electric power systems management as well as a programme for research and development of aquaculture in rural development in Indochina. The last agreement period has covered the period 1996-1999. The aim with Sida's support to AIT¹ has been to assist in the development of human resources in order to increase the national capacity to manage and promote a sustainable development and utilisation of natural resources in specifically Sida's partner countries Vietnam, Cambodia and Laos. This has been done through support to the three components:

1. The Masters Scholarships Programme, generally for environmentally related subjects;
2. The Aqua Outreach Programme, for rural development through aquatic resources management based on local institution building (in cooperation with DANIDA and DFID);
3. The Electric Power System Management Programme, for improved capacity, management and efficiency of national power production and supply.

As part of the assessment of the possibilities for a new agreement with the AIT from 2000, Sida commissioned an evaluation of the Swedish support to these three components during the period 1996-1999 in 1999. The evaluation has been carried out by Scandiaconsult Natura AB. The part of the evaluation covering the Aqua Outreach Programme has been co-financed by the Department for International Development (DFID), U.K.

The summary report and the four annexes constituting the evaluation of the support to AIT are given below.

00/10 Sida Support to Asian Institute of Technology. A Summary Report.

00/10:1 Annex 1: The Aqua Outreach Programme

00/10:2 Annex 2: EPSM (Electric Power System Management Programme)

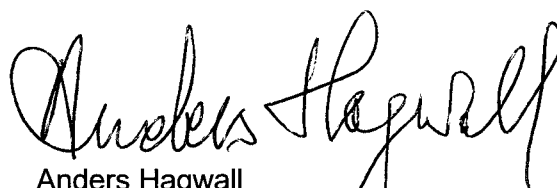
00/10:3 Annex 3: Scholarships, The Evaluation of Sida Support to AIT

00/10:4 Annex 4: Overall Programme and Crosscutting Issues

The views, conclusions and recommendations presented in the report are those of the authors and not necessarily fully shared by Sida.



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Abbreviations and acronyms

AAHRI	Aquatic animal health resources institute
AARM	Agricultural and aquatic resources management
AIT	Asian institute of technology
AO	Aquaculture office
AOP	Aqua outreach programme
DANIDA	Danish international development agency
DARD	Department of Agriculture and Rural development
DFID	Department for international development
DLF	Department of livestock and fisheries
DOF	Department of fisheries
DOSTE	Department of Science Technology and Environment
DOVE	Department of vocational education
FAO	Food and Agriculture Organisation of the United Nations
ICLARM	International centre for living aquatic resources management
ISCARD	Inter-provincial Committee for Aquatic Resources Development
MRC	Mekong river commission
MRDP	Mountain rural development programme
MRFP	Mekong reservoir fisheries project
NACA	Network of Aquaculture Centres in Asia-Pacific
OVI	Objectively verifiable indicators
PRA	Participatory Rural Appraisal
RDC	Regional Development Committee
RIA-1	Research Institute for Aquaculture No. 1
Sida	Swedish international Development Administration
UAF	University of Agriculture and Fisheries
UNDP	United Nations Development Programme

1 Introduction

1.1 Objectives and Scope

The present evaluation of Sida support to the Aqua Outreach Programme (AOP) represents one of three areas of investigation focussed on Sida donor support to the Asian Institute of Technology (AIT). There are two primary components to the present document:

- An evaluation of Phase 2 of the Sida supported AOP component “Rural development through Aquaculture in Indo-China” for the programme period 1996–99.
- An Appraisal of the current proposal for continued Sida support to the AOP programme for the period 2000–02, drawing on performance and achievements (lessons learned) during the 96–99 programme.

The central objectives of the present evaluation are:

- (i) to consider the extent to which the programme has been able to absorb recommendations for structural and operational change proposed in the 1995 and 1996 joint review missions undertaken collectively by Sida, DANIDA, and DFID as joint contributors to the AOP.
- (ii) To consider the relevance and effectiveness of the programme design and implementation under the current management and operational framework, as defined under the umbrella logframe and corresponding country programme logframes (and by implication the relevance of the logframe purpose and outputs).
- (iii) To assess the achievements of the respective country programmes both in relation to planned outputs, and in their consistency with broad Sida policy objectives particularly as they relate to Poverty alleviation¹, Gender and ethnicity², and sustainability³.

1.2 Programming and Staffing

The mission was undertaken between 27th September and 14th October 1999. The mission team comprised:

Dr. Jan Rudengren	–	Team Leader/Institutional
Dr. Inga Lill Andrehn	–	Sociologist
Dr. Dan Vadhjal	–	Curriculum development – Sida scholarship programme
Mr. Guy Bradley	–	Aquatic resources specialist – AOP programme (Author of current report together with Dr. Richard Friend)
Dr. Richard Friend	–	Aquatic resources specialist – AOP programme (Author of current report together with Mr. Guy Bradley)

¹ Sida's Poverty programme – Action Plan to promote sustainable livelihoods for the poor and combat poverty (December 1996)

² Sida's policy for promoting equality between women and men in partner countries (1997)

³ Sida's policy on sustainable development (January 1996)

After initial discussions with the AIT faculty on Monday 27th and the AOP/AARM representatives, the mission members participated in Workshops with Programme Managers and Country programme stakeholders on Tuesday and Wednesday 28–29 September. On 30th September the team undertook further discussions with the Thailand DOF, and AIT based AOP Programme manager and co-ordinator Dr Harvey Demaine. For the purpose of field work activities Guy Bradley, accompanied by Dr Jan Rudengren (Institutions) undertook field visits to the AOP country programmes in Cambodia, Southern Vietnam, and Northern Vietnam, between the 1st and 12th October. During the same period Dr Friend accompanied by Dr Inga-Lill Andrehn (sociologist) visited the country programmes in North east Thailand and Lao PDR, before meeting Team 1 in Hanoi where the team jointly undertook the evaluation of activities administered by RIA No. 1 (The N. Vietnam AOP collaborating institution) in Hanoi.

Following De-briefing with AIT, the mission dispersed, and Mr Bradley and Dr Friend undertook reporting requirements in Thailand between 17th and 23rd October. Further details of the field work schedule and persons met are presented in Appendix d.

1.3 Structure of the Evaluation

In undertaking the present mission, the team are cognisant of the very distinctive characteristics of the respective country programmes, driven by quite different socio-political conditions and corresponding institutional and decision making frameworks. The conceptual understanding of the objectives and beneficiaries to be targeted under the AOP, differ widely between the country programmes as do the mechanisms adopted to implement the programme objectives. Some collaborating institutions remain essentially research focussed, while others (such as the Lao PDR programme) have developed broad based but low level technology extension and dissemination capacity. In view of these characteristics the evaluation assesses:

- (i) AOP as a whole in relation to the umbrella framework
- (ii) the country programmes in relation to the specific country logframe outputs (see appendix b.)

Section 2 of the present volume presents the background to the AOP and factors that have influenced the evolution of the programme. Section 3 evaluates the respective country programmes. The evaluation is based on analysis of annual and 6 monthly progress reports prepared by Country Programme managers, and on field work observations and discussions (both with collaborating institutions, farm households, and Provincial and District officials). The evaluation considers the extent to which planned outputs based on the log frames have been achieved (as defined by OVI's) and the efficacy of the log frames themselves in permitting verification of performance and delivery of outputs to target institutions and beneficiaries. The evaluation similarly considers the extent to which the recommendations of past reviews (1995 and 1996) have been addressed.

Section 5 presents preliminary conclusions (Lessons Learned). The Appraisal (sections 5–6) of the 2000–2002 proposal draws on the findings of the evaluation and on discussions in the field, to generate both general and country specific recommendations. Section 7 presents Conclusions and Recommendations.

2 Background to the AOP

2.1 Background to Donor Support

The AOP programme has operated since 1988 initially under the Division of Agricultural and Food Engineering (AFE), Aquaculture Field of Study, supported with bilateral funds (ODA/DFID) from the UK. The latter was separated from AFE in 1995, as the Agricultural and Aquatic Systems (ASS) programme, and then further separated to be the Aquaculture and Aquatic Resources management (AARM) programme in 1997 (Edwards et al 1983, 1986, 1988). The focus during Phase 1 of the AOP was firmly based in the promotion of technological development of small scale aquaculture. A central lesson learned from the initial AOP activity was that constraints to development of small scale aquaculture were related less to purely technical intervention than to the broad socio-economic circumstances of target institutions and beneficiary groups, and to levels of resource access. It was evident that these conditions differed widely throughout the region and that entry to aquaculture for rural households represents one of a number of livelihood strategies, that are in turn conditioned by a wide range of extraneous conditions. It was also clear during Phase 1 that expansion and dissemination of aquaculture technology was limited by capacity constraints within the local institutions and/or extension services charged with these responsibilities.

In 1993, AOP activity was extended to Lao PDR, Cambodia, and Vietnam, and DANIDA funding was initiated in 1995. The Programme Goal at this point was modified to reflect the importance of aquatic resources in general, and the recognition that efforts should be more clearly directed to the poorest socio economic groups (*“Improved livelihood for poorest groups in rural areas with access to an aquatic resource”*). At the same time the focus of programme *purpose* shifted to address the broader institutional strengthening and capacity building requirements of collaborating institutions and target groups, which has remained the core objective of current AOP activities. This is reflected in the current (1996–1999) AOP programme Purpose – *“Strengthening of national development institutions working to promote sustainable aquatic resources development on a long term basis”*⁴.

From 1996 to 1999 the AOP was supported jointly by Sida, DFID, and DANIDA, and continued to operate in four countries (Thailand, Lao, Vietnam, and Cambodia), with discrete sub programmes operating respectively in Northern and Southern Vietnam. The network of key collaborating institutions is illustrated in Table 2.0. The respective projects supported and the funding allocated to them by the 3 major donors during this period is presented below.

Table 1.0 Donor contributions to the AOP

Donor Institution/Project	Period	Funding Amount
DFID		
“Support for Regional Aquaculture Development”	1996-1998	£680,000
Sida		
“Rural development through Aquaculture in Indochina (Phase 2)”	1996–1999	SK 14,500,000
DANIDA		
“Support to AOP in North east Thailand and Indochina”	1995–1999 (Phase I) 1999–2002 (Phase II)	DK 14,905,000 DK 17,515,000*

* Phase II included funding for MSc Scholarships.

⁴ See AOP programme logframe – Appendix b.

Table 2.0 AOP Principal Collaborating and Partner Institutions

<p>Thailand</p> <p>Department of Fisheries Udorn Thani - Freshwater Fisheries Development Centre plus 6 Provincial Fisheries Offices; Department of Vocational Education (Udorn Thani, Srisaket, and Yasothon Colleges of Agriculture and Technology)</p> <p>Lao PDR</p> <p>Department of Livestock and Fisheries (Regional Development committee) of the Provincial Agricultural Offices of Savannakhet, Khammouan and Champassak)</p> <p>Cambodia</p> <p>Department of Fisheries; Provincial Agriculture Offices (three Provinces); Royal University of Agriculture; School of Agriculture, Prek Leap.</p> <p>Northern Vietnam</p> <p>Research Institute for Aquaculture No. 1 Bac Ninh; Provincial Agriculture Offices (eight Provinces);</p> <p>Southern Vietnam</p> <p>Department of Fisheries, College of Agriculture and Forestry, National University of Ho Chi Minh; 5 provinces in ISCARD</p>
--

The current status of support by these donors is as follows:

DFID

After 11 years of support DFID elected not to renew funding to the AOP in 1998 and although maintaining support during 1999, will develop a revised regional aquatic resources programme during the year 2000. It does however, continue to support the programme in Lao through the resident country programme manager.

DANIDA

Renewed DANIDA funding was agreed during 1999 and will continue through until 2001 – the focus of DANIDA support focuses on it's educational programme, directed at degree level training, as well as a wide range of curricula development and human resource development activities, including in-country training of provincial and district officials. DANIDA does in addition support other un-linked sectoral initiatives in the region, through it's bilateral programme in Vietnam and Lao PDR, and is an important contributor to the MRC (Mekong River Commission).

Sida

Sida support for the AOP has continued to address the wide ranging activities undertaken by all the country programmes (since April 1999 excluding Northeast Thailand except for the salary of the country program manager). Formerly funded by DFID, funding for the present phase is due to finish in December 1999.

Current evidence suggests there is a clear need to more closely integrate the activities of the respective donors to avoid potential overlap and the pursuit of conflicting objectives. In view of the existing capacity constraints with the AOP collaborating institutions, the mission has been concerned by the dilution of capacity arising from the competing demands and weak resource planning of donor projects in similar areas of sectoral activity as the AOP, which may be counterproductive to current efforts aimed at strengthening national institutions. These matters are discussed in more detail in section 4 (Donor integration and national capacity).

2.2 AOP – Scope and Conflicts

The scope and direction of work undertaken by AOP during Phase 2 of Sida support expanded from technology verification through field testing, to wider capacity building effort with national institutions engaged in aquaculture and aquatic resources development and management.

While the purpose of the AOP as defined in the umbrella log frame for Phase 2 is “*strengthening of national development institutions working to promote sustainable aquatic resource systems management on a long term basis*”, achievement of the goal (*improved livelihood for poorest groups in rural areas with access to an aquatic resource*) is contingent upon the capacity, policies, and remit of collaborating national institutions, and as such is linked to the AOP only in the respect that the AOP is required to demonstrate “strengthening of national development institutions..”. The delivery of technology or research outputs to target beneficiaries thus becomes a responsibility of the collaborating institution, who are presumed to develop the extension capacity to deliver technological change to farmers and rural households. The difficulty therefore lies in monitoring and attributing impact on poor households to interventions by AOP which is required to deliver a goal over which it exercises limited control.

An important question for the future in this respect concerns the definition of the AOP either as:

- (a) an applied research programme, aimed at extending research capacity in national institutions and responding to needs defined by external institutions concerned with promoting delivery and uptake of research products/outputs; or,
- (b) a development agency concerned with transferring technological gains directly to poor communities.

It would be appropriate for AOP to combine elements of the two by ensuring that they are engaged in pilot projects that lead to immediate developmental benefits, rather than field trials that meet research interests. The mission believe that AOP has been successful in establishing the aquatic resource technology to address poverty and that further ‘pilot projects’ should ensure that this now reaches poor people, and that constraints to poor people’s involvement be overcome. Accordingly there should be greater emphasis in these pilot projects on addressing poverty issues; livelihoods and needs assessment, building co-operation between counterpart institutions and target beneficiaries. It would also be appropriate to ensure that capacity of counterparts is also geared towards implementation of previous recommendations as a means of addressing poverty, and that participatory monitoring and evaluation be more rigorously established. Given AOP’s unique regional experience with small-scale aquatic resource management, there is considerable scope for greater involvement as an advisor to other developmental initiatives that have an aquatic resource component.

2.3 Implications of a Changing Policy Environment

Important shifts in policy within the key donor institutions during the 1990’s have raised a number of issues pertinent to the present evaluation. The most important of these concerns the increasing emphasis attached to participation of target groups (institutions, communities and households), and the need to ensure that research is demand or needs based. Although the AOP has responded to these policy changes, the approach and effectiveness have varied greatly between country programmes.

Further criteria adopted by all concerned donor agencies relates to the need to address issues of gender, ethnicity, sustainability, and specifically, to target the poorest socio-economic groups. Critical questions have been raised in past evaluations concerning access by the poorest socio-economic groups in the target countries to the forms of technology proposed. By implication such groups face considerable resource constraints, often without access to land, and subsequently credit. In order to target poor people these resource constraints need to be assessed, and appropriate measures to overcome these constraints devised. The opportunity of the poorest to utilise aquaculture as an element of their livelihood strategy is therefore frequently contingent upon access to community managed or open access water bodies; although such arguments have been used to support the view that aquaculture does not respond to the needs of the poorest socio-economic groups, such arguments apply to all forms of primary and secondary production. The debate has raised a number of important questions regarding:

- the linkage between AIT/AOP and the in-country collaborating institutions with the mandate for dissemination and the promotion of uptake by poor rural communities.
- Uncertainties regarding the capacity of local institutions to undertake effective needs assessments within target provinces and communities; clearly this is seen as a pre-cursor to the definition of research needs in a programme like the AOP, and to ensuring that effective targeting of beneficiaries occurs.
- The apparent research focus of a number of key collaborating institutions and difficulties encountered in developing effective mechanisms for widespread dissemination of research outputs to target groups through non-research based institutions and extension services.
- Inconsistencies in the definition and use of indicators (OVI's) as a measure of demonstrating impact (social, economic, environmental) arising from uptake, and related to this, uncertainties regarding the efficacy of the existing monitoring and evaluation processes undertaken by the AOP country programmes

2.4 Past Reviews

The 1995 and 1996 reviews of AOP by Joint Review missions (Sida/DFID/DANIDA) raised a number of important issues and recommended changes in the design and direction of the current (1996–99) support programme. This is important in the present context because an element of the present mission will clearly be to verify that past recommendations have been adopted by the AOP. Explicit recommendations by the previous missions included:

- Aquatic systems should be addressed more systematically throughout the programme and should be promoted as an integrated objective. Capacity should be increased within the programme to deal with “wild” fish and aquatic systems either through recruitment/development of programme staff or through agreement with national/regional institutions.
- Agreement should be reached concerning the use of the umbrella log frame which should be developed to reflect more clearly the inter-linked country and project/donor criteria and approaches. Frameworks should identify time linked activities at the country level. These should be used for reporting.
- As part of its strategic development the programme should improve the ability in counterpart institutions to identify and measure impact amongst target groups.
- The use of more explicit indicators would improve the means to monitor performance

The above review also proposed specific changes to the country programme components; these are discussed in the context of country programme evaluations (Section 3.0). More recent reviews (mid Term SRAD 1997) concluded demonstration of impact at the Target beneficiary level to be limited, and this was further reinforced by the DFID evaluation (Wysocki and Friend 1998), aimed at assessing the potential of aquaculture for poverty alleviation.

This report noted that demonstration of success in some cases was constrained by insufficient or inadequate Monitoring and evaluation. This was similarly the case with the RNRRS review also funded by DFID (CRE 1998); both studies found evidence of positive impacts on poor farmers in Lao PDR. In the case of rice-fish culture in Savannakhet. Most past reviews have noted the innovation and success of the AOP as a whole in addressing the needs of rural communities.

The general issue of the role of aquaculture and aquatic resources in the promotion of sustainable livelihoods has broad implications for the AOP and is discussed further below.

2.5 The contribution of aquatic resources to sustainable livelihoods

Aquatic resources continue to play a central role in the livelihoods of rural SE Asia, both as the major source of animal protein in rural diets and as an important source of cash income. The great majority of rural people in the region are involved in some form of aquatic resource use, but with considerable variation between and within project countries. Typically aquatic resource use is on a part-time, seasonal, opportunistic basis, primarily for subsistence needs. The great majority of those using aquatic resources are engaged in diverse and dynamic, multiple livelihood strategies in which the ability to adapt to changing conditions and minimise risk is a necessary characteristic. Division of labour within the household is also significant, with women and children performing important tasks in the fishery; as catchers, processors, traders, and aquaculture managers.

Development interventions based on aquaculture and aquatic resource management hold great potential for poor people, but in order to do so, must fit with and enhance wider household livelihood strategies. On their own aquaculture and aquatic resource management strategies may not meet the needs of poor people, and therefore may need to be integrated within a wider range of development interventions. The shift in donor emphasis on sustainable livelihoods does not only require improved access to material resources. It is important that rural people's capabilities to benefit from resources and assets is also enhanced. Sustainable aquatic resource management for poor people involves a range of social and political resources and rights, beyond simply the technical ability to manage resources.

Aquatic resource interventions have been dominated by the promotion of aquaculture. This has been posited on the belief that the gap between supply and demand of aquatic resources as a result of human population increases and the decline in the wild fishery can only be met through the development of aquaculture. However, despite considerable increases in aquaculture production, current crude estimates suggest that aquaculture comprises only approximately 10% of total aquatic resource production for the region as a whole⁵.

⁵ Estimates of aquatic resource production are intrinsically problematic. The greater part of fishing effort is erratic with highly variable yields, most of which is consumed within the household. Only a small proportion of this yield reaches the market place, and consequently only a small proportion of catch is ever quantified. These issues are discussed in the earlier AOP review (see Wysocki and Friend 1998).

Despite the general regional decline, in some areas of the programme the wild fishery, comprising smaller fish and other aquatic animals caught in rice fields and backwater swamps, remains highly productive. As a commons resource this wild fishery is of particular significance in the livelihoods of poorer groups – even in areas in which it is in decline. Addressing the wild fishery is therefore of considerable importance in enhancing the livelihoods for poor people.

Several factors have contributed to the decline of the wild fishery. These include

- general environmental degradation (especially land conversion, habitat depletion and biocide use)
- increased human pressures due to population increases
- excessive/overly efficient fishing practices
- water management schemes
- poor cross-sectoral co-ordination among government departments
- limited government institutional capacity
- inappropriate policy

Tackling the decline of the wild fishery requires a co-ordinated and integrated approach to all of these issues. A central feature is the necessity of a high degree of fisher participation in policy and management, and a high degree of co-ordination among government and local agencies. In terms of addressing poverty, there is considerable opportunity for further efficient, equitable management of wild aquatic resources, as well as environmental rehabilitation, and protection from further degradation.

In many situations aquaculture, whether in ponds, cages or rice-fields, is an appropriate entry point to poverty-focused rural development. This is particularly so in the case of low-intensive aquaculture production that utilises available on-farm inputs. The increased production from aquaculture can be realised within a relatively short time-frame, thereby acting as impetus to further development initiatives. This level of aquaculture provides for improved food security as well as income generation. Aquaculture also has a significant role to play as a component of wild aquatic resource management, for example, in enhancing degraded fisheries or as an alternative source of aquatic resources during vulnerable periods of the fishing season.

There are two broad approaches to be discerned in strategies for promoting aquaculture in rural development:

- the development and extension of aquaculture technology in order to increase incomes and production, and/or supply of aquatic resources.
- poverty-focused rural development in which aquaculture is one component of an integrated development strategy.

The main difference between these two strategies is the relative prominence attached to poverty and poor people. The emphasis in the first strategy is on the development and extension of the technology, with the assumption that general increases in incomes, production and supply will have positive downstream effects on poor people. The main targets of extension are those who are most likely to adopt aquaculture. Although this may take place in poor areas, these tend not to be poorer rural peoples.

In terms of current thinking on sustainable livelihoods, it is the latter approach that is more appropriate. By addressing poverty as the primary issue of concern it is more feasible to assist in

the development of aquaculture and other activities appropriate to the needs of poor people.

While there is evidence from many parts of the world, including from AOP activities, that aquaculture holds potential benefits for poor rural people, there are significant constraints to entry for the rural poor. These include issues of resource access (particularly land, labour and capital), and also opportunity costs of alternative economic activities. Extending low-technology is a necessary precondition of poverty-focused aquaculture promotion, however experience indicates that reaching the rural poor also requires effective targeting, providing credit facilities, and the breaking up the production cycle in order to allow appropriate entry points. Where poor people are not targeted there is evidence to indicate that the technologies ‘trickle-up’ (as AOP have found in Thailand), exacerbating inequality and further excluding later entry by poor people.

Early support to aquaculture development necessarily focused on the development of appropriate technologies. It now appears that these technologies are largely in place. The main thrust of future effort is more in terms of building capacity and adopting appropriate methods for extension. It is therefore appropriate to focus on the national delivery institutions, particularly at Provincial and District levels, but also on building local capacity among poor people. National fisheries institutions on the whole remain more strongly oriented towards technical research, rather than extension of simple technologies to poor households. While there is a need for improved capacity and performance of national institutions (particularly given limitations of personnel and budgets) it must be appropriately focused towards addressing poverty and livelihoods issues. Further participation of intended beneficiaries in design and implementation of projects, identifying needs, training and extension, and assessment and management is required to ensure that benefits reach the rural poor and continued institutional sustainability.

In order to ensure the long-term sustainability of aquatic resource livelihoods the capabilities of rural people to manage their resource base must be addressed. In the case of aquaculture this includes the capacity of rural people to manage and monitor their production system. Small-scale fish farmers have an important role to play in further extension, but also in monitoring and dealing with management problems, especially disease. Wild fisheries management also requires increased capacity of rural people to assess and monitor the resource base. In all aquatic resource management strategies, the capacity of rural people to participate in policy-making, and to make claims on government agencies must also be addressed.

3 Programme evaluation

3.1 Cambodia

3.1.1 Relevance – Goal and Purpose

Goal: Improved livelihood for the poorest groups in rural areas with access to an aquatic resource

The present goal is highly appropriate to Cambodia where rural incomes and food security for a high proportion of the rural community are of concern. Similarly small scale aquaculture interventions are complementary to the high levels of dependence on aquatic resource consumption as the primary protein source. Evidence suggests that the AOP country programme has developed a balanced and effective means of identifying food/fish deficit areas and targeting the poor, and is instrumental in promoting the conditions for improved livelihoods; this includes management of wild fish resources and the identification and establishment of dry season refuges.

Purpose: Strengthen national development institutions working to promote sustainable aquatic resources management on a long term basis

The programme purpose is also appropriate to Cambodia where public sector institutions remain significantly under-resourced. In the course of the present funding period (1996-99) the AOP has been formally upgraded to an Aquaculture Office (AO) within the DOF. The remit of the recently established AO includes responsibilities for the management of small scale fisheries, aquaculture and aquatic resources. At a national level despite important contributions from the AOP, there are concerns that existing capacity within the Aquaculture Office is under pressure from poorly co-ordinated donor activity external to the AOP programme. The country programme has been successful in establishing wide ranging linkages with NGO's, Provincial and District Offices, and Communities, and with extending knowledge in these institutions. There is now a clear and urgent need to reinforce capacity within the AO/DOF with more extensive capacity building at Provincial and District levels to further develop important achievements; It would be helpful to see OVI's built around this objective, rather than being based only on the preparation of strategic plans. There is clearly some concern that the preparation of strategic plans alone is not sufficient indication of strengthened institutional capacity. It would be helpful to redefine this OVI in quantitative terms.

3.1.2 Relevance and achievements – Outputs

a. Capacity to undertake planning and management of aquatic resources development improved

The output is relevant to goal and purpose and current planning initiatives are constructive. It is unclear how successful the AO has been in raising awareness within the DOF, and there is a need to strengthen the linkages between the AO and DOF. It is understood that the DOF have recently reached agreement with the MRC regarding co-ordination of aquaculture development. Similarly MOU's have recently been signed by DOF with ICLARM and PADEK. In view of the general concerns regarding donor co-ordination expressed throughout the present evaluation, it is clearly hoped that such agreements will not preclude the participation of the AO in areas of sectoral activity where they have made important and effective advances and have very considerable experience. Co-ordination in such interventions is critical, and the recent sponsorship of ANCPU by the AOP is an important initiative that will assist in co-ordinated planning, contingent upon the participation of MRC, ICLARM, PADEK and other interna-

tional initiatives. Despite the efforts of the AO the effectiveness of planning activities will be largely defined by greater transparency within the DOF and Donor institutions.

b. Capacity to undertake farmer driven research achieved

The country programme has been highly effective in undertaking farmer driven research; it has promoted extension skills at Provincial levels to extend this capacity, and the numbers of trials undertaken and their contribution to progressing the uptake of rice-fish cultivation, primary and secondary seed production, and grow out systems has been significant.

c. Capacity to effectively collect information from and disseminate to farmers achieved

The AO has developed the capacity to collect and analyse high quality data that addresses technical, ecological, and socio-economic criteria relevant to the planning and long term management of aquatic resources. The nature of data collection has permitted the AO to effectively target poor farmers in fish (protein) deficit areas. Dissemination has similarly been highly effective, although driven by a small number of highly committed staff within the AO. The numbers of farmers engaged in small scale aquaculture who are adopting methods developed and disseminated by the AO has effectively doubled each year since the beginning of the funding period. Dissemination materials produced, including the “Family level fish culture” are of high quality and effectively distributed.

d. Capacity to undertake training and teaching improved

Although primarily falling under the remit of DANIDA funding there is concern that this element of the programme rests almost exclusively on higher level education and training. A high proportion of those who are, or could be instrumental in the dissemination and promotion activities leading to achievement of the programme goal, do not have formal access to this level of education. It is the view of the mission that there should be extended focus on vocational training directed at local level (Provincial and District) institutions. This in turn would release capacity within the AO to develop new areas of knowledge, develop an increasing focus on national aquatic resource planning and policy issues, and extend activities to other provinces. This does not dismiss the importance or value of degree level training which is critical to the achievement of long term objectives and to the raising of national standards, however there is a need for a more balanced approach that can raise skill levels across the spectrum of Cambodian society, and can assist in achieving improved livelihoods for the poorer sections of the community in the near term. It would be constructive to define quantitative targets for training trainers at this level within the OVI's.

e. Communication and information systems flow improved

The AO has developed a resource centre providing important information access to those engaged in aquatic resources management in Cambodia. Reporting procedures are effective and publications in Khmer and English well prepared.

f. Human Resources capacity of collaborating institutions improved

The output is relevant to goal and purpose and has achieved a strong measure of success. The AO is now clearly structured with defined specialisations and clear work streams; there is however a need to develop clear job specifications and terms of reference for the professional staff. There is some concern that a high proportion of staff who have undertaken Masters degrees abroad, have not returned to the AO/DOF. This is partly attributable to the absence of any form of guaranteed employment upon completion of the studies. A further feature that would be appropriate to explore, concerns the opportunity for staff undertaking external studies to undertake routine work placements in the AO.

Sustained development of capacity within the DOF is conditional upon the adoption of a clear professional development programme for the staff, and although the mission team firmly recognise the financial constraints experienced by the DOF, the loss of this human resource capacity is highly counter-productive. Interviews with the collaborating institution staff have indicated that there is a need to further develop project and operational management skills within the AO.

As noted in d. above, such training should be complemented at local levels of government by vocational training for Provincial and District extension workers who will ultimately become the principle vehicle for dissemination of country programme outputs.

g. Aquaculture outreach management effectively functioning

The management of the AO appears to operate effectively, however the distinctive framework in which the AOP operates suggests that it would be appropriate and prudent to give increasing decision making opportunities to local collaborating institution staff, linked, as noted in f. above, to training in operational and project management.. It would similarly be appropriate for the local project manager to attend outreach meetings in Bangkok with the CPM, should this be tenable within the existing and proposed budgets.

3.1.3 Summary – Key issues and lessons learned

- General. The Cambodia country programme is an effective and well managed programme, and the staff of the AO are to be commended on their achievements despite resourcing constraints.
- Log frame; in common with other country programmes the mission team believe that it would assist the programme management if indicators (OVI's) were to be strengthened by providing more quantitative targets. This is a general observation, and is discussed further in section 4 (Lessons learned)
- Project management: Project management has been effective but local staff should receive further training in operational management skills and be given more autonomy as these skills develop. This is an area of sensitivity in view of the role of the AO as both a component of the formal Government structure, and as the operating framework for the AOP.
- Poverty issues; Targeting beneficiaries based on identification of food deficit areas has been an important element of the programme which is clearly assisting the improvement of rural livelihoods consistent with both Sida policy and the programme goal. There is a clear need to ensure that the programme is adequately resourced to undertake needs assessments for defining future directions.
- Donor activity: there are concerns regarding the poor co-ordination between major donors and the implications this may have on capacity within the AO to undertake it's main stream activities. There is a need to clarify the policy and views off DOF in its extraneous relationship with other aquatic resources and aquaculture programmes. Consistency and integration are critical to achieving the programme objectives on a wider scale. The team none the less note that matters of co-ordination nationally fall outside the remit of the AOP
- Human resource Development: It is suggested that there is a need to develop a professional development programme for staff in the AO. This should be initiated with the preparation of clear job descriptions and terms of reference. There is a need to identify mechanisms for ensuring retention of skilled staff.

- Capacity building: Capacity building in the middle tiers of government (Provincial and District) is central to long term and consistent delivery via extension services. Emphasis should be attached to expanding this area of training.
- Aquatic resources: the programme has undertaken important initiatives in relation to wild fish stock assessment, and the identification and management of wild fish refuges. In view of the importance of the seasonal flood plain capture fisheries, this area of activity should be expanded.
- Socio-economic: despite a willingness to address the socio-economic issues of aquatic resources development and thereby to assist targeting, there is a need to enhance capacity in these areas. Specifically for the purpose of undertaking broad based needs assessment – training of AO staff in these areas would be constructive.

3.2 Southern Vietnam

3.2.1 Relevance – Goal and Purpose

Goal: Improved livelihood for the poorest groups in rural areas with access to an aquatic resource

While the goal is relevant in the areas targeted by the AOP in southern Vietnam, the mechanisms for delivery and the promotion of uptake remain under-resourced. There is a need to ensure consistency between the promotion of small scale aquaculture and the corresponding aquatic resources assessment and management activities. The latter is an important determinant of resource sustainability which is currently under pressure. The recent establishment of the inter-Provincial group (ISCARD) for the integration and promotion of aquatic resources management offers a potentially important means of directly targeting the poor, and undertaking co-ordinated resource management activities; however, it will be important to ensure that this revised institutional framework does not become a vehicle for promoting those aspects of existing Provincial plans aimed at intensive production technologies driven by production targets (e.g. Intensive cage culture in Long An and *penaeid* culture within the salinised delta areas). Such an approach would have clear negative environmental effects and would fail to provide the conditions for achievement of the programme goal.

Purpose: Strengthen national development institutions working to promote sustainable aquatic resources management on a long term basis

Provincial level institutions are generally under-resourced throughout Vietnam, although in the case of southern Vietnam, there is consensus generally between the Provinces on the importance of aquatic resources. While the purpose is relevant in the context of expanding the skills base throughout the southern Provinces, on its own there is no guarantee that it can assist in fulfilling the goal of the programme. In common with the other country programmes, it should be noted that the current OVI (plans for Aquatic resources development prepared) and the Means of verification (plans produced) are not in themselves indicative of strengthened institutional capacity. The purpose should be strengthened through the adoption of a time bound quantitative indicator that can demonstrate the extent of skills development or strengthened institutional capacity.

3.2.2 Relevance and achievements – Outputs

a. Capacity to undertake planning and management of aquatic resources development improved

This output is of particular relevance in relation to Provincial level planning. Under phase 2 aquatic resources development plans were developed for Bin Phuoc and Tay Ninh provinces by

the Faculty of Fisheries. Long An province also now has a Provincial aquatic resources plan although in the latter case, while recognising the value of wild fisheries studies and small scale aquaculture, emphasis within the plan appears to be largely on productivity enhancement mainly through intensive aquaculture technologies (expansion of existing cage culture in the canal systems and Penaeid shrimp production in salinised areas of Can Gioc, Can Duoc, and Chau Thanh Districts). These forms of development are not entirely consistent with the objectives of the AOP and also impose risks in terms of resource sustainability and adverse environmental effects. The degree of participation by local institutions in the preparation of the current plans is not clear from current documentation. In Bin Phuoc province current plans include proposals for development of community (Commune) managed fisheries on small reservoirs – this is of particular relevance in addressing the needs of poor households, including landless informal migrants from the northern mountains of North Vietnam.

The establishment of ISCARD (5 provinces: Binh Duong; Binh Phuoc; Long An; Dong Nai; Tay Ninh) is an important initiative that potentially provides an effective mechanism for improved integrated planning of aquatic resources management and the development of local planning capacity, although success is likely to be contingent on identification of an experienced programme co-ordinator. In view of existing resourcing difficulties, this is clearly a matter of priority, however it is equally important that the roles and responsibilities under a revised institutional framework are clarified and that accountability rests with the primary collaborating institution (UAF).

As a general observation it is clear that Provincial level planning capacity has been significantly enhanced through the UAF and AOP programme, and current initiatives aimed at establishing Provincial level offices with the DARD's by the key provinces in which the AOP has been active will further assist this process.

b. Capacity to undertake farmer driven research achieved

The output remains relevant to achievement of purpose and has demonstrated its progress and achievement of output based on the OVI. The programme has initiated trials on farmer identified concerns and on a range of relevant researchable constraints to small scale aquaculture and aquatic resources management. The numbers of trials undertaken exceed the proposed target, and the output of these trials have been transferred to some 500 non trial farmers through Provincial level extension services. Evidence suggests that this continues to be an important and effective element of the programme.

c. Capacity to effectively collect information from and disseminate to farmers achieved

The programme has undertaken extensive farm surveys during Phase 2 (more than 700 farms) in four provinces. Extension materials prepared by UAF have been published and distributed by Provincial extension services. The achieved outputs are consistent with the adopted OVI's. In both Long An and Bin Phuoc provinces the perceived constraint to more widespread dissemination rests on the numbers of trained extension workers; this remains a priority for future purposes.

d. Capacity to undertake training and teaching improved

The country programme has developed an effective balance between training extension workers in practical aspects of small scale aquaculture and promoting degree level training, although entrants to the sector following degree training appear to be limited. This is seen as a reflection of opportunities within the sector as a whole rather than a reflection of the effectiveness of training. The initial group of 62 extension workers undertook training in 1996, however there appears to have been no major drive to replicate this process since then; this is clearly an area that should assume some priority

e. Communication and information systems flow improved

A well resourced library/resource centre was established in 1998, and records indicate wide use of this facility; this has been supplemented by the preparation of newsletters distributed at Provincial levels.

f. Human Resources capacity of collaborating institutions improved

Enhanced human resources capacity at Provincial levels has been achieved through the establishment of modular training for graduates (22 from 5 provinces). This has been extended through the implementation of study tours for UAF and Provincial staff. In addition, 16 UAF staff received specialised short course training organised through AIT outreach. Current HRD initiatives appear to be constructive and have achieved a useful balance between Provincial and UAF staff.

g. Aquaculture outreach management effectively functioning

The expansion of the Southern Vietnam country programme has imposed pressure on existing UAF resources, and the current initiative aimed at identifying a full time project co-ordinator is likely to be only means of overcoming this constraint – the recruitment of a co-ordinator is now a matter of priority if the programme is to further develop its existing achievements. Despite such difficulties the programme has performed effectively, undertakes appropriate reporting, and is notable for the success of its Provincial level development activities.

3.2.3 Summary – Key issues and lessons learned

- General. Generally effective in establishing extension capacity and in developing downward and horizontal linkages
- Project management: Potential differences between research focussed activity and the need for extension capacity to promote uptake of research outputs at Provincial levels has prompted the establishment of the inter-Provincial (ISCARD) group to promote and extend aquatic resources development. A feature of this change has been to propose the appointment of a programme co-ordinator to oversee and manage the work being undertaken at Provincial levels. This is a practical suggestion that can assist both in improving project management, inter-Provincial co-ordination, and dissemination, although the line management responsibilities under such a revised framework need to be clarified, and it will be important that accountability within the AOP programme remains with UAF.
- Poverty issues; Target beneficiaries involved in farm trials in southern Vietnam include households from a wide range of economic circumstances, including some of the poorer sections of society. Farm households interviewed in field studies in Bin Phuoc and Long An Provinces demonstrated important improvements to household food security and income arising from appropriate technical advice from AOP trained extension services. It is our view that poverty objectives within the programme are generally consistent with Sida policy objectives.
- Capacity building: The capacity building activities under the AOP at Provincial and District levels have been positive, but require expansion. This should remain at the core of the current programme, particularly in relation to District level extension staff.
- Aquatic resources: Initial work on aquatic resources assessment and distribution must be continued, particularly in relation to dry season refuges, resource distribution and sustainability, and recruitment processes. This is of particular importance in provinces such as Long An where intensive cage culture utilising wild fish for nutrition at relatively low conversion rates may impose some threats to recruitment in the longer term. It is important

that recruitment processes, and the implications of such production methods on resource management are better understood.

- Socio-economic: Important socio economic analysis has been undertaken on uptake and significance of aquatic resources to rural households, and the role of gender in the fish/aquatic resource production process. It would be helpful to see the wider application of needs assessments/PRA for the purpose of defining the directions of development, and the more widespread use of CBA in defining the economics of small scale aquaculture production under different production systems.

3.3 North East Thailand

3.3.1 Relevance of Goal and Purpose

Goal: Improved livelihoods for the poorest groups in rural areas with access to an aquatic resource

As the country with the highest per capita income in the region, achieving the project goal of reaching the poorest rural groups in Thailand requires the most effective targeting. The project does not apply its own needs assessment methodology. Project staff acknowledge that on the whole they have been targeting those with potential to become involved in aquaculture. Where poverty has been addressed AOP have targeted *poorer* groups rather than *the poorest*, but even this degree of targeting has largely been by virtue of being in the north-east, a region officially categorised as poor.

Purpose: Strengthen national development institutions working to promote sustainable aquatic resource management on a long-term basis

The purpose remains relevant with increasing concern regarding sustainability of more intensive aquaculture production. Although the primary emphasis on aquaculture is appropriate for NE Thailand as a whole (cf. Joint Review Mission 1996) there are provinces within the region in which the wild fishery remains of considerable importance. There is also evidence to suggest that in terms of poverty the wild fishery (including non-fish aquatic resources) is of particular significance but greatly under threat.

Since the institutional structure of the Thai DOF is well established, it is difficult to envisage the extent to which AOP might influence strategic planning and implementation. AOP influence appears to have been growing (see P. Edwards Jan 1999) with the general approach to small-scale aquaculture more readily accepted in DOF, for example, widespread training in green water techniques and sex-reversed tilapia. Project staff feel more confident that they have had impact in District and Province level strategic planning. There are indications that any future funding by Sida might allow for greater impact on national planning. There is limited evidence to suggest that during this phase of finding the DOF has had the interests of the rural poorest as a prominent policy objective. The emphasis on poverty needs to be more firmly addressed in the next phase of proposed funding.

3.3.2 Relevance and achievements – Outputs

a. Capacity to undertake planning and management of Aquatic Resources Development improved

There is concern that in AOP's own view, there is limited evidence of progress towards achieving this output. The Department of Fisheries has not drawn up nor implemented strategic plans for the development of aquatic resources as suggested in the purpose OVI. It is not realistic to assume that AOP could have this level of influence on the DOF, or that it is in the interests of the DOF to do so. However, discussions with senior DOF during this evaluation mission (DOF,

Bangkok Sept 30th), indicate that there is considerable potential in the next phase of funding to develop strategic planning for aquatic resource management (including wild fisheries) and to develop a poverty orientation in national planning (indicated by DOF proposals to dig ponds and to extend the Village Fish Pond project).

At Province and District level there are indications that capacity to undertake planning has been successfully improved, although the extent to which such planning is implemented remains questionable. The frequency with which DOF staff are relocated from their official posts is cited by project staff and counterparts as the main constraint on effective long-term planning at province and District level.

AOP have made considerable inroads in the widespread adoption of AOP methodologies and extension materials by the DOF. However it is difficult to monitor the spread, and equally to attribute this to AOP. Requests from the DOF for AOP involvement in a further phase of the Village Fish Ponds project is indicative of the close collaboration between AOP and sections of the DOF. There has been similar involvement with Border Army projects on aquaculture, village and school fish ponds in Ubon Ratchatani. A benefit of the dispersal of DOF staff who have received training from AOP throughout the country has been requests for AOP involvement in provinces outside the North East, including Trang in the South.

The gap between holding workshops, conducting research and actually influencing policy in the form of strategic planning requires attention from AOP. Although workshops have been held they have not yet led to the development of strategic plans. This would suggest that AOP's approach towards influencing strategic planning needs to be revised, with greater emphasis on pilot projects.

b. Capacity to undertake farmer driven research improved

This output remains relevant to purpose and goal, although again there is concern as to the extent the research is farmer-driven, and the extent to which the research is participatory, reflecting the needs of poor farmers. Separate research activities do not appear to have been well-integrated into a strategy to achieve project purpose. The poor performance of DOVE and Agricultural Colleges in supervising some research activities is a cause for concern.

The work of AOP on the wild fisheries provinces appears to have had a positive impact within the DOF (see Proceedings of Workshop on Floodplain Fisheries in NE Thailand, Roi-et, August 1998). However, DOF remain concerned to further develop research capabilities, rather than implementing management strategies. There is a risk in continuing along the research path without linking such research to village level action that the research orientation of the DOF will become further entrenched.

c. Capacity to effectively collect information from and disseminate to farmers developed

This output is highly relevant to purpose and goal, but should also include socio-economic and livelihoods assessment in order to ensure a poverty focus. All project activities under this output have focused on aquaculture rather than aquatic resources. Specific measurable and time-bound targets are required.

Despite progress in disseminating the AOP extension message, project staff still consider the development of extension materials not to be as participatory as it might. This is attributed to the demands of central DOF to have overall influence of extension practices.

d. Capacity to undertake training and teaching improved

This output is relevant to the project purpose of strengthening the capacity of national institutions, but in itself does not link strongly enough to the project goal. Although progress has been made in terms of training, the emphasis of this training remains on technical issues. National training on sex reversal tilapia at Udorn Thani station (as identified by CPM) does not necessarily have a poverty focus, although would appear to satisfy demand from current fish farmers.

In order to reach the rural poorest (and the rural poor) the emphasis needs to be on Provincial and District level training, particularly in extension methods and needs assessment. There is potential to increase the degree of farmer training, and farmer-to-farmer training. Field visits illustrated the potential role of more experienced fish farmers in training other farmers. Such farmers could also play an important role in monitoring uptake of project recommendations, and identifying constraints.

e. Communication and information systems flow improved

Activities within this output refer predominantly to DOVE rather than flows of information between AOP and DOF counterparts, and intended beneficiaries i.e. the rural poorest. Reporting on and monitoring of AOP activities and impact continues to be problematic.

f. Human resource capacity of collaborating institutions improved

This output remains relevant although again given the success of AOP in more technical issues greater emphasis on human resource capacity should be in terms of livelihoods issues and extension, rather than technical training. In order for this to have an impact it is appropriate that the training should be in the form of short courses, rather than post-graduate training. It would be appropriate for research elements of training courses to be co-ordinated with annual research projects of DOF Research Centre staff. There is also a need to target extension divisions, and in particular, District level officials.

Project staff expressed concern that the regular rotation of DOF staff reduces the impact of AOP training. Concern was also voiced regarding the personnel and budget limitations on DOF staff that restrict their activity at village level.

The benefits of study visits to Thailand by farmers from Lao PDR were clearly demonstrated during field visits in Lao. There is also much that the Thai project could learn from exchange with neighbouring projects. It is recommended that future study tours of AOP counterparts be held in the country programme in Lao PDR, and in Cambodia particularly in order to address approaches to monitoring and targeting (Lao PDR) and wild fisheries management (Cambodia).

g. Aquaculture Outreach management effectively functioning

Concerns remain regarding reporting and monitoring of project impacts. Effective Outreach management requires a more systematic approach to both monitoring and reporting.

3.3.3 Summary – Key issues and lessons learned

- General: AOP in Thailand has produced significant achievements. Fieldwork interviews have indicated the positive impacts on farmers adopting AOP recommendations. Due to these successes there is now potential for the next round of funding to have greater influence at policy level and implement a range of strategies in targeting poverty.
- Log-frame: In common with other country programmes the mission team believe that it would assist the programme management if indicators (OVIs) were to be strengthened by

providing more quantitative targets. There are more specific concerns as to the relevance of project goal and purpose for the Thai programme, and the extent to which these are shared by partner institutions. At present the log-frame does not appear to have served its basic function of facilitating project management.

- **Project management:** Uncertainty over continued donor support has clearly impacted project management. There is some concern that AOP has not always co-ordinated its activities according to project objectives. Reporting and monitoring of project impact should be more strongly built into programme activities, and not be regarded as separate activities.
- **Poverty issues:** Despite concerns regarding the poverty focus, the NE of Thailand is the poorest region of Thailand. Within the Northeast there is a significant incidence of rural poverty, and it would therefore be appropriate to continue Sida support in the region. There is a pressing need to apply appropriate needs assessment and specific strategies to target poor people. Increased production from aquaculture may well have a downstream benefit for the poorest groups, particularly in the availability of affordable food stuffs. However, it is unrealistic to assume that this will be inevitably the case. Given the history of aquaculture in NE Thailand, production is becoming increasingly intensive and commercially-oriented. Opportunities for entry by poor households have become further restricted, but as such worthy of project attention. Although typically the poorest rural groups are those who are landless or short of land, there are currently government initiatives to increase the numbers of ponds dug in rural areas. This will certainly increase access to ponds and to aquaculture, even among poorer groups, and thereby afford AOP the opportunity to target the poorest more effectively.
- **Donor activity:** The poor co-ordination between other donor-funded projects (particularly the MRC projects) potentially undermines efficiency with unnecessary strains being placed on limited DOF capacity. It is essential that donors ensure that these projects complement each other both in terms of their activity focus, and also their relationship with the DOF. AOP's experience in Thailand would be of immense value to these other projects.
- **Capacity building:** There is strong evidence of AOP having built capacity within the DOF but also that the institutional structure of the DOF has limited the impact of much of this capacity. In particular the linkages between research and extension need to be addressed. It is recommended that there be more closely defined attention on the relationship between Research Centres and the Extension Division. Further capacity building and training at District level, particularly in needs assessment and extension, is required but must be matched with specific, poverty-focused time-bound indicators of achievement.
- **Aquatic resources:** The programme has responded well to aquatic resource issues having conducted important research in Ubon and Sisaket. In view of this research it is recommended that future activity is more oriented to participatory action-research, with the implementation on a trial basis of community level management initiatives.
- **Socio-economic issues:** Further work building on previous successes is required in order to ensure a poverty focus. Lack of socio-economic capability has been identified by the DOF as a major impediment to effective extension. There is now real potential for AOP to become involved in a range of activities addressing livelihoods issues and needs assessment.

3.4 Lao PDR

3.4.1 Relevance of Goal and Purpose

Both the goal and purpose remain highly relevant. Aquaculture and aquatic resource management has great potential in Lao PDR as an important means of ensuring food security and income generation. Establishment of the Regional Development Committee (RDC) has proved to be an effective mechanism for developing administrative capacity, as well as for co-ordinating development initiatives among relevant sectors in the southern region. This has also proved to be the most appropriate strategy for targeting poverty through aquaculture and aquatic resources. As the first decentralised project the RDC is regarded by the Ministry of Livestock and Fisheries as a model approach for poverty alleviation, human resource and community development.

3.4.2 Relevance and Achievements – Outputs

a. Capacity to undertake planning and management of Aquatic Resources Development improved.

This output is highly relevant. AOP Lao have adopted a unique and exemplary approach among the country programmes. Specific measurable OVIs have been applied, and progress towards meeting these OVIs has been successful. In particular it should be noted that the RDC is as a DLF mechanism, but RDC are also aiming to co-ordinate the activities of different sectors and to secure greater cross-sectional co-operation. This has allowed for successful collaboration with several other development projects, including the FAO Aquaculture project. The RDC has also been able to co-ordinate research activities to ensure that such research meets local needs and does not place a drain on limited Provincial and District capacity.

It should be noted that donor co-ordination is important to support the initiatives of the RDC.

b. Capacity to undertake farmer-driven research achieved

This output and the activities it drives are highly relevant in meeting goal and purpose. The RDC has proved effective in implementing appropriate farmer-driven research through workshops, and farmer-to-farmer training. Capacity to undertake training within the RDC has also been achieved with the establishment of the RDC Training Unit. This is further indication of moves towards ensuring long-term institutional sustainability.

An appropriate approach to monitoring at District level has begun with the establishment of the Book System. Uptake of this strategy is monitored appropriately, with relevant training workshops planned. The Book System is three years old and steps are being undertaken to improve its efficiency. This level of monitoring and evaluation is highly commendable, and will prove to be of immense value in ensuring the sustainability of current initiatives.

c. Capacity to effectively collect information from and disseminate to farmers developed.

This output is highly relevant as long as the information collected and disseminated is appropriate to farmers' needs. Participatory work on developing extension materials with aquaculture farmers is to be commended. This approach should facilitate the more effective distribution of relevant extension materials.

The breaking down of the production system into nursing and seed production, and the establishment of farmer networks in nursing and spawning is highly relevant as a means of increasing production and distribution and spread. That RDC has been able to respond to earlier concerns regarding the poverty focus by ensuring new entrants into the nursing network are poor households is highly commendable. Responding to requests for advice on community pond manage-

ment has also been highly effective. However there is some concern that there is no formalised approach to needs and livelihoods assessment, with potentially too much discretion allowed at the District officer level. This may undermine sustainability, particularly as the RDC extends its activities to a further three provinces.

d. Capacity to undertake training and teaching improved

The role of the RDC Training Unit and inclusion of experienced farmers in training activities is indicative of the success in meeting this output. Requests from other projects (including FOMACOP, UNDCP/GTZ) for RDC consultancy input into training activities further indicates the progress that has been made, and also the financial sustainability of the unit. Good progress has also been made to ensure women are involved in training activities.

Further training is required particularly at District level. However this should be focused on the administrative and extension skills required at District level (as identified by RDC co-ordinator). It is recommended that this should be in the form of short courses, in situ with particular attention to needs assessment methodologies, monitoring and evaluation (including use of the Book System), and extension methodologies.

e. Communication and information systems flow improved

This output is relevant for ensuring the efficient and sustainable management of the RDC and thereby meeting purpose and goal. The high quality of regular, relevant reporting is a considerable success. Further development of RDC capacity to undertake these responsibilities should be encouraged.

f. Human resource capacity of collaborating institutions improved

This output is highly relevant and there have been considerable improvements in human resource capacity. There is scope for further in country, short course training which AIT should endeavour to provide.

g. Aquaculture Outreach management effectively functioning

There is some concern regarding the procedure for submitting accounts from Lao PDR to AOP in Bangkok. The delay in receiving funds from Bangkok has been identified by the RDC as problematic, while AOP in Bangkok have expressed concern about the delay in submitting claims. An appropriate workable procedure needs to be established

The change in status of the former CPM, Nick Innes-Taylor, to role of advisor indicates the further advances in administrative capacity of the RDC.

3.4.3 Summary – key issues and lessons learned

- General: The AOP programme in Lao PDR, through the RDC has made considerable achievements in terms of developing institutional capacity of the RDC and District offices, and also in implementing appropriate development interventions to target groups. There is a well established, efficient system of reporting, monitoring and evaluation, and training already in place that is well capable of taking on future responsibilities.
- Log-frame: The log-frame is used efficiently and effectively for monitoring progress and for reporting. The programme is to be commended for its use of specific indicators that clearly have facilitated in meeting project objectives.

- **Project management:** The project is managed with an extremely high degree of efficiency. It is also to be commended that project counterparts are taking an increasingly prominent role in management responsibilities while the CPM has altered his status to that of an advisor. This indicates good progress towards achieving long-term institutional sustainability.
- **Poverty issues:** The programme has maintained a strong poverty focus (with an admirable gender sensitivity) by employing low level technology, with effective targeting (including of female-headed households), and also by breaking down the production cycle, and utilising well-monitored farmer-to-farmer training. It has maintained good co-ordination with Lao Women's Union, and Youth Groups, as well as with other projects and other government sectors. The overall strategy of using aquaculture as an entry point for rural development is highly relevant and in accordance with Sida's concerns regarding sustainable livelihoods. There is considerable potential to build on this experience with extension of fruit tree cropping, and animal husbandry.
- **Donor activity:** It is essential that donor activity does not undermine the role of the RDC in co-ordinating donor-funded development initiatives.
- **Human resource development:** The establishment of the Training Unit represents significant progress towards building on previous achievements in human resource development. There is further scope for short-course, in-country training that is tailored to meet the very specific needs of the Lao programme, particularly at District level.
- **Capacity building:** Developing the capacity of the RDC to undertake administration, reporting and financial monitoring is rightly regarded by the RDC Co-ordinator as the key success of the project. Further progress towards building capacity at District level and with Spawning and Nursing Network members is again highly commendable and bodes well for the future expansion and long-term sustainability of project activities.
- **Aquatic resources:** The programme has addressed aquatic resource issues in the form of rice-field fisheries and community ponds, however these areas and issues regarding wild fishery will require further attention in the next phases of funding. It is recommended that the programme makes determined efforts to address potential disease and bio-diversity issues.

3.5 Northern Vietnam

3.5.1 Relevance of Goal and Purpose

Both the purpose and goal remain highly relevant. Given the potential for development of a range of aquaculture systems in diverse areas, the purpose is highly relevant. Long-term management of aquatic resources will continue to be an essential element of poverty-focused development in N. Vietnam. Expansion of area and intensification of production of aquaculture production pose threats to the wild fishery that have not been addressed. It is recommended that the programme makes concerted efforts to address 'aquatic resource systems' and not merely aquaculture. Given high incidence of disease (especially red spot) opportunities for use of indigenous species, and disease management should also be addressed.

3.5.2 Relevance and Achievements – Outputs

a. Capacity to undertake planning and management of Aquatic Resources Development improved

The nature of the institutional structure of AOP in N. Vietnam is such that 'improved capacity' refers to both RIA-1 and government departments. Increased capacity of RIA-1 itself is

a necessary precondition of meeting purpose and goal, but it is important that increases in capacity brought about under the project reflect project objectives. The establishment of the Socio-economic Studies and Extension Unit will provide an important basis for future programme activities.

There has been progress in assisting national institutions (provinces) in devising aquatic resource development plans, but these focus almost exclusively on aquaculture in terms of increases in production. Targeting of poor households has not yet been adequately addressed in Provincial plans. There are also concerns expressed in Provincial meetings of risks of disease, and continued degradation of the wild fishery that need to be addressed in long-term planning. Pressures on wild fish stocks have arisen from a range of conditions including land conversion, over-exploitation, biocide use, and industrial pollution. In many cases the failure to address core issues impacting the natural resource arise from capacity constraints with Provincial institutions (DARD, DOSTE) who maintain broad responsibilities in water resources and environmental management. Although falling outside the remit of the AOP it would be helpful to see improved co-ordination between these Provincial level institutions in strategic resource management and planning.

Government plans to increase the number of water bodies available for aquaculture present further opportunities for expansion of aquaculture. Increases in production and income will have beneficial effects on those engaged in aquaculture, although the extent to which these benefits will accrue to other groups is unclear. It is appropriate that as an initial phase, the programme has targeted new entrants with potential to engage in aquaculture, and later to act as demonstration farmers to poorer farmers. However, in order to ensure that the poorest rural groups are reached it is essential that extension is appropriately targeted with suitable supplementary support (viz. credit facilities and complementary livelihood options).

b. Capacity to undertake farmer driven research improved

Research has been carried out in diverse aquaculture systems, including VAC systems, rice-fish culture and cage culture. Increases in production appear to have been achieved but there has not yet been significant extension beyond on-farm trialists. It is important that in carrying out farmer driven research the overall objective of extension to poor farmers is not overshadowed by interests of research institutes. In order to achieve increases in extension and uptake it is necessary for the project to adopt specific targets and indicators. Further efforts at participatory extension methods are recommended.

c. Capacity to effectively collect information from and disseminate to farmers developed

This output is potentially highly relevant although there are concerns that again the interests of research tend to dominate in the case of records of input-output data of on-farm trials. While this is useful data to indicate production efficiency, it is also necessary to focus on extension requirements, and the needs of potential new entrants. Once again effort should be made to implement participatory approaches to information gathering and dissemination.

d. Capacity to undertake training and teaching improved

While this output is again potentially relevant there is some concern as to the extent to which training and teaching should be of a technical basis, aimed at BSc students. It is acknowledged that this type of education is valuable, but it is less clear how it meets project purpose. Greater attention should be paid to in-the-field training at District level, particular in extension methods.

e. Communication and information systems flow improved

Reporting on specific activities that fall within the remit of the AOP programme is a necessary mechanism to undertake effective monitoring and planning. Erratic performance in this area has been a source of concern prior to this current evaluation.

f. Human resource capacity of collaborating institutions improved

While there has been progress in human resource capacity building particularly in PhD and MSc training there is a more urgent requirement to improve capacity at District level. There is reported to be a shortage of aquaculture specialists at District level as well as limitations on extension capabilities. Short course, in-country training would be the most appropriate way to deal with this type of training.

g. Aquaculture Outreach management effectively functioning

The complex organisational structure of the programme running through RIA-1 and the numerous overlapping activities certainly necessitate effective management. By not having an external AOP CPM in place it is not always possible to differentiate between effective management of RIA-1 and the AOP programme. In order to monitor impact of the programme and of AOP within RIA-1 it is essential that adequate reporting is undertaken, and that there is clear differentiation between the interventions undertaken directly as components of the AOP, and those activities which reflect the mandate of RIA-1 as a State institution engaged in research activity, and supported through a number of project and donor support mechanisms.

3.5.3 Summary – Key issues and lessons learned

- General: Extensive on-farm trials have been carried out, and aquatic resource issues have been addressed in provincial planning. It is now appropriate to address implementation more overtly.
- Log frame: Linkages between research driven activities, planning capacity at provincial levels and project purpose have been weak. On the whole activities within RIA-1 itself overshadow planning capacity at Provincial and District levels.
- Project management: There is a need for more transparent monitoring of project activities in order to determine achievement of project purpose, as well as to ensure institutional sustainability of management, as has been adopted in by the UNDP Project in Son La. In the northern mountain areas where RIA-1 is currently active, it would be helpful to give consideration to the experience gained by the AOP in Lao PDR, where, for example, breaking up the production cycle to allow entry points for poorer farmers, and establishing spawning and nursing networks, has proved to be an effective strategy for establishing aquaculture in resource poor conditions. Exchange and training exercises with the Lao PDR programme are recommended.
- Poverty issues: The use of on-farm trialists has so far not been on the basis of needs assessment. The status of new entrants is also not clear. There is a considerable risk that unless measures are taken to specifically target poorer households, opportunities for entry into aquaculture will be severely restricted. Evidence suggests the benefits of increased aquaculture production in the form of affordable sources of food have yet to accrue to local households. The research interests of RIA-1 should not dominate on-farm trials. Less emphasis on perfection of the details of aquaculture trials and greater efforts to meet farmer needs by extending workable appropriate aquaculture practices to poorer farmers would be appropriate. With the establishment of the Socio-economic Studies Unit RIA-1 is in a strong position to undertake this kind of work.

- Capacity building: The programme is now in a position to focus capacity building activities more directly on the extension needs of Province and District level.
- Aquatic resources: Increasing the area under production also constitutes a serious threat to the wild fishery that has not yet been adequately considered. Conversion for aquaculture of swamps and wetland areas that constitute important habitat for indigenous species is widespread. This raises concerns for sustainability of wild populations and the indigenous genetic resource. Consideration under the AOP should be given to rehabilitation and appropriate management strategies for natural water bodies.
- The appropriateness of using modified strains of tilapia and other introduced species in poverty-focused aquaculture is also an area of concern. On the basis of discussion with provincial authorities and farm households it would be appropriate for the AOP to explore alternative technologies utilising indigenous species. Increases in intensive production methods also raise concern over potential disease issues, especially given high incidence of red spot occurring in grass carp aquaculture.

4 Lessons learned

- As a general observation, the team conclude that the AOP is an important programme within the region with the capacity to deliver technical change to target beneficiary groups in a way that is seldom achieved by alternative institutions and approaches. It has provided a level of continuity also seldom featuring in multilateral and bilateral programmes. Many of the past recommendations aimed at improving the performance and delivery of outputs under the AOP (Joint review missions 1995 and 1996) have been successfully adopted; there are a small number of areas where this has not been the case. Despite the recognition that there are areas of activity that require modification and/or greater transparency, we recommend that subject to the incorporation of such changes, Sida should continue to extend support to the AOP, and funding should continue into the next Phase (2000–2002).
- The existing Institutional framework i.e. An umbrella framework headed by AIT and five supporting country programmes is in transition – the increasing autonomy and divergence of the country programmes is a measure of success of the AOP, and the mission team recognise that each of the country programmes is distinctive; the provision of increased autonomy for the country programmes must be balanced by a corresponding level of transparency at country level, a clear programme for the promotion of Provincial and District level ownership, and corresponding quantitative indicators of technology access and uptake by targeted households and communities.
- Within the context of the log Frames, there are tenuous linkages between purpose outputs and OVI's in relation to the poverty criterion, and it is the view of the mission that the AOP must adopt a more clearly defined approach to demonstrate achievement of purpose. More specifically:

Goal: The Goal is unrealistic and beyond the scope of the programme unless there are specific outputs that target the poorest of the poor, proscribed methods to achieve this, and quantifiable time bound indicators to demonstrate achievement.

Purpose: while capacity of national institutions to deliver is a necessary pre-condition for long term sustainable aquatic resources management, the *preparation* of strategic plans alone is an insufficient measure of achievement. Purpose level should be qualified to include implementation of plans, appropriate to aquatic resources management and poverty focussed objectives, and should be clearly verifiable.

Outputs: As currently presented, the outputs are vague. The Mission team recognise that this is an inevitable reflection of the “umbrella” framework (the use of which is not in question and was indeed a recommendation of the 1995 joint evaluation mission). However, at a country programme level, it is essential that there are specific indicators (OVI’s) and activities, that provide strong linkages to purpose, and clear verification of achievement

It would be helpful to complement the LFA approach with other conventional project management tools, for example task-scheduling, in order to have clearly defined responsibilities and time-frames for the completion of activities.

- This evaluation concurs with previous reviews that aquatic resources are fundamental to the livelihoods of poor people and that there is considerable scope for aquatic resource management strategies. In terms of aquaculture, the technology is largely in place but what is required is extension that is appropriate to the needs of poor people and fits with their livelihoods strategies. In order to reach poor people, effective targeting is essential. For this to be achieved the capacity of extension services need to be developed particularly in participatory needs assessment. There remain concerns regarding the relationship between research driven activity, the degree of participation associated with the definition of these research activities, and the delivery of developmental benefits to poor households and communities. We acknowledge the differentiation between country programmes in this respect.
- Where further research is required it is strongly recommended that it be in the form of participatory on-farm trials and pilot projects that fit with the developmental needs of poor rural people. Research activities should aim to realise immediate benefits to beneficiary groups. Socio-economic skills should be intrinsically developed. A more integrated approach to development that takes poverty as the central problem, and that incorporates a range of appropriate strategies (including credit facilities, livestock etc) is required. The capabilities of poor rural people to manage their resource base and participate more effectively in the policy-making process must also be enhanced.
- Effective monitoring and evaluation of impact and uptake is necessary to indicate project achievement but also to ensure the institutional sustainability of project activities. Related to this is the need for CBA in farming systems analysis. The participation of farmers in all forms of monitoring and evaluation is to be encouraged.
- The role of AOP as a regional facilitator may also be expected to change in parallel with the national collaborating institutions. There is a need for structural change that will aid the sharing of experience between the five country programmes. The role of AIT and AOP in facilitating this needs to be clarified and strengthened
- The central concern in all of the programme countries evaluated under the present mission relates to the very restricted capacity of institutions at Provincial and District levels. The enhanced development of extension skills at these levels of local government is fundamental to the success of the AOP in achieving delivery and promoting uptake of small scale farming

technology to resource poor communities. Although DANIDA support has focussed on training and educational requirements under the AOP, this has primarily been focussed at degree or post graduate level training. Sida has similarly undertaken an effective scholarships programme which is also addressed under the present evaluation mission. The relationship between the forms of training currently promoted and the skill sets required to achieve the programme goal need to be re-considered.

At Provincial and District levels in the respective countries, most existing extension workers do not qualify for access to training under such programmes, have limited access to any forms of formal training, but are still the primary vehicle for disseminating technology outputs to farm communities. The programme should now move forward and deliver extended practical training to Provincial and District staff – the output targets for this vocational training should be more rigorously defined. Similarly the roles of the collaborating national institutions and their key activities and responsibilities under the AOP also need to be re-defined, as the Provincial institutions absorb some of the former activities of the national institutions. This should be seen as a positive step that will assist enhanced skills development at Provincial and District levels and improved delivery and uptake of technology by farmers and households, while reducing the pressure on national collaborating institutions and permitting them to address new areas of activity.

- There is a need to attach more emphasis to the sustainability criterion, as it relates to wild stocks of aquatic resources. Despite the revised mandate of the AOP which incorporates both aquaculture and aquatic resources management, there remains a marked emphasis within the AOP programmes on introduced species and aquaculture production methods. Retention of biodiversity in the programme areas is becoming a critical issue. Cambodia is addressing this issue in elements of its programme looking at dry season refuges and community driven conservation measures, but these considerations have not been widely addressed. Research on similar issues in Thailand needs to be more firmly addressed in the current proposal. All Provincial and local institutions met have emphasised the importance they attach to indigenous species. At present, little is known about recruitment mechanisms within the flood plain and rice paddy resource, although it is evident that habitat depletion (land conversion), pesticide use, and over-exploitation are impacting wild stocks. The extent to which aquaculture and stocking practices may dilute gene pools and the effects of this are also unclear.
- Associated with the above, the mission is aware of the increasing incidence of reported disease associated with increasing intensification of production methods by farmers and local institutions in all of the country programmes. It is the view of the mission that there are significant disease risks in activities under many of the country programmes that need to be more effectively addressed. The withdrawal of DFID funding to the AAHRI programme, has left a skills gap in disease prevention, treatment, and associated training. This does not suggest that the AARHI programme should be re-instated – it does suggest however that there is a need for an improved understanding of disease constraints, and a service to which farmers have access- these concerns will be discussed further in the Final report of the mission.
- Central constraints to uptake of new technology by poor households frequently rests on risk-averse behaviour by farmers and by the limited available access to appropriate and affordable small-scale credit. We believe there may be value in exploring the opportunities for development of Micro-credit schemes aimed at achieving entry for resource poor farmers. A

number of micro-credit initiatives have been undertaken in the region and the mission team recommend that consideration is given to identifying appropriate mechanisms and/or vehicles through which small scale credit in aquatic resources may be made available to poor households. This should represent an element to be addressed under the needs assessment/design stage of Phase 3 of AOP, should Sida elect to undertake financing of the next Phase.

- The Mission members are cognisant of the overlaps and poor communications between donor institutions in integrated planning. Under conditions where existing capacity in a number of the current collaborating institutions is weak, competition between donor institutions and implementing agencies for qualified and experienced project staff, threatens to disrupt the AOP through absorbing existing country programme personnel, and fragmenting current development efforts. It is now critical that donors adopt a coherent and integrated approach to the identification, planning and implementation of interventions in fisheries and aquatic resources, and related sectoral activity. Sida and DANIDA have important roles to play in this process through existing relationships with co-funding institutions (MRC, ICLARM, UNDP, DFID), in addition to their own bilateral programmes which do not always engage in effective co-ordination with the AOP.

5 AOP Programme Appraisal (2000–2002)

5.1 Introduction

5.1.1 Transition in Programme Design

- The AOP programme through previous phases has adjusted its field of intervention to encompass aquatic resources rather than merely aquaculture, and has adjusted its ultimate beneficiary group from the rural poor to the poorest rural groups. In doing so AOP have continued to work through capacity building of national and regional institutions rather than work directly with beneficiary groups.
- In the proposed phase of funding important changes are outlined at the purpose and goal level, but with only minor changes at output level. This is a cause for concern, not merely in terms of the design of the project log-frame but also because it fails to build on previous project experience. The mission team is concerned by the inconsistent use of Phase II and Phase III goals in the Umbrella Project proposal (see AIT 1999 Main Proposal), and within some of the respective country log-frame proposals (see AIT 1999 Appendices). For instance, Main Proposal project summary table refers to the Phase II goal, whereas the majority of umbrella log-frames refer to Phase III goal. However, in Section 3.2.1 (page 23) the goal is once again taken from Phase II. In the case of log-frames for Thailand and S. Vietnam (Appendices pages 30 and 34) the goal refers to Phase II, while purpose refers to Phase III. OVIs for goal and purpose for both countries only refer to S. Vietnam.

- The goal of the proposed programme is '*Improvement of the quality of life in Asia with a focus on poverty and the environment*' (rather than the previous goal of '*Improved livelihood for the poorest groups in rural areas with access to an aquatic resource*'). In the light of concerns regarding the extent to which the 'rural poorest' were targeted and reached in the previous phase of funding the proposed goal is considered to be too ambitious, and far beyond the scope of the project.
- The purpose of the proposed programme ('*Capacity to sustainably use aquatic resources is improved at community and household level*') marks a significant shift from previous attention on capacity of national institutions ('*Strengthening of national development institutions working to promote sustainable aquatic systems management on a long-term basis*'). While the proposed purpose is considered relevant it will be necessary for country programmes to build on previous experience and make adjustments according to previous successes/failures to effectively target poor households and communities.
- The use of 'improvement' at goal, purpose and output level is considered to be inappropriate. It is not possible to adequately assess progress towards meeting improvement nor the linkages between improvement and performance. More importantly, implementation and established practices are now required, rather than a vague notion of improvement. It is recommended that both goal and purpose are changed accordingly (cf. DFID Concept Note)

5.1.2 Purpose to Output

- Evaluations of the previous rounds of funding have raised concerns over the linkages between outputs, purpose and goal. Outputs that talk of 'improvement' are by definition extremely problematic to measure. Furthermore, improved capacity does not necessarily manifest itself in performance and implementation, particularly if the institutional structures themselves are not in accordance with project objectives. This is an issue among national institutions with a research rather than extension bias, and with no clear policy towards addressing poverty. While there have been considerable improvements in capacity in some programmes it is clear that much of this capacity is yet to manifest itself in action. Indeed there is concern that there is too much capacity in some areas and at some levels (for example, in large numbers of research scientists educated to post graduate level), even though poverty objectives require quite different types and levels of capacity.
- Despite the change in project purpose to reaching 'community and household level' there are only minor changes at output level. The main change with regards to targeting poor households is from '*Capacity to effectively collect information from and disseminate to farmers achieved*' to '*Improved capacity for effective communication with the rural poor*'. Effective communication with poor people is considered necessary and relevant but should deal more explicitly with the participation of poor people in determining project activities. This output would be more relevant if it included '*effective participation of poor people in defining needs, assessment and management established*'.
- Furthermore, it is recommended that there be specific outputs that deal with identifying and targeting poor people, assessing needs and livelihoods at household level, and that deal specifically with establishment of sustainable aquatic resource management regimes for poor people. It is essential that the impact on poor people's livelihoods be monitored effectively, with the participation of intended beneficiaries. The delivery of these outputs needs to be resourced accordingly.

- In order to address the capacity of communities to manage their resource base it is also essential that outputs relating directly with community activities are included. The capacity of communities (and households) to manage their resource base is not simply a technical issue, but requires a degree of political and administrative capacity, both to deal with issues internal to the community, but also to deal with state and market processes. It is essential that equity is a component of community level management practices, and that the poorest sections are targeted. The distributional effects of community interventions must be assessed with specific measurable indicators.
- The existing capacity of ‘communities’ in programme countries differs markedly. In some situations it is difficult to talk of communities of people (i.e. in the sense of communities of shared interest) whereas in other areas, communities have well-established, transparent and equitable management regimes. Assessment of existing and potential community structures and management regimes is also required.

5.1.3 Institutional Relationships

- Since the inception of AOP several donor-funded projects with overlapping areas of activity have been initiated in the region. Some of these deal specifically with aquaculture (FAO-NACA “Aquaculture for Sustainable Rural Livelihood Development, UNDP-FAO Aquaculture Development in Lao PDR, as well as Mekong River Commission aquaculture projects in Cambodia and S. Vietnam), and others with wild fisheries issues (viz. MRC Reservoir Projects in Lao PDR, Thailand, Cambodia, and MRC Assessment of Mekong Fisheries Project). There are also a number of MRC projects dealing with wetland issues under the Environment Programme, as well as the proposed ICLARM project ‘Legal and Institutional Framework, and Economic Valuation of Resources and Environment in the Mekong River Region’. There are also several rural development projects with overlapping objectives towards poverty and sustainability, often working in the same geographical areas.
- Given the central issue of limited government capacity, particularly at province and District levels, and the importance donors place on co-ordinated, integrated approaches to development it is essential that these projects complement each other. There is concern that projects compete over counterpart staff and drain already limited capacity. Lack of effective communication and planning between projects can lead to unnecessary replication of activities.
- AOP has unique skills and experience in small-scale aquaculture and in some wild fishery issues, as well as in extension and training. This skill and experience would clearly be of value to other projects. In several instances there has been close and beneficial co-operation (for example, between RDC and UNDP-FAO in Lao PDR). AOP has made commendable effort to co-ordinate with other projects, but ultimately it is the responsibility of donors to ensure that the projects they fund do not undermine other projects, and complement them as much as possible. Since Sida and DANIDA both fund AOP (and DFID has been involved) it is essential that they work effectively together in the funding of their projects.

5.2 Cambodia

5.2.1 Relevance

- At purpose level the current proposal is relevant and is substantiated by appropriate quantifiable indicators (OVI's). Based on performance in Phase 2 which saw a doubling of participants in seed production and grow out for each year of operation, the proposed OVI's are expected to be achievable subject to effective monitoring and evaluation. Again based on previous performance and the important advances made by the country programme in achieving its objectives there is little reason to doubt that the M and E activities will be effective.
- The planning elements of the current proposal, while relevant to the further development of the programme and to institutional strengthening at Provincial levels generally, are also strongly dependent upon the levels of co-operation extended by the DOF and other donor activities within Cambodia. The concept of moving towards a co-ordination and policy role is appropriate under these circumstances. However, the current MOU's between DOF and external donor funded activity that excludes involvement of the AO is unfortunate and may be counterproductive to the long term co-ordinated development of small scale aquaculture and aquatic resources development. It is important therefore that the relationship between the DOF and the AO is strengthened and that the proposed co-ordination and policy making role of the AO is clarified through further discussion with DOF.

5.2.2 Project Design

- Although past targeting of beneficiaries has been effective and consistent with Sida policy on poverty and equity, largely through definition of food deficit areas, the current proposal does not expand on how it intends to undertake direct needs assessments in the new provinces to which it plans to develop activities. It is felt that this should be an important first task that is integral to the on-going development of the programme, and should be reinforced by strengthened socio-economic planning skills in the AO. This component should be budgeted accordingly and a relevant indicator adopted for output 6 (*capacity for effective communication with the rural poor improved*).
- In general the mission believes the Cambodia Country programme to be a coherent and well directed programme. The current proposed project is well designed, however, positive past achievements of the country programme are not always reflected in the log frame for 2000–2002. The programme has modified the indicators (OVI's) adopted, but these could still be strengthened for some outputs with less qualitative and more quantitative indicators.

5.2.3 Feasibility

- Planning activity could be reinforced by indicators which measure the extent to which such plans incorporate appropriate levels of participation in their formation, and which are similarly measured in terms of achievement by the relative success of implementation. The preparation and ratification of plans alone is an insufficient measure of achievement.
- While the mission agrees with the principle of the AO lending support to the management and operation of Provincial Fisheries Stations, evidence suggests that the efficiency of those stations developed by PRASAK (and to which the AO has already provided support) even when operating effectively, are unlikely to be as cost effective or as well integrated into the

Provincial aquaculture network, as the private sector seed producing farmers. Some caution may need to be exercised in the levels of support provided to Fisheries Stations on a long term basis, and the performance (technical and economic) of the stations should be subject to monitoring and evaluation.

- The HRD component of the current proposal should be strengthened at both AO and Provincial/District levels. Within the AO there is a need to further develop operational and Project management skills, and to extend the responsibilities of the existing in-country staff. The existing management framework could be strengthened by adoption of a clear professional development programme, and the preparation of job descriptions for all professional staff. Based on concerns expressed by local staff there may also be a case for re-examining the current policy for payment of supplements, with a view to adopting a performance related approach.
- Current training proposals are largely limited to higher level training, and the budget allocated to training in general is one of the smallest budget components of the country programme. In view of existing resourcing constraints within the AO and the defined objective of extending capacity at Provincial and District levels, it is suggested that the levels of vocational training available to Provincial and District staff should be significantly enhanced and the proposed budget increased accordingly. Developing capacity at all levels represents the core of the AOP approach, and it is therefore appropriate that training (whether degree level or vocational) is prioritised accordingly.

5.2.4 Sustainability

- The initiatives undertaken by the country programme in aquatic resources management, and specifically the work being undertaken in identification of refuge areas and promotion of community based management are an important element in developing improved understanding of wild fisheries and effective resource management. The proposed extension of this work in Phase 3 is an important area of the AO programme that should be promoted both in the interests of food security and resource sustainability.
- Based on past achievements and the progressive development of internal capacity within the AO, it is concluded that local ownership and sustainability of the AO is now secure.

5.3 Southern Vietnam

5.3.1 Relevance

- The general approach adopted within the country programme is relevant to the extent that the aim is to strengthen capacity through an inter-Provincial network, although it is less clear from the proposal how Provincial level institutions will in turn deliver measurable impact at the purpose (household and community) levels. The mission team recognise none the less that the formation of a network as proposed does offer an important opportunity to rapidly extend Provincial skills in resource planning and management. The proposal to appoint a co-ordinator for the AOP who will liaise with the inter-Provincial group (ISCAR) should be a priority in view of the rapid expansion of the programme and the resourcing pressures this imposes on UAF.

5.3.2 Project Design

- The country programme log-frame for Phase 3 utilises the Goal from Phase 2. This appears to be a general area of confusion that also appears in the main proposal (see 5.1.1). The indicator (OVI) applied to this goal (Income from aquatic resources among rural households in project target area increased by 30% over baseline in 2002) is probably over ambitious,
- Although the proposed project is well considered in developing an inter-Provincial network based on the need to enhance the capacity of Provincial and District level institutions, the *direct* links to the purpose (*capacity to sustainably use aquatic resources is improved at community and household levels*) are more tenuous.
- In design the proposal could be strengthened by a more clearly defined approach to participation. This should be reflected in an appropriate quantitative indicator under output 6. The focus of the current proposal remains institutional development and the means by which needs assessments and/or targeting will be undertaken remains unclear. It would be helpful if the links between the Provincial level institutions, the means by which needs are defined at household and community levels, and the dissemination process implemented to fulfil these demands, could be expressed more clearly in the proposal.

5.3.3 Feasibility

- A central concern with the current proposal relates to the dominance of OVI's based on proposed outputs of ISCAR, without actually defining what measures will be taken at Provincial levels to work with farmers, engage in participatory planning, and undertake appropriate extension activities. This reinforces the view that the programme should be initiated by a more comprehensive design phase.
- Despite these conflicts within the log frame, and subject to the above points, the institutional mechanism proposed for Phase 3 is a sensible approach to dissemination over a wider area than would be possible utilising existing resources in UAF. An important issue in such an approach will clearly be to ensure that there are clear lines of responsibility and accountability between AIT, UAF, ISCAR, and the constituent Provincial authorities (whose actions will determine achievement of purpose). This will also necessitate a more rigorous approach to Monitoring and Evaluation than currently adopted.

5.3.4 Sustainability

- The proposed programme, assuming it achieves projected training and dissemination targets, and subject to the points noted above, is expected to assist in the delivery of long term benefits to rural households and to the progressive adoption of sustainable resource management practices. The project similarly proposes an appropriate balance between the development and promotion of small scale aquaculture and aquatic resources management. It furthermore addresses the interests of migrant communities (Binh Phuoc and Tay Ninh) and landless rural households through the proposed introduction of community based fisheries; this represents a potentially important intervention aimed at the key target beneficiary groups, consistent with Sida policy objectives.

5.4 North East Thailand

5.4.1 Relevance

- Although the general direction of the current proposal is considered relevant, the project proposal as it stands requires considerable attention (see notes above section 5.1). However, fieldwork during the evaluation mission revealed several opportunities for AOP activity that are not well represented in the proposal.
- The two main shifts in emphasis for the proposed round of funding are i/ involvement in the DOF Village Fish Ponds project, and ii/ continuing with earlier AOP research on wild fisheries. Proposed emphasis on the DOF Village Fish Ponds Project is relevant and has the potential to have both a poverty focus, as well as being a means of addressing wider aquatic resource management. VFP also presents an opportunity to establish community level management regimes.
- Continuing with the work that has been carried out in Sisaket and Ubon provinces on the wild fishery is relevant, with the potential to be poverty-focused. However, the emphasis on the next stage should be in implementation of community and household management strategies, linked with small-scale aquaculture activities. Where further research is carried out, it should be in the form of participatory, pilot projects.
- Continuing development of appropriate extension activities is considered relevant. At present the project does not apply a rigorous methodology for targeting poor households, and on the whole continues to target those with potential for aquaculture uptake i.e. access to a pond, and availability of on-farm inputs and/or spare income to purchase inputs. Although many of these new entrants may well be low-income households, they represent a small proportion of village population and are not considered by the project to be the poorest of the poor. Developing capacity of DOF to operate at village level with a livelihoods focus would be an appropriate application of earlier AOP experience. This would also strengthen AOP's own area of expertise and allow for fruitful collaboration with overlapping projects. However, there need to be clear indicators of such improved capacity manifest in performance at community and household level.

5.4.2 Project Design

- The project design as it stands requires strengthening. Goal and purpose refer to the South Vietnam programme while linkages between project outputs, purpose and goal are tenuous, with OVIs extremely vague. There is no indication of how outputs will be realised, and no means of measurement. It is recognised that uncertainties concerning donor funding, and budget constraints of the Thai DOF have impinged on the planning stage but it is clear that more detailed planning is required. However, given the delays in conducting this current evaluation it is essential that there are no delays in funding, and implementing Phase III.
- It is recommended that there be a further round of project planning in which a revised log-frame is prepared. Concerns regarding linkages between outputs, purpose and goal need to be addressed. Specific measurable, time-bound OVIs need to be included and should be used as the basis for reporting, monitoring and evaluation of project impact. There is concern that the log-frame has not been the basis for planning project activities in the previous round of funding, and that as a result, project activities have not always been well co-ordinated. There is a need for a clear focus of activity, with clearly defined roles for AOP supported by coherent problem analysis. Monitoring and evaluation of impact will need to be a strong component of further funding.

5.4.3 Feasibility

- Recent policy changes in the DOF represent an unprecedented opportunity for AOP to have an important impact at the national institutional level, and thereby on poor rural people. Support from the Department of Fisheries for continued AOP involvement appears to be secure. Furthermore the idea of establishing a National Steering Committee for the management of small-scale aquaculture with inclusion of AOP gives impetus to programme activities. DOF commitment to increasing the number of ponds constructed, and to expanding the Village Fish Ponds project also indicates increased potential for poverty-focused aquatic resource management strategies.
- Concern has been expressed since the 1995 Joint Review Mission regarding the appropriateness of AOP collaborating with Provincial level research centres as a mechanism for influencing extension activity. Provincial research centres are oriented towards technical research and often have poor co-ordination with the extension division operating under province and District. Indeed the institutional separation of responsibilities between research centres and extension divisions has repeatedly been identified as an impediment to effective extension. The continued emphasis on scientific research (within annual DOF research projects) rather than socio-economic, management or extension research has been identified by AOP and DOF staff as a considerable impediment to effective farmer level work. This issue was raised in a meeting between the Sida - AOP Evaluation team (Guy Bradley and Richard Friend) and representatives of the Inland Fisheries Division and AOP (DOF Kasetsart University, Bangkok September 30th, 1999). The DOF now recognises the importance of socio-economic research more directly related to extension and management requirements, and would welcome donor support of DOF counterparts undertaking their annual research projects along AOP guidelines. Sida would be in a position to sign an MOU with DOF and AOP to this effect. This is a welcome and significant change in outlook, and represents an important opportunity to further target poverty, and wider aquatic resource issues rather than simply aquaculture. It should be noted that such a shift in thinking is at least partly attributable to the long-term relationship between AOP and the DOF, and the many achievements of earlier AOP funding.
- Aquaculture and aquatic resource management have considerable potential as a component of poor people's livelihoods in NE Thailand. There is still scope for targeting the poorest households with appropriate low-technology, and credit support where needed. There is also scope for involving poor and landless households in utilising community resources, or in becoming involved in other levels of production.
- The new Thai constitution and establishment of Sub-District Development Organisations represents a significant opportunity for AOP and DOF to have a more immediate impact at the village level. Sub-District Development Organisations now have responsibility and budgets for management of local development and natural resources (as well as health and education). Involving these organisations in training, extension and assessment of management opportunities, potentially is an effective means of addressing poverty issues.

5.4.4 Sustainability

- There is an urgent need for monitoring and reporting procedure to be established and functioning in accordance with the log-frame. The proposed phase of funding needs to respond to earlier concerns regarding poverty focusing by establishing effective monitoring and evaluation of impact on poor households. These recommendations are presented in order to ensure the long-term institutional sustainability of programme activities.

- There are a number of issues regarding environmental sustainability. General concerns relating to intensification of aquaculture utilising introduced species, and biodiversity issues are pertinent to the Thai programme.
- AOP methods regarding small-scale aquaculture are being more widely incorporated into DOF policy. The possibility of enhancing existing relations with the DOF is to be welcomed. It is appropriate for AOP to respond to DOF concerns that project activities fit with the routine responsibilities of DOF counterparts. At the same time a formal agreement with the DOF concerning shared responsibility in meeting project objectives would be appropriate. Recent changes in policy by DOF and renewed poverty-focus bode well for the next phase of funding. The establishment of a steering committee between AARM and DOF for overall responsibility for NE Thailand is also positive.

5.4.5 Co-ordination with other projects

- Co-operation with other projects – in particular the two Mekong River Commission projects, the Assessment of Mekong Fisheries Project (AMFP), and the Mekong Reservoir Fisheries Project (MRFP) is an issue which Sida must address. There is concern that these projects will place a strain on already limited human resources within the DOF, and that project activities are not well-integrated in the routine responsibilities of DOF staff. The National Project Director of AOP is also the NPD of AMFP, with many DOF staff from Udon Thani Research Centre being drawn away from AOP activities to work with AMFP. It should be possible to integrate activities of these projects, but in order to do so, the initiative should come from the respective donors (DANIDA and Sida).
- The MRFP is planning to address smaller reservoirs in its next phase of funding, and to collaborate with all Provincial Fisheries Research Centres in NE Thailand. Again there is likely to be competition over counterpart participation, and a further risk that project activities are not well integrated into routine DOF activities. Although MRFP involvement in smaller reservoirs does not conflict with AOP proposals, project methods will be similar. AOP has experience at working at this level and could make a positive contribution to MRFP (as discussed with MRFP CTA Wolf Hartman Oct 8th, Vientiane). It is essential that training of DOF counterparts should be closely co-ordinated between AOP and MRFP, and AMFP.

5.5 Lao PDR

5.5.1 Relevance

- The Lao programme proposal is highly relevant, particularly regarding institutional capacity building, poverty and developmental focus. Recommendations that follow are in view of planned expansion of RDC coverage.
- The programme approach to aquaculture as a 'key' for entry into rural development, and proposed integration with livestock and forestry activities is highly appropriate for conditions in Lao PDR. This approach is indicative of a problem analysis very much in line with Sida policy on sustainable livelihoods. As such it is of an appropriate example for several aspects of other country programmes.
- Continued strengthening of RDC capacity and spread of activity is also considered relevant, allowing for effective planning and management and encouraging long-term institutional sustainability.

5.5.2 Project focus and design

- The project design is well-structured with specific OVIs and quantifiable indicators of achievement. General programme concerns regarding the relationship between outputs, purpose and goal are less of an issue in the Lao programme due to clearly defined project activities.
- Outputs indicate a high degree of farmer participation in research and development of training and extension materials. Gender issues are appropriately addressed with specific targets for inclusion of women in training and extension activities.
- Human Resource Development is appropriately planned at District and Provincial level with an emphasis on short-term courses.

5.5.3 Feasibility

- Ministerial support for the RDC is expected to remain strong, with interest in extending the RDC model to other regions of Lao. This needs to be matched by donor support in ensuring the RDC is used to co-ordinate further projects in sectors other than aquatic resource management.
- The changing emphasis from national institutions to community and household level is largely considered to be feasible in Lao, based on the achievements of previous funding. However, specific outputs and activities relating to appropriate mechanisms for reaching community and household levels should be included in project design. This can be anticipated to be of greater significance as the programme moves into new areas.

5.5.4 Sustainability

- The programme is well positioned to ensure continued sustainability of programme activities. Existing Spawning and Nursing Networks are capable of continuing farmer-to-farmer extension with appropriate monitoring and evaluation.
- The project does not apply a structured needs assessment in targeting poor households. Reliance on the discretion of District officials is not considered adequate for future activities. In moving into new provinces it is of even greater importance that needs assessment is built into the institutional structure of the project.
- There is room for greater understanding of the dynamics of rural livelihoods strategies and community dynamics given the wide range of agro-ecological systems being addressed, and integrated strategies proposed. This would also be appropriate given the ethnic diversity in Lao PDR. Previous and current research carried out in partnership with RDC would provide a strong basis for such work in the future. Future capacity building and training initiatives should address these issues. By doing so the institutional sustainability of the programme would be strengthened.
- There is room for more attention on appropriate management of the wild fishery. This is likely to be of greater importance as the RDC moves into the three new southern provinces. In doing so lessons learned from previous and current research on wild fisheries issues would be of great value. Co-ordination with other donor-funded projects would also be appropriate (e.g. MRC Assessment of Mekong Fisheries Project, and MRC Reservoir Project).
- Concern has been expressed both by the RDC and at Ministerial level that Sida funding be guaranteed for a period of seven years, in order to allow funding to cover the full cycle of the coming Five Year Plan. This is an issue that is worthy of further consideration by Sida.

5.6 Northern Vietnam

5.6.1 Relevance

- At Purpose level, the adopted OVTs relate exclusively to the development of capacity in RIA-1 and Provinces. There is no direct linkage between these and the ‘household and community level’ improvements that define the purpose.
- There is a need for a co-ordinating body to promote expanded capacity and development at Provincial levels. Whether RIA-1 can fulfil this role and facilitate delivery of outputs to poor households and communities is less clear.
- The mechanisms proposed to achieve dissemination from RIA-1 and Provinces is lacking. There is little evidence presented on plans to undertake needs assessments, despite the recent establishment of a ‘socio-economic’ unit, and no clear approach generally to targeting.
- Geographical focus on the northern mountain regions is correct and appropriate – it is one of the poorer regions in Vietnam, which is a primary source of migration, and is characterised by a broadly degraded environment.
- Development of aquatic resource management plans is considered relevant and appropriate, but there is little evidence of how these will be implemented. The plans should be supported by extensive on farm trials and pilot projects in which the emphasis will be on reaching the beneficiary groups rather than perfecting technologies.
- By Working through the DARDS in the mountain provinces it may be more appropriate to use aquaculture as an entry point to wider poverty focussed development initiatives, This must be based on appropriate needs and livelihoods assessments. This could be co-ordinated through the Sida funded Northern Mountain Rural development project (MRDP)
- In the context of the Red River delta, the extensive research that has been undertaken provides the opportunity to undertake widespread dissemination activities. There is sufficient knowledge locally, to now reduce the need for further research; the focus of this element must now be on implementation. The farmers that have already been trained have a potential role as trainers themselves, although interviewees when questioned on this indicated they would find this difficult. This may suggest that the concept of demonstration farms is not necessarily working as effectively in dissemination as in extending research trial outputs.
- The overwhelming requirement in N. Vietnam is to build capacity at Provincial and District levels, and to develop a clear pathway that enables the dissemination of aquatic resources management and technology to households and communities, built on clear needs assessments and targeting.

5.6.2 Project Design

- There is inconsistency between the logframe, which proposes developing the capacity of RIA-1 and the text which attaches more emphasis to Provincial level development. The frequency with which proposed RIA-1 institutional strengthening achievements are adopted as indicators is inappropriate.

5.6.3 Feasibility

- The programme is feasible because of the advances made by RIA-1 directly through support under AOP Phase 1 and 2.
- Current government policy as defined under the current economic development plan is to provide wide ranging support to the development of aquaculture. This policy is none the less driven by production objectives rather than distributional concerns.

5.6.4 Sustainability

- In the absence of adequate capacity at Provincial and District levels there are concerns regarding long term sustainability of the initiative.
- There is a clear need for improved farmer participation and focussed activity directed by community consultation and planning.
- As expressed at Provincial levels there are broad concerns regarding the frequency and distribution of disease. At present there are limited resources to address these concerns especially in the remote northern mountains. Therefore, it is even more important that there is improved farmer participation and the establishment of farmer networks.
- There are concerns regarding the appropriateness of forms of technology built upon such techniques as SRT and YY male technology associated with exotic species, for resource-poor rural households. A common observation by farmers during the mission was their preference for indigenous species.
- Increases in aquaculture production have been partially achieved at the expense of habitat modification, and depletion of wild stocks. In common with other areas of Indo-china, resource depletion reflects, land use practices, land conversion, pesticide application in paddy production, and over-exploitation. There is a need to attach increasing emphasis on the sustainable management of the indigenous aquatic resource within the AOP programme.

6 Conclusions and recommendations

- The Mission team recommend that funding support by Sida for Phase 3 of the AOP (2000–2002) is continued. In view of the delay in implementing the current evaluation mission, there are clear concerns to ensure that there is no break in existing financing arrangements, which are scheduled to expire in December 1999. It is therefore *strongly recommended that bridging finance is provided to ensure continuity of the programme.*
- There is a need for further work to be undertaken in the design of Phase 3. Central to this element is a requirement to both clarify effective targeting of beneficiaries, and the development of a more systematic approach to monitoring and evaluation. The team view this work as an integral component of Phase 3 activity that should be funded accordingly.
- The main constraint to reaching poor households and communities is limited capacity at Provincial and District levels, rather than further technology-based research. It is essential that the levels of vocational training available to Provincial and District staff should be significantly enhanced and the proposed budget increased accordingly. Developing capacity at all levels represents the core of the AOP approach, and it is therefore appropriate that training (whether degree level or vocational) is prioritised accordingly
- The mission team consider it appropriate to target poor communities and households at purpose level, given the achievements of previous rounds of funding. In order to do so, it is essential that the project adopt appropriate methods towards needs and livelihoods assessment, and poverty-focused targeting. The mission team regard this as being an appropriate means of targeting women more effectively. Securing the participation of beneficiaries is considered to be necessary in order to ensure the long-term sustainability of project activities.
- The emphasis on further activities should be on poverty, with aquaculture and aquatic resource management as relevant entry points. This requires a co-ordinated, multi-sectoral approach that fits with the needs of poor people's livelihoods, and addresses issues of equity and sustainability. This should be substantiated by effective, participatory monitoring and evaluation. Sustainable programme management requires systematic reporting, and evaluation of programme impact.
- Continuation of previous work on wild fisheries and aquatic resource management is considered to be an essential component of the present programme. Disease issues must also be addressed.
- Where there is a need for further research, it should be in the form of extensive pilot projects. The primary objective should be on extending research benefits to target groups, rather than on perfecting technologies. Dissemination routes and uptake paths need to be defined in advance, and undertaken within a defined time-scale.
- In view of the many donor-funded aquatic resource projects in the region, it is essential that there is improved co-ordination between projects. Given the limited capacity of collaborating national institutions it is essential that donor-funded projects do not undermine efforts to strengthen this capacity, and implement projects in a manner that is appropriate for building relevant capacity. While it falls outside the remit of the present evaluation, the mission team suggests the formation of a donor liaison group in order to resolve current co-ordination problems within the sector could assist in more effective delivery of developmental assistance, the more cost effective use of available resources, and improved prospects of achieving sustainable solutions.

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Appendix 1

Persons Met

ASIAN INSTITUTE OF TECHNOLOGY – AIT, BANGKOK

Dr. Jean-Louis Armand, President

Dr. Chongrak Polprasert, Professor and Dean, SERD

Dr. Apisit Elumnoh, School of Environment Resources and Development - SERD

Dr. Surapong Chirarattananon, Associate Professor, EPSM and SERD

Dr. Gajendra Singh, Professor, SERD

Dr. Clemens Bechter, Associate Professor, School of Management

Dr. Athapol Noomhorn, Professor, Agriculture and Food Engineering Program

Dr. Amararatne Yakupitygae, Associate Professor, Aquaculture and Aquatic Resources Management Program

Dr. D. Thukaram, Associate Professor, Visiting Faculty

Ms. Monowara Hussain, Development Officer

Mr. Benjamin A. Gargabite, Development Officer, Scholarship Program

Mr. Avinash Patel, Treasurer

Dr. Mario T. Tabucanon, Provost

Dr. Huynh Ngoc Phien, Dean and Professor, Computer Science and Information Management

Dr. Ashim Das Gupta, Professor and Coordinator, Water Engineering and Management Program, School of Civil Engineering

AOP

Mr. Hans Guttman, Program Specialist

Dr. Peter Edwards, Professor of Aquaculture

Dr. Harvey Demaine, Associate Professor, Coordinator Aqua Outreach Programme

Mr. Mads Korn, Regional Educational Specialist, AIT-DANIDA

Mr. Henrik Backmann Nielsen, Aquatic Resources Specialist

CAMBODIA

Ministry of Agriculture Forestry and Fisheries

H.E. Sam Oeun May, Secretary of State

H.E. Ly Kim Han, Director Fisheries Department

Mr. Srun Lim Song, Vice Chief of Fisheries Domain, Aquaculture and Extension Office,

Department of Fisheries

Mr. So Nam, Chief Aquaculture Planning and Coordination, Department of Fisheries

Mr. Heng Sok Vice Chief of Planning Office, Department of Fisheries

Mr. Long Cheang, Chief Planning Office, Department of Fisheries

Mr. Ros Vuthy, Vice Chief Administration

AIT Aqua Outreach Program

Mr. Seng Bunra, Director

Mr. Chin Da, Extension and Information Unit

Mr. Bob Gibbons, Educational Program Specialist

Eric Muesch, Country Programme Officer

Mr. Soh Vanna, Head of Field Research

Department of Agriculture. Takeo Province

Mr. Hong Try, Provincial Head of Agriculture Department

Mr. Lim Bona, Assistant Field Manager

Mr. Ouk Hak, Staff

Mr. Seng Meng, Chief, Khoeung Fisheries Station

Mr. Kim Sarith, Provincial Head of Fisheries Section

Mr. Kheou Sam, Primary Fish Farmer

Mekong River Commission

Dr. Jean O. Lacoursière, Chief of Environmental Unit, HRD and Environmental Division,

Mr. Jorgen G. Jensen, Chief, Fisheries Unit Secretariat

Swedish Embassy

Mr. Daniel Asplund, Counsellor

World Bank Group

Mr. Bonaventure Mibida-Essama. Acting Chief, World Bank Cambodia Resident Office

NORTHERN VIETNAM**Ministry of Fisheries**

H.E. Nguyen Viet Thang, Vice Minister

Dr. Vu Van Trieu, Deputy Director General, International Cooperation Department

Mr. Tran Van Quynh, Vice Director, Science and Technology Department

Dr. Phan Van Tho, Senior Expert, Science and Technology Department

Research Institute for Aquaculture No. 1

Dr. Tran Mai Thien, Director

Dr. Le Thanh Luu, Vice Director, Director AIT-AOP

Mr. Nguyen Huy Dien, Senior Researcher

Department of Agriculture and Rural Development, Thai Nguyen Province

Mr. Nguyen Van Vuong, Director

UNDP

Ms. Suzette Mitchel, Gender in Development Specialist

Mr. Nguyen Thanh Tung, Programme Officer

NACA

Dr. Dilip Kumart – Senior aquaculturist

MRDP

Mr. Björn Hansson, Manager, Mountain Rural Development Programme

SOUTHERN VIETNAM

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Dr. Bui Cach Tuyen, Rector

Dr. Trinh Troung Giang, Vice Rector

Dr. Le Thi Phuong Hong, Head of the Faculty of Fisheries

Dr. Nguyen Van Tu, Deputy Head, Faculty of Fisheries, Director AIT-AOP

Dr. Le Thanh Hung, Vice Dean Faculty of Fisheries

Ms. Nguyen Phu Hoa, Lecturer, Faculty of Fisheries

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Mr. Van Van Hanh, Vice Director

Mr. Nguyen Thanh Hai, Vice Director Agriculture Extension Centre

Mr. Ho Manh Tuan, Head of Agriculture Division

Mr. Phung Tan Hai, AIT-UAF Field Assistant

Farmers:

- Farmer 1, Mr. Nguyen Tuan Anh, in Dong Xoai sub-district, Dong Phu district
- Farmer 2, Mr. Nguyen Van Hoa, in Dong Xoai sub-district, Dong Phu district
- Farmer 3, Mr. Do Ngoc Sanh, in Thuan Loi commune, Dong Phu district

Department of Agriculture and Rural Development, Long An Province

Mr. Rham Thanh Doan, Vice Director

Mr. Luong Le Dung, Vice Director of Extension Service

Mr. Tran Kuc Chanh, Staff

Mr. Bui Van Tin, Head of Agriculture Extension Centre

Mr. Pham Duy Thuong, Extension Worker in Duc Hoa District

Ms. Vo Thanh Binh, AIT-UAF Field Assistant in Duc Hoa District

Mr. Nguyen Duy Thuong, staff of the AEC at Duc Hoa station

Farmers:

- Farmer 1, Mrs. Nguyen Thi Hue, in Duc Hoa sub-district, Duc Hoa district
- Farmer 2, Mr. Nguyen Thanh Thai, in Duc Hoa sub-district, Duc Hoa

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Wolf Hartman, CTA Mekong Reservoir Fisheries Project, Mekong River Commission

Ms Sophie Nguyen Khoa, MRAG Research Officer

Dr Caroline Garaway, Imperial College, London

Dr Victor Cowling, VSO

Appendix 2

Schedule of Activities

Date	Activity
Fri 17th – Mon 20th	Mission Preparation
Sat. 25th -Sun 26th	Travel to Bangkok
Sun. 26 Sept	First Team meeting at AIT
Mon 27 Sept	Team Meetings with AIT
Tues. 28 Sept	AOP Workshop
Wed. 29 Sept	AOP Workshop
Thurs. 30 Sept	AOP fieldwork planning of (RF andGB) - DOF meeting at Kasetsart
TEAM 1 – NORTH EAST THAILAND AND LAO	
Fri. 1 Oct	Fly Bkk - Ubon (stay in Ubon) - VFP in Ubon -Field visit to sites in Nam Yeun – Meetin with District Fisheries Officer and Assistant District Fisheries Officer (Siwichia District) - Thai Army (Dor Chor Dor) Projects -Evening meeting with Mr. Danai, Mr Supawat, reps of Army and Queen's Rural Development Project
Sat- 2 Oct	Field visits in Sisaket re. AOP research on wild fishery and pond trap fishery - Debriefing with Inga-Lill Andrehn - (stay in Kalasin)
Sun - 3 Oct	Drive Kalasin to Sakorn Nakhon -Field visit 3rd year farmer and wife - Interview with AOP Field Staff - Evening meeting/dinner with Danai, Supawat, Suporn (RF &ILA)
Mon. 4 Oct	Completion of pro form with Mr. Danai, Mr. Suporn and Mr. Supawat (RF & ILA) - Drive Sakhorn Nakorn to Mukdahan – cross to Savannakhet -Arrive Savannakhet - Preparatory session with Douangchit Dumlonglith (Co-ordinator RDC) and Victor Cowling (VSO) - Introduction to Caroline Garaway (Imperial College – community ponds) and Sophie Nguyen Khoa (MRAG – Effects of Irrigation and Aquaculture on the Wild Fishery)
Tues. 5 Oct	Drive Savannakhet to Sepone - Palan District (Nursing network, rice-field fishery) -Phin District (Nursing & Spawning networks) –Sepone District -Pro forma w. Douangchit & Vic Cowling – Overnight at Sepone Station
Wed. 6 Oct	Drive from Sepone to Savannakhet -Atsapong District Office (Book system) - Outomphong District - Return Savannakhet – debriefing at RDC Evening meeting with Caroline Garaway (Imperial College) & Sophie Nguyen Khoa (MRAG)
Thurs. 7 Oct	Drive from Savannakhet to Vientiane -Meeting with Deputy DG DLF, Vientiane (RF & ILA) - Meeting with Simon Funge-Smith, UNDP/FAO
Fri 8 Oct	Meeting with Wolf Hartman, MRC MRFP - Meeting with Sida representatives Vientiane (RF, ILA & DV) - Fly Vientiane to Hanoi
TEAM 2 – CAMBODIA AND S. VIETNAM (GB AND JR)	
Fri. 1st Oct	Fly to Phnom Penh - AO presentation - Meetings with AO team
Sat. 2nd Oct	Field visit to Takeo Province - meetings with Provincial Government staff - farm visits - seed production
Sun. 3rd Oct	(GB and Sok Vanna) Field visits to Svay Rieng province - farm visits and farmer interviews (primary and secondary seed producers + grow-out), provincial fisheries station, community based fishery and refuge -
Mon. 4th Oct	(GB and Sok Vanna) Fieldwork in Svay Rieng Province - meetings with Provincial DOF and Mr Thach Rattana (Director Dept. Ag). Discussion with Tuy Samram CRS project Officer - pm - return Phnom Penh.

	(JR and DV) Meetings with MRC, Sida and Swedish Embassy in Phnom Penh. (JR and GB) - Debriefing with EM and Country Programme staff.
Tues. 5th Oct	Travel to HCM City - meetings with UAF (Bui Cach Tuyen, Trinh Truong Giang, Le Thi Phuong Hong, Nguyen van Tu) – Documentation review.
Wed. 6th Oct	Fieldwork - Meetings with Binh Phuoc Provincial Director of Ag. Van Van Hanh and staff. Farmer interviews in Dong Xoai sub-district, Dong Phu and Thuan Loi commune, Dong Phu.
Thurs. 7th Oct	Fieldwork in Long An province - meetings with Mr. Pham Thanh Doan, Vice Director of Department of Agriculture and Rural Development (DARD) and - Mr. Luong Le Dung, Vice Director of Agriculture Extension Centre (AEC). Farmer interview in Duc Hoa district - return HCM city - debriefing with UAF AOP team.
Fri. 8th Oct.	Travel to Hanoi - preliminary meetings with Dr. Luu (RIA-1) – meeting with Sida supported Northern mountains Project (MRDP) project Manager Bjorn Hansson. Mission team meeting.
JOINT MISSION TEAM ACTIVITY – N. VIETNAM AND THAILAND	
Sat. 9 Oct	Field visit (RF & GB) Red River Delta VAC systems -Meeting with Provincial DARD - farmer interviews
Sun 10 Oct	Meeting at Thai Nguyen Provincial DARD with Director Nguyen Nan Vuong and extension service staff - Interviews with trial farmers.
Mon 11 Oct	RF & GB review field work - Evaluation meeting with Dr Luu (RF and GB) Team meeting with DG of Ministry of Fisheries - Official dinner
Tues 12 Oct	Review of fieldwork (RF & GB) - Meeting with Dilap Kumar (UNDP Aquaculture Project)
Wed 13 Oct	Fly Hanoi to Bangkok -Debriefing with Harvey Demaine, AIT –Meeting with Hans Guttman, Programme Specialist, AIT
Thurs. 14 Oct	Debriefing Simon Bland, Natural Resources Advisor DFID – Debriefing to AIT (Team)
Fri. 15 Oct	Evaluation of AOP Thailand – meeting with Hans Guttman, Programme Specialist - Meeting with Jean Lacoursier (Chief of Environmental Unit, MRC) (RF &GB)
Sun 17 Oct – Oct 25th	Preparation of AOP Evaluation and Appraisal Report, Kanchanaburi (RF & GB)
Tuesday 26th	Flight from Bangkok to London
Monday 1 Nov	Finalise and submit draft report (RF & GB, London)
Friday 5 Nov	Submit Final report (RF & GB, London)

Appendix 3

LFA period: January 2000–
December 2002

LFA revision: July 1999

Umbrella Logical Framework for AIT Aqua Outreach under Sida Phase III:

"Our mission is to achieve wider recognition of the importance of aquatic resources to rural livelihoods and mobilize effort to improve their management to benefit the poor."

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
Goal or Development Objective			
Improvement of the quality of life in Asia with a focus on poverty and the environment	Improved livelihood of poor rural households in target areas ⁶	National statistics; baseline and evaluation surveys	Rural communities and households have access to an aquatic resource ⁷
Purpose or Project Objective			
Capacity to sustainably ⁸ use Aquatic Resources is improved, at community and household level.	Increase in the numbers of target communities and individual farmers in those communities following Program recommendations	Monitoring reports	Improved capacity amongst collaborating institutions reflected at farm and community level Aquatic resources remain an important livelihood option amongst farmers in target regions
Outputs			
Capacity for institutional planning and	– Institutional development plans, including plans for	– Plans produced and followed	

⁶ Target areas means those areas in which the AIT Aqua Outreach Program works in collaboration with national and provincial institutions. Within each province there may be specific target districts and communities.

⁷ As opposed to water resource

⁸ The definition for sustainability is taken to mean the same as described in the Brundtland Report (1987).

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
management improved.	<ul style="list-style-type: none"> human resource development Changes in organisational structure enabling more efficient operation Number of internal/external collaborative agreements⁹ relevant to management of small scale aquatic resources¹⁰ Increased resources secured by the institution and allocated to aquatic resources management¹¹ Planning, management and administrative systems developed/improved and documented¹² 	<ul style="list-style-type: none"> Agreements signed; project documents Annual budget allocations Documented systems 	
Capacity to undertake farmer-driven research achieved ¹³	<ul style="list-style-type: none"> Plans for aquatic resources development and management drawn up and being implemented Studies of specific aquatic resource systems implemented Increase in visits to farmers/the field by staff from the institutions Increase in researcher-managed trials concerning 	<ul style="list-style-type: none"> Published plans, annual work programs and technical reports Monitoring records of collaborating provinces and districts Annual research reports of collaborating institutions 	

⁹ Contacts are frequent between institutions and these often increase temporarily through the presence of aid projects. To some extent increased contacts can be seen as an indication of improved capacity to relate to other institutions and between related sections within the institution, but confirmed meaningful interaction is demonstrated by firm agreements. Such agreements offer institutions and local governments increased financial sustainability (see footnote 6).

¹⁰ Small scale is referring to the fact that the focus is in aquatic resources used by the poorer sections of the rural society as opposed to the "large scale" commercial fisheries.

¹¹ Resources allocated on a regular basis will be seen as a contribution to the capacity of the institution to undertake aquatic resources management in the long term and should contribute to the sustainability of the improved capacity.

¹² The documentation of the systems will ensure that the systems do exist and makes the task of assessing how well they work/are followed relatively easy. It is also possible to begin the process of creating an institutional memory with regards to the procedures used for these activities. This also addresses one of the difficult issues of the institutions which with AIT Aqua Outreach is collaborating, that of quality of information about practices and procedures. Documentation also provides for greater transparency of the institution.

¹³ The critical issue here is the ability of the institution to undertake research into problems or constraints to the development and long term management of aquatic resources facing the poorer sectors of the rural community. Farmer-driven here is taken to mean that the problems/constraints have been identified by and in dialogue with the relevant target groups. It does not imply that farmers have already begun to carry out such research independently.

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
	farmer identified problems ¹⁴ – Increase in farmer-managed trials ¹⁵ – Results from research are used by the extension service ¹⁶		
Capacity to undertake training improved ¹⁷	– Studies of training needs are carried out – Demand for training services of national institutions from provinces participating in sub-regional networks increased – Farmer training conducted by provinces/districts participating in sub-regional networks follows more participatory methods	– Studies and workshop reports – Annual reports of collaborating national institutions	
Human Resource capacity of collaborating institutions improved ¹⁸	– Human resources development plans drawn up – Staff experience and qualifications upgraded ¹⁹	– Published plans and annual reports	
Information systems ²⁰ within sub-national networks ²¹ developed	– Provinces participating in sub-regional networks provided with improved telecommunications links ²² – Regular meetings of sub-national network members – Distribution of reports, newsletters amongst network	– Telecommunication listings and records – Minutes of meetings – Published reports and newsletters	

¹⁴ The ideas of the research should be clearly linked to constraints identified during or as a result of field visits.

¹⁵ This indicator is considered of great relevance as it is quite possible that farmers **can** do the activities involved in a new technology or practice. The role of the farmer managed trial is to see if the farmers **will** do it, and to what extent. This is of crucial importance to the development of the method with which the extension message will be delivered.

¹⁶ The process of effective of extension has two connected processes; firstly it involves the development of the relevant technology or practice (the extension message); and, secondly, development of effective ways (channels and media) of delivering the message to the target group and monitoring the effect. This indicator is meant to measure the first part of the extension process, involving the review of the content of the extension message.

¹⁷ This includes training curriculum and teaching capacity.

¹⁸ This implies better qualified staff in various ways, complementing the changes in the organisational structure and procedures.

¹⁹ At the program level no specific indicators of different types of improved qualifications are given; the upgrading may be through a variety of training mechanisms, which may not involve formal certificates.

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
Capacity for effective communication with the rural poor improved	<ul style="list-style-type: none"> members reflecting contributions of members²³ Databases on small-scale aquatic resource systems established within sub-national networks and being used for targeting activities²⁴ Participatory development of extension materials through farmer workshops held regularly by collaborating institutions, provinces and districts Regular systems of distribution of information to farmers through leaflets, pamphlets, videos, television and radio established²⁵ Systems established for monitoring impact of Program recommendations and extension activities²⁶ 	<ul style="list-style-type: none"> Annual work plans Published extension materials; workshop reports Distribution records Monitoring reports 	
7. Capacity of national institutions to develop and strengthen sub-national networks as a co-ordinating	<ul style="list-style-type: none"> Strategic frameworks for research, development, information exchange and training at sub-national level drawn up to co-ordinate government and donor 	<ul style="list-style-type: none"> Published documents Annual work plans 	

²⁰ This includes communication between institutions.

²¹ This refers to networks of institutions, which includes government departments as well as community organisations and interest groups.

²² While the Project does not stress the provision of physical infrastructures, this input is regarded as crucial to improvement of communications between network members.

²³ It is hoped that this is not a one way process, passing information from the national research or development agency to the provinces.

²⁴ In order to communicate with farmers and rural communities, it is important first to understand them. This indicator implies the process of building up information about the rural poor; it does not imply any particular mechanism or types of data, e.g. household socio-economic survey.

²⁵ The appropriate media will depend upon context.

²⁶ This offers the feedback mechanism for the whole process of on-farm research and development. The emphasis will be on the development of monitoring systems which can be implemented by the collaborating institutions at national and provincial level.

²⁷ Several other indicators measure the detailed operations of these networks. However, they are also seen as a means to ensure co-ordinated effort between projects and provinces.

framework for rural development established	inputs ²⁷ – Annual work plans reflecting collaborative activities	
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Activities	Inputs
<ul style="list-style-type: none"> – Develop institutional plans – Assist in reform of management structures – Assist in developing project proposals and agreements with other organizations/donors – Design and implement new administrative systems – Studies of aquatic resource system potentials – Assist in development of plans for development and management of aquatic resources – Assist in design and monitoring of on-farm trials – Participatory review workshops – Problem-driven research programs – Training needs assessments – Training programs for farmers and local officers – Development of training and extension materials – Degree, certificate and formal short-course training – Study tours – Provide telecommunication facilities – Publish reports and newsletters – Develop databases – Produce extension materials – Set up monitoring systems – Facilitate development of sub-national networks – Meetings of sub-national networks – Promote understanding of role of small-scale aquatic resources management – Publish Program outputs 	<p>Funds requested from Sida: SEK 27.5 million</p> <p>Estimated contribution of National and Local Governments: (Staff salaries, office facilities, selected materials and supplies, contributions to training costs)</p>

Logical Framework – Cambodia

LogFrame validity: 01-Jan-2000 to 01-May-2001

Last revision: 22-Jul-1999

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
Goal			
Improvement of the quality of life in Asia with a focus on poverty and the environment			
Purpose			
Capacity to sustainably ²⁸ use Aquatic Resources is improved, at community and household level.	<ul style="list-style-type: none"> The number of farmers independently carrying out small-scale fish culture and or aquatic resource enhancement activities resulting from interventions by institutions collaborating with the AIT Aqua Outreach Project in Cambodia to increase by 20% each year from 2000-2002. The number of Communities managing communal water bodies resulting from recommendations made by institutions collaborating with the AIT Aqua Outreach Project in Cambodia to increase by 20% each year from 2000-2002. 	<ul style="list-style-type: none"> Survey data, Outreach reports, AO reports Survey data, Outreach reports, AO reports 	
Outputs			
1. Capacity for institutional planning and management improved.	<ul style="list-style-type: none"> Preparation and ratification of development plan for Aquaculture Office, (AO) by the end of 2000. DOF budget and/or income from consultancies contributing to basic AO operating costs by the end of 2000. Provincial offices contributing budget to the provincial office operation and activities. Two provinces by the end of 2001 and four by the end of 2002. 	<ul style="list-style-type: none"> Aquaculture Office Development Plan Annual budget for 2000 Provincial budgets for 2001 and 2002 	

²⁸ The definition for sustainability is taken to mean the same as described in the Bruntland Report (1997).

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
	<ul style="list-style-type: none"> Improved administrative and analytical procedures developed for the AO and provincial offices. AO provides technical support to the management of Provincial Fisheries Stations. 	<ul style="list-style-type: none"> Documented procedures, standardized admin. systems Monthly activity plans and reports 	
2. Capacity to undertake farmer-driven research achieved ²⁹	<ul style="list-style-type: none"> Collaborative farmer trials held in three provinces in 2000, four provinces in 2001, and five provinces in 2002. Collaborative workshops held to distil the experiences of farmers participating in collaborative trial activities. Workshops held on an annual basis in three provinces in 2000, four provinces in 2001, and five provinces in 2002 	<ul style="list-style-type: none"> Activity plans, final reports, Outreach monitoring reports Activity plans, workshop proceedings, Outreach monitoring reports 	
3. Capacity to undertake training improved ³⁰	<ul style="list-style-type: none"> AO supervises at least 5 RUA Bc field research theses and 5 SAPL student special studies each year. Short-courses developed at SAPL with AO assistance. A total for 4 developed and held by June 2001. Increased demand for education and training services of AO and provincial officials by other organizations. 	<ul style="list-style-type: none"> Activity plans, monthly reports, student theses Course materials, activity plans Activity plans, monthly reports 	
4. Human Resource capacity of collaborating institutions improved ³¹	<ul style="list-style-type: none"> Human Resources development plan devised for the AO and collaborating provincial offices by Dec 2000. 	<ul style="list-style-type: none"> Human Resource Development Plans, assignment report 	

²⁹ The critical issue here is the ability of the institution to undertake research into problems or constraints to the development and long term management of aquatic resources facing the poorer sectors of the rural community. Farmer-driven here is taken to mean that the problems/constraints have been identified by and in dialogue with the relevant target groups. It does not imply that farmers have already begun to carry out such research independently.

³⁰ This includes training curriculum and teaching capacity.

³¹ This implies better qualified staff in various ways, complementing the changes in the organisational structure and procedures.

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
	<ul style="list-style-type: none"> – AO and Provincial Fisheries Office staff attends training and educational courses overseas. One person enters MSc level studies and four persons attend short courses. – Responsibility of managing field activities devolved to the provincial offices in three provinces by Dec 2001 and four provinces by the end of 2002. 	<ul style="list-style-type: none"> – Annual reports, monitoring reports – AO and Provincial activity plans, administrative procedures 	
5. Information systems (including communication) within sub-national networks (of institutions) developed	<ul style="list-style-type: none"> – Data collected and databases on aquatic resources use established and used at the provincial level in three provinces by Dec 2001 and four provinces by the end of 2002. – Information produced by, distributed to and stored by collaborating provincial offices and other development institutions. Distribution of information to farmers recorded in three provinces by Dec 2001 and four provinces by the end of 2002. – Regular meetings taking place to review field activities carried out at the field level, including those implemented under an agreement with another development organisations. Meeting will take place annually. 	<ul style="list-style-type: none"> – Provincial data bases, activity reports – Provincial data bases, activity reports – Meeting agendas, minutes and reports 	
6. Capacity for effective communication with the rural poor improved	<ul style="list-style-type: none"> – Development strategies devised through participation with farmers/communities developed and implemented. – Extension materials developed through collaboration with farmers – The amount of seed produced and distributed by village level spawners increasing. The numbers of small-scale seed producers and distributors increasing. 	<ul style="list-style-type: none"> – Extension materials, minutes of meetings, activity plans – Extension materials – Farmer, Provincial, and AO records, Outreach monitoring reports 	

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
<p>7. Capacity of national institutions to develop and strengthen sub-national networks as a co-ordinating framework for rural development established.</p>	<ul style="list-style-type: none"> – Increased awareness within the DOF and other collaborating partners about AO activities – AO in DOF and Provinces operating effectively. – Provincial Offices and collaborating organizations operating effectively – Links between the DOF and other Government Departments in particular the Department of Technique, Training, and Extension (DTTE) fostered. – Agreements signed by the AO with external agencies for aquatic resources management. – Provincial level planning methodology implemented by collaborating with the AO. 	<ul style="list-style-type: none"> – Meetings with DOF Officials and staff from collaborating agencies, collaborative activities conducted – Regular meeting held, activity reports, administrative systems in place, activity plans – Regular meeting held, activity reports, administrative systems in place, activity plans – Regular meeting held, activity reports, administrative systems in place, activity plans – Agreements documented and signed, MOUs developed – Provincial plans, administrative systems 	

Narrative summary Activities	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
<ul style="list-style-type: none"> – Field research and extension – Monitoring and evaluation – Informing and reporting – Experimentation – Improving collaboration – Management and administration – Training – Improving facilities 			

Logical Framework – Lao PDR

Logframe validity: 01-Jan-2000 to 01-May-2001

Last revision: 24-Jul-99

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
Goal Improvement of the quality of life in Asia with a focus on poverty and the environment	– Improved food security for disadvantaged groups	– Lao government statistics, evaluation surveys	Economic situation in Asia continues to gradually improve
Purpose Capacity to sustainably use aquatic resources is improved, at community and household level	– By June 1999, the number of farming families communities contacted by District officers in at least three RDC provinces should increase by at least 30% per year. These families and communities will be registered as “contacts” in District office databases and they will have been provided with advice and/or assistance towards improving the management of their aquatic resources. Registered contacts will increase by at least 30% per year and at least 70% of the contacts should implement recommendations provided to them by District officers for at least two years. The recommendations provided by district officers should spread “organically” to other farmers/communities. At least 50% of district contacts will cause district recommendations to spread to at least one other family/community.	– District record books, reports from DLF monitoring surveys, Outreach monitoring reports	Aquatic resources management remains an economically attractive option amongst farmers in target regions
Outputs 1. Improved capacity for institutional planning and management	– Financial resources recured by the RDC from non-AIT sources will increase by at least 50% per year up to December 2000 and by December 2002 the basic functioning of the RDC should not be dependent on support from one donor. By June 2001 at least two development organisations (not including AIT) will have made funding commitments to support the RDC for period of at least three years.	– Project documents, project Memoranda of Understanding, Outreach monitoring reports	Systems are used and followed

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
	<ul style="list-style-type: none"> – Collaborative working relationships established between the RDC and other development organisations should be formalised as Memoranda of Understanding. Guidelines for the preparation and approval of these documents should be established and agreed to both within the RDC and the DLF by June 1999. The guidelines should also include details on how collaborative working relationships are managed and arrangements for modifying existing agreements and resolving disputes. Each collaborative relationship entered into by the RDC should be assigned a coordinator, and by December 2000 provincial staff from at least four provinces should have had experience as a collaboration coordinator. – The number of Government staff who have responsibility for proposing and co-ordinating RDC activities and the participation of junior Government officers in this process will gradually increase. By Dec 1999 responsibility for activity proposal and co-ordination should be mainly the responsibility (at least 70% of activities) of provincial staff who are not members of the RDC Committee and there should be at least three staff who perform these functions in each province. By May 2001, at least three four member provinces of the RDC should have district level staff proposing and co-ordinating at least 40% of RDC activities. 	<ul style="list-style-type: none"> – MOU documents, RDC guidelines handbooks, Outreach monitoring reports – RDC activity listings(which include details of responsibility), provincial staff listings which include information about officers educational background and seniority, Outreach monitoring reports, progress reports of activity coordinators. 	Systems are used and followed
2. Capacity to undertake farmer driven research achieved	<ul style="list-style-type: none"> – Recommendations for farmers produced by RDC member provinces should be developed in farmer recommendation workshops by Dec 1998. Guidelines for planning and organising these workshops should be available to staff in provincial offices of all RDC member provinces by June 1999 and within six months of membership for new provinces. At least 60% of participants at these workshops should be full-time farmers and at least 30% should be women. By June 2000, all these workshops in RDC provinces should be facilitated by at least one provincial officer who is registered with the RDC Training Unit as an "RDC trainer" (and therefore have undertaken formal courses in training and facilitation) 	<ul style="list-style-type: none"> – RDC Training Unit staff lists, lists of training events undertaken by the RDC Training Unit, Outreach monitoring reports, participant lists in reports generated from farmer recommendation workshops, RDC training staff profiles 	Government research systems facilitate farmer driven research

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
	<ul style="list-style-type: none"> Procedures for systematically monitoring farmer/community managed trials will be operating in at least 50% of all district offices in at least three of the RDC member provinces by November 2000 and in all provinces by November 2002. Data collected by District officers will be summarised and reported to provincial offices on a regular basis in all the districts which adopt these procedures and the establishment of district level databases for trial data will be components of the systems developed. 	<ul style="list-style-type: none"> District office record books, Outreach monitoring data, RDC staff guidelines, District staff reports 	
<p>3. Improved capacity to undertake training</p>	<ul style="list-style-type: none"> By February 1999 the RDC Training Unit will be co-ordinating all RDC training events and it will have established a core staff of experienced and qualified trainers through the systematic upgrading of provincial staff from RDC provinces. The upgrading will include participation in a formal training of trainers course. By June 2000 the RDC Training Unit trainers will consist of staff drawn from at least three RDC provinces and district level staff will account for at least 30% of these trainers. By June 1999 requests to the Unit for training and consultancy services from other development organisations should be increasing by 30% per year. From providing these services, the Unit should be generating income for the RDC which will also be growing by at least 30% per year by June 1999 By August 1999 at least three member provinces of the RDC will have developed mechanisms for systematically upgrading district level staff and will be targeting their efforts as the most remote districts with the least qualified staff. By December 2000 all RDC provinces will be contributing to the development of regional curricula for district staff development and a functional relationship with local educational institutions will have been established which will actively involve them in the in-service training of Government officers. The number of district staff who participate in staff development programmes developed by the RDC will grow by at least 30% per year from December 1998. 	<ul style="list-style-type: none"> RDC training lists, RDC training unit financial reports, Outreach monitoring reports, RDC Training Unit registered trainers list, RDC reports RDC district staff development curricula RDC training evaluation reports, Outreach monitoring reports, interviews with staff from local educational institutions and districts staff. 	

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
<p>4. Improved Human resources capacity of collaborating institutions</p>	<ul style="list-style-type: none"> - A system for the certification of provincial and district staff training and education courses organised by the RDC will be developed and tested by December 1999. The certification process will be recognised by the DLF and by August 2000, it will be formally integrated into the staff promotion system organised at the national level by the DLF. Monitoring and evaluation by external education and training institutions should be a component of the certification process. - Plans for the personal development of staff within RDC member provinces through attending short courses, training workshops or participating in focused study tours, will be developed and reviewed on an annual basis by each RDC member province by May 1998. After June 1999, external consultants (training specialists) will be recruited by the RDC to assist with this review process. By December 1999, a system of training evaluation will be in operation which will require the line managers of trained staff to make a brief evaluation of the effectiveness of training events undertaken as part of this plan. 	<ul style="list-style-type: none"> - RDC guidelines, RDC reports, Outreach activity reports, Outreach monitoring reports, DLF policy documents, training evaluation reports. - Consultants reports, Outreach monitoring reports, RDC staff development plans, Guidelines written for managers of government staff in RDC provinces 	
<p>5. Improved communication and information systems within sub-national networks of development institutions</p>	<ul style="list-style-type: none"> - The number of short training videos produced by the RDC for both Government staff in RDC member provinces and other development organisations will increase by at least 50% per year up to June 2000. The videos will be locally produced by the RDC Training Unit and targeted mainly at the training requirements of junior level staff. - By June 1999 all RDC provincial offices should have an office file which contains the quarterly reports on activities by RDC Activity Coordinators. By December 1999 the person responsible for maintaining this file in each province should be receiving reports from 70% of the Activity Coordinators every three months. Also by this time Provincial RDC Activity Coordination meetings should be regularly held which summarize the Coordinators reports into the provincial level report presented at the Quarterly RDC meetings. 	<ul style="list-style-type: none"> - RDC production listings, Outreach monitoring reports, RDC videos - Reports of RDC activity coordinators in report file in each provincial offices, Outreach monitoring reports which summarises the frequency of reporting by activity 	

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
6. Improved capacity for effective communication with the rural poor	<ul style="list-style-type: none"> By August 1999, 50% of district offices within three RDC member provinces should be able to maintain a stock of at least 5 copies of each RDC production (literature and audio-visual materials) intended for farmer/district level use. The productions should be produced in workshops at which at least 60% of the participants are full-time farmers. The distribution of these materials should be recorded by all district offices which receive them and distributions should increase by at least 30% per year. New RDC provinces should aim to achieve these targets within two years of membership 	<ul style="list-style-type: none"> RDDC workshop reports, Districty office record books which record distribution to farmers and receipts of RDC productions from provincial offices, Outreach monitoring reports 	
7. Capacity of national institutions to develop and strengthen sub-national networks as a co-ordinating framework for rural development established	<ul style="list-style-type: none"> By December 1998 representatives from four provinces will regularly attend RDC Co-ordination meetings which will be held every three months to discuss and co-ordinate regional development initiatives in the field of livestock and fisheries. Each provincial representative will co-ordinate the identification and implementation of RDC activities in their respective provinces and be able to provide written reports on progress to each meeting. By January 2001, representation at these meetings will increase by a further two provinces to include all the provinces in the Southern region of the Lao PDR. By June 2000, DLF and the RDC will have developed a policy framework for fisheries and livestock development in the Southern region of the Lao PDR which it will be the responsibility of the RDC to subsequently implement and review in consultation with DLF. By January 2000 the responsibility for liaison with and co-ordination of development projects in the Southern region will be devolved from the DLF to the RDC. 	<ul style="list-style-type: none"> RDC reports, Minutes of RDC coordination meetings, Outreach monitoring reports DLF policy documents, guidelines of DFL/RDC reporting and responsibilities 	

Narrative summary	Objectively Verifiable Indicators	Means of verification	Assumptions and risks
Activities <ul style="list-style-type: none"> – Field research and extension – Monitoring and evaluation – Informing and reporting – Experimentation – Improving collaboration – Management and administration – Training – Improving facilities 			

Logical Framework – Northern Vietnam

Logframe validity: 01-Jan-2000 to 01-May-2001

Last revision: 24-Jul-99

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions/Risks
Goal Improvement of the quality of life in Asia with a focus on poverty and the environment	<ul style="list-style-type: none"> Value of fish consumed and sold amongst poor families in project target areas increased by 100% by end 2002. 	<ul style="list-style-type: none"> Evaluation surveys 	
Purpose Capacity to sustainably use Aquatic Resources is improved at community and household level	<ul style="list-style-type: none"> RIA-1 able to take over all project activities from domestic and non-AIT project resources by end 2002. Target provinces implementing broad front programmes of activities in aquaculture and aquatic resources management by end 2002 	<ul style="list-style-type: none"> RIA-1 annual report for 2002 and activity plan for 2003 Reports of Provincial Departments of Aquaculture and Rural Development and Extension Centres; 	<p>Government policies – especially in relation to responsibilities of Ministries of Fisheries and Agriculture and Rural Development - continue to support the development of small-scale aquaculture and aquatic resources management as a strategy for the rural poor</p>
Outputs Capacity for institutional planning and management improved	<ul style="list-style-type: none"> RIA-1 Master Plan revised and endorsed by key stakeholders by mid-1999 Institute management (including research, administration, financial aspects) restructured in relation to expanding activities and in response to recommendations of management consultancy by end 1999 Manpower development strategy in place and operational by end 1999 National Assessment for Aquaculture Education survey in northern provinces completed by end 1999 and results published by end June 2000 	<ul style="list-style-type: none"> Published plan Organogram; published TOR of different units Report published Survey report published 	<p>RIA-1 Master Plan is an effective strategic management tool</p>

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions/Risks
Capacity to undertake farmer-driven research in target provinces achieved	<ul style="list-style-type: none"> - Role of RIA-1 in national strategy for aquaculture education established and being implemented by end 2000 - Strategic framework for ARM in northern mountain provinces established by end 1999 and being used as a basis for donor co-ordination. - Aquatic resource development and management plans for 13 northern mountain provinces completed by end 2002, reflecting a shift of resources to ARD and M - Detailed surveys of farmer needs in ARD and M completed in at least 5 NMP by end 2000 - At least 5 NMP independently implementing on-farm trials in established technologies with at least 30 farmers annually by end 2002 - Systems for timely production of quality fish seed established in at least 2 NMPs by end 2000 - At least one new indigenous fish species being cultured as an alternative to grass carp in ponds and cages by end 2001 - At least an appropriate intensive system for Red river delta initiated - Carried out resource assessment of important water bodies (small size) or species for stock management and habitat protection 	<ul style="list-style-type: none"> - Reports of biannual meetings of RIA-1 and PDARDs of mountain provinces; project documents - Published plans - Survey reports - Annual reports of PDARDs; project half-yearly reports; research reports - Technical recommendation published - Technical recommendations published and 1-2 working papers presented - Technical recommendation published and 1-2 working papers presented - Working papers presented. Recommendations on management and protection drafted 	Target provinces commit resources to small-scale aquaculture and aquatic resources development
Capacity to undertake training improved	<ul style="list-style-type: none"> - Extension strategies of RIA-1 and targeted provinces developed - Annual plans for aquaculture extension activities on basis of technical improvements developed during previous MOU being implemented in at least six Red River Delta provinces and at least NMP by end 2000. - Aquatic resources extension units established within provincial DARD or extension centres by end 2000 - At least 2 [AEW] extension manuals developed by RIA-1 and 	<ul style="list-style-type: none"> - Strategies published - Annual PDARD or PDOF reports - Directory of DARD and Provincial Extension Centers updated - Published materials - Publishes materials 	Target provinces commit resources to small-scale aquaculture and aquatic resources development

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions/Risks
	<ul style="list-style-type: none"> – each target province by end 2001 – At least 2 sets of farmer extension materials developed by target provinces with help of RIA-1 by end 2001 – At least 3 workshops; 4 training for farmers; 1 study tour and 4 field visits for farmers organized in each year 	<ul style="list-style-type: none"> – Time table of the activities prepared from the beginning of the year 	
Human resources capacity of RIA-1 and sub-national network provinces improved	<ul style="list-style-type: none"> – Human resource development plan for RIA-1 and SNN provinces made for period 2000-2005 – M.Sc. programme taught by Hanoi-based teachers by end 2001 – At least 20% of all student research projects at B.Sc./M.Sc. level linked to RIA field research in small-scale aquaculture – At least one staff from RIA-1 enrolled in M.Sc. or non-resident Ph.D. progress at AIT or other regional institutions annually between 1999-2002 – At least 6 staff from RIA-1 and provinces complete short-course training fellowships at AIT or other regional institutions between 1999-2002 – 35 students from NMP successfully complete Phase I of B.Sc. by March 2001 and enrol in Phase II at RIA-1 – At least 200 participants mainly from NMP complete in-country training offered by RIA-1 in various subjects by end 2002 – At least 60 provincial officers attend study tours in the region – RIA-1 staff completing training in English language increase written outputs in English by end 2001 – Research reports by RIA staff reflect improved computer and data processing skills by end 2000. 	<ul style="list-style-type: none"> – HRD plan published – Working papers on field research results presented – List of graduates – Lists of training course participants – List of students – List of participants – List of participants – Numbers of publications in English – Research reports 	Government of Vietnam develops clear strategy for education and training in aquatic resource management

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions/Risks
RIA-1 Information systems ³² within sub-national networks developed	<ul style="list-style-type: none"> Formal/informal communication channel within network members established At least 3 research reports on project activities published in RIA-1 annual research proceedings from 1999 At least five working papers/ workshop reports published annually on small-scale ARD and M from 1999 RIA-1 Newsletter published three times annually and distributed to all northern provinces throughout the life of the MOU Each RIA-1 Newsletter contains at least one contribution from provincial departments throughout the life of the MOU At least 2 textbooks produced annually between 1999-2002 	<ul style="list-style-type: none"> Agreement Annual research proceedings; working papers, workshop reports; newsletters; textbooks; videos and slide sets 	
Capacity of effective communication with the rural poor improved	<ul style="list-style-type: none"> Survey/assess appropriate type of information and communication with the poor conducted. Appropriate type of communication established At least 2 videos/slide sets targeted towards educational programme produced annually between 1999-2002 600 farmers take part in exposure trips in Vietnam by end 2002 List of activists (involved with on-farm trials or volunteers) with their success 	<ul style="list-style-type: none"> Survey results published Descriptions of visit sites printed Success stories published quarterly 	
Strengthen capacity of National institutions to develop and strengthen	<ul style="list-style-type: none"> Detailed time table for fulfilment of each component of Development Master Plan Plan for financial sustainability for implementation of DMP 	<ul style="list-style-type: none"> Detailed workplan prepared Financial analysis and plan prepared annually. 	

³² (including Communications)

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions/Risks
Activities		Inputs	
<p>Publish revised Master Plan</p> <p>Revise management structure</p> <p>Implement strategy for sustainable operation of facilities</p> <p>Survey of aquaculture education needs in northern Vietnam</p> <p>Participation in CGAE meetings</p> <p>Participation in NAAE workshops</p> <p>Agreement on overall aquaculture education strategy</p> <p>Studies and surveys of aquatic resource potentials</p> <p>Assist in development of aquatic resource plans</p> <p>Biannual review meetings for ARM in northern mountain provinces</p> <p>Establish co-ordinating committee to prepare and review proposals for ARM in northern mountains</p> <p>Baseline surveys of farming systems</p> <p>Workshops on problem identification</p> <p>Farmer selection for trials</p> <p>Farmer training in aquaculture technology</p> <p>Assist in design and monitoring of on-farm trials in provinces</p> <p>Annual review workshops</p> <p>Joint research programmes on seed production technologies</p>		<p>From Sida (2000-2002): US\$ 531,300</p> <p>From Danida (1999-2001): \$157,000</p>	

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions/Risks
<p>Research on culture of endemic species</p> <p>Provincial workshops on extension methods and production of extension materials</p> <p>Curriculum review workshops</p> <p>Teacher consultations</p> <p>Student/teacher study tours on small-scale aquaculture</p> <p>Research seminars</p> <p>Joint AIT-RIA-1 development of M.Sc. course modules</p> <p>Improve teaching materials and facilities</p> <p>Quality evaluation surveys</p> <p>Co-ordinated training activities for provincial staffs</p> <p>National conferences to promote role of small-scale aquaculture</p> <p>Annual review meetings with provinces on aquaculture activities</p> <p>Develop LAN and Internet access at RIA-1</p> <p>Establish databases on aquatic resources in Vietnam</p> <p>Purchase books and other library materials</p> <p>Publish textbooks, research reports, proceedings, working papers and newsletters</p> <p>Training workshops on media materials design and production</p> <p>Establish annual production plans and production teams</p> <p>M.Sc. and non-resident doctoral training</p> <p>Short-course training</p> <p>Support to special B.Sc. for mountains</p> <p>In-country training workshops</p> <p>Study tours</p> <p>English language training</p> <p>In-house computer training for RIA-1 staff</p>			

Logical Framework - Southern Vietnam

Logframe validity: 01-Jan-2000 to 01-May-2001

Last revision: 24-Jul-99

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions and Risks
Goal			
Improved livelihood for poorest groups in rural areas with access to an aquatic resource	Income from aquatic resources among rural households in project target increased by 30% over baseline level by end 2002	Evaluation surveys	Fish prices in southern Vietnam remain stable
Purpose			
Capacity to sustainably use Aquatic Resources is improved, at community and household level	<ul style="list-style-type: none"> Network of regional provinces actively plays the role of coordination of collaborative activities for aquatic resource development in southeast Vietnam Faculty of Fisheries continues to support provincial network for aquatic resource development in southeast Vietnam 	<ul style="list-style-type: none"> Minutes of Interprovince Steering Committee for Aquatic Resource Development Records of FoF inputs to ISCARD 	Provincial orientations in aquatic resources development remain favourable
Outputs			
1. Capacity for institutional planning and management improved	<ul style="list-style-type: none"> Strategic plans of ISCARD members revised and developed in line with changing regional needs and supports by end 2000 Human resource development plans formulated by collaborating provinces by end 1999 Field Manager to support collaborative activities with provinces appointed and on duty by end 1999 Field office to co-ordinate collaboration with provinces established by end 1999 FoF signs agreement with at least two other international organizations for collaborative research projects oriented to aquatic resource management of collaborating provinces by end 2001 	<ul style="list-style-type: none"> Plans published Plans published Survey report Project documents; progress reports MoU published, research papers 	
2. Capacity to undertake farmer-driven research achieved	<ul style="list-style-type: none"> Assessments of aquatic resource potentials in two other provinces of southeast Vietnam (Dong Nai, Binh Duong) completed by end 2001 	<ul style="list-style-type: none"> Reports published Annual plans published 	

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions and Risks
	<ul style="list-style-type: none"> ISCARD produces annual plan for ARM and D in provinces of southeast Vietnam each year from 1999 All ISCARD provinces independently carrying out field surveys on aquatic resource systems by end 2000 All ISCARD provinces carrying out on-farm trials with at least 30 farmers annually from 1999 At least three researches conducted by FoF staff based upon problems identified by collaborating provinces between 1999-2002 	<ul style="list-style-type: none"> Survey reports Project reports; annual DARD reports Research reports 	
3. Capacity to undertake training improved	<ul style="list-style-type: none"> All collaborating provinces of southeast Vietnam train at least 100 farmers annually in techniques and approaches to ARM and D by 2000 At least five provinces holding farmer review workshops on results of on-farm trials and design on extension materials annually by end 2000 UAF/FoF and each collaborating province jointly produce at least 2 sets of farmer extension materials (leaflets/videos) by end 2001 	<ul style="list-style-type: none"> Provincial DARD reports, project reports Provincial DARD reports, project reports Published materials 	
4. Human Resource capacity of collaborating institutions improved	<ul style="list-style-type: none"> Short and modular training curricula of UAF/FoF reflect integration of field researches and exhibit greater practical orientation At least 20 provincial staff attend modular training courses at UAF/FoF between 1999-2002 At least 4 provincial staff attend in-service B.Sc programme at UAF/FoF between 1999-2002 At least 2 provincial staff attend M.Sc. programme at UAF/FoF and AIT between 1999-2002 At least 4 study tours arranged for ISCARD members' staff between 2000-2002 FoF conducts at least two short training courses in various aspects of ARM and D for collaborating provinces every year from 1999 	<ul style="list-style-type: none"> Course guidelines Participant lists Student enrolment lists Student enrolment lists Training reports List of training courses Accounts of training courses 	

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions and Risks
	<ul style="list-style-type: none"> Collaborating provinces provide an average of at least 25% of costs of short course training run by FoF from 2000 		
5. Information systems within sub-national networks developed	<ul style="list-style-type: none"> UAF/FoF library upgraded into multi-purpose resource centre with multimedia and internet facilities by end 1999 Basic facilities provided to facilitate linkages among ISCARD members by end 1999 ISCARD Newsletter published at least twice a year, each issue containing at least one contribution from collaborating provinces from 2000 	<ul style="list-style-type: none"> Use of facilities Use of facilities Newsletter published 	
6. Capacity for effective communication with the rural poor improved	<ul style="list-style-type: none"> Data base for small-scale aquatic resource systems established in ISCARD provinces by end 2001 Evaluation system of farmer training developed in collaborating provinces by end 2000 At least 1000 farmers adopt recommendations produced by collaborating provinces by end 2002 	<ul style="list-style-type: none"> Monitoring system Evaluation system Farmer records; project reports 	
7. Capacity of national institutions to develop and strengthen sub-national networks as a co-ordinating framework for rural development established	<ul style="list-style-type: none"> Biannual meetings of ISCARD for revision of coordination of collaborative activities arranged from 1999 Annual report produced by ISCARD circulated 	<ul style="list-style-type: none"> Meeting reports Annual reports 	

Activities	Inputs	
<ul style="list-style-type: none"> 1.1 Revise strategic and human resource plans of collaborating provinces and UAF/FoF 1.2 Establish field office 1.3 Conduct collaborative research with international and regional institutions 2.1 Conduct aquatic resource assessments with collaborating provinces 2.2 Conduct surveys of aquaculture systems 2.3 Assist provinces to draw up annual plans for ARM and D 2.4 Joint design and monitor on-farm/on-system trials on problems identified from surveys 2.5 Conduct research on problems identified from surveys 3.1 Conduct farmer review workshops to assess results of trials and joint design extension materials 3.2 With collaborating provinces, design extension systems and materials 4.1 Curriculum development workshops 4.2 Upgrade selected teaching facilities 4.3 Support M.Sc. programme 4.4 Conduct training courses/workshops for provincial and district officers 4.5 B.Sc./M.Sc./Ph.D training 4.6 Technical short course training 4.7 Study tours 5.1 Develop information resource centre 5.2 Publish research reports, newsletters, etc 6.1 Establish data system 6.2 Farmer training 7.1 Regular meeting 7.2 Regular reporting 	<p>Sida (1999): US\$50,000 approximately; Danida (1999-2001): US\$140,000 approximately, not including scholarships and fellowships</p>	

Logical Framework – Thailand

Logframe validity: 01-Jan-2000 to 01-May-2001

Last revision: 24-Jul-99

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions and Risks
Goal			
Improved livelihood for poorest groups in rural areas with access to an aquatic resource	Income from aquatic resources among rural households in project target increased by 30% over baseline level by end 2002	Evaluation surveys	Fish prices in southern Vietnam remain stable
Purpose			
Capacity to sustainably use Aquatic Resources is improved, at community and household level	<ul style="list-style-type: none"> Network of regional provinces actively plays the role of coordination of collaborative activities for aquatic resource development in southeast Vietnam Faculty of Fisheries continues to support provincial network for aquatic resource development in southeast Vietnam 	<ul style="list-style-type: none"> Minutes of Interprovince Steering Committee for Aquatic Resource Development Records of FoF inputs to ISCARD 	Provincial orientations in aquatic resources development remain favourable
Outputs			
Capacity for institutional planning and management improved	<ul style="list-style-type: none"> Assist (backstopping) in improve of annual plans for Aquatic resources management for research in Northeast Thailand Develop strong linkage between research and extension in planning and implementation Assist in improve efficiency of management of financial and resources 		
Capacity to undertake farmer-driver research in lowland rainfed flood plain area and mountain in Northeast Thailand achieved	<ul style="list-style-type: none"> Assist in the assessment of the situation on Aquatic resource and management which concern on indigenous species Biodiversity and environment issues Assist to create study on problem area which base on information from the assessment 		

Narrative Summary	Objectively Verifiable Indicators	Means of Measurement	Assumptions and Risks
	<ul style="list-style-type: none"> – Conduct on state research or on-farm research aim to sort out of farmer's and communities problems – Improve monitoring and evaluation skill for collaborate organization – Assist in build up ability in transfer farmer – driver research methodology 		
Capacity to undertake training improved	<ul style="list-style-type: none"> – Assist in improve of technology transfer strategies – Assist in improve skill of technique transfer of collaborate organization staff – Jointly develop appropriate extension material and training tools 		
Human Resource capacity of collaborating institutions improved	<ul style="list-style-type: none"> – Formal and on the job training according the need to improve their capacity – Increase knowledge and exchange experience through workshop seminar and study tours 		
Information systems within sub-national networks developed	<ul style="list-style-type: none"> – Assist to improve formal/non-formal communication channels with in sub-national networks 		
Capacity for effective communication with the rural poor improved	<ul style="list-style-type: none"> – Improve the existing communication strategies within capacity of collaboration institutions 		
Capacity of national institutions to develop and strengthen sub-national networks as a co-ordinating framework for rural development established	<ul style="list-style-type: none"> – Assist to build up ability in develops and strengthens capacity in sub-national networks coordinating 		

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