

Annex 5

Aquatic Animal Health Program (Summary)

The Regional aquatic animal health program of NACA will be further strengthened during the 2004-2005 work Plan, by supporting development and implementation of aquatic animal health strategies at different levels (production/local/national/regional) in member countries. A coordinated and cooperative approach within the region will be promoted involving participation of stakeholders, researchers, extension and development agencies, regional resource centers, national governments, donor agencies, regional and international organizations, NGO's and private sector. New issues such as food safety, emergence of new diseases in the region and continued introductions of exotics to the region, will be given special attention in this work program.

The purpose of NACA's Aquatic Animal Health Program is to "*Reduce risks of aquatic animal disease impacting on livelihoods of aquaculture farmers, national economies, trade and human health*".

The outputs from this Work Plan are:

1. Practical national aquatic animal health strategies developed, adopted and implemented in some member countries
2. Widespread adoption of better aquatic animal health management practices in the region
3. Surveillance, reporting and response to disease problems in the region improved
4. Harmonised diagnostic procedures and approaches to risk assessment in the region
5. Regional and international cooperation in aquatic animal health improved

A brief narrative summary is provided below, and further details of the program are given in the aquatic animal health logframe

1. Practical national aquatic animal health strategies developed, adopted and implemented in some member countries

Practical national strategies help to reduce the risk of introducing exotic aquatic animal pathogens into the country. National strategies include components on quarantine and health certification, surveillance and disease reporting, import risk analysis, response to disease emergencies, capacity building and networking. Good example of working national strategy can be found in Australia, which has been successful in keeping some of the dangerous pathogens out of the country. NACA has been providing technical assistance to member countries to develop and implement the national strategies under the FAO/NACA "Technical Guidelines on health management for the responsible movement of live aquatic animals. This program will continue to be strengthened. NACA activities are planned to create awareness on the benefits of national strategies, motivate the policy makers and provide technical assistance to member countries to develop the national strategies.

2. Widespread adoption of responsible aquatic animal health management practices

There is plenty of knowledge available on disease/risk management in the region, but only, a small percentage of it is adopted by the primary producers. The past activities and collaborative efforts of NACA in the region has generated wealth of information on better management practices (BMPs). The activities planned in some of the member countries in collaboration with development agencies, donors, NGOs and others should enable NACA

- to better understand extension systems in the region for health management.

- improve awareness and communication of responsible health management practices to the farmers
- build training and extension capacity in aquatic animal health management practices
- reduce use of harmful, or banned, chemicals in aquaculture
- promote development of voluntary codes of practices
- promote collective approaches (clubs/associations) to disease management
- improve farmer confidence in BMPs and extension systems

3. Better surveillance, reporting and understanding of aquatic animal diseases in the region

Effective national surveillance programs (active/passive) help to monitor outbreaks of dangerous diseases and detect occurrence of new diseases in the country. Surveillance is the basis for regional disease reporting and responding to disease emergencies. The capacity for surveillance, responding to disease emergencies and disease outbreak investigations in the region needs to be significantly improved. Emerging diseases (koi mass mortality, Taura syndrome, slow growth of shrimp) are also of serious concern to the region. NACA in collaboration with resource experts, donors and development agencies will take up activities to achieve the following in the region

- Improved national and regional capacity for aquatic animal disease surveillance.
- Improved regional aquatic animal disease reporting
- Improved national and regional capacity for responding to aquatic animal disease emergencies.
- Better understanding of aquatic animal diseases and their control in the region

4. Harmonisation of diagnostic procedures and approaches to risk assessment

Research on developing diagnostics in the region has been active and as a result, several diagnostic procedures for aquatic animal pathogens are available. NACA in collaboration with research institutions and donor agencies, will work towards achieving harmonization of diagnostic procedures in the region. Establishment of the three-tier regional resource base (regional resource experts, resource centers, reference laboratories) should assist regional harmonization efforts of NACA. There is considerable trade in live aquatics in the region. Movement of live aquatic animals is associated with risk of trans-boundary movement and spread of pathogens. Effective national strategies and capacity for import risk analysis (IRA) can reduce the risk of pathogen introductions. Capacity for IRA in the region needs to be significantly improved. To encourage and promote responsible trade and less trade related disputes in the region, it is necessary to have harmonized approaches followed by member countries in risk assessments. NACA activities in close cooperation with regional organizations (ASEAN, APEC), donors and national governments hopes to

- Improve harmonization of diagnostics
- Establish three-tier regional resource base for aquatic animal health
- Improve regional and national capacity for Import Risk Analysis (IRA)
- Harmonise approaches for risk assessment

5. Improving regional and international cooperation in aquatic animal health

Effective aquatic animal health management can be implemented only through effective partnership and collaboration with regional and sub-regional organizations (ASEAN, SEAFDEC, MRC, APEC), technical agencies (regional resource base, Advisory Group) and donor organizations. The current thrust of NACA is regional level implementation of aquatic animal health programs through regional cooperation. NACA activities

will support and promote joint initiatives for risk management in trans-boundary movement and trade in aquatic animals. NACA will facilitate the Advisory Group on aquatic animal health to work actively supporting aquatic animal health management programs in the region.

NACA HEALTH PROGRAM			
Hierarchy of Objectives	Objectively verifiable Indicators	Means of verification	Assumptions
<p><u>NACA Goal</u></p> <p>Aquaculture and aquatic resources management expanded and improved in support of sustainable development in Asia-Pacific</p>	<ul style="list-style-type: none"> By 2006, Asia Pacific countries report increased economic output and improved implementation of <i>best practices</i> (environmental, social and health) By 2006, aquatic resources management stakeholders report improvements to their livelihoods through implementation of <i>best practices</i> 	<ul style="list-style-type: none"> National statistics (including increased: domestic and export value, responsible trade, production efficiency, regulated trans-boundary movements, lands or areas of environmental importance conserved...), National/Regional policies reflect <i>best practices</i> 	<ul style="list-style-type: none"> Favorable international trading environment National development policies conducive to the inclusion of <i>best practice</i> Conditions remain favorable for regional and international co-operation
<p><u>Health Program Purpose</u></p> <p>Risks of aquatic animal diseases impacting on the livelihoods of aquaculture farmers, national economies, trade, environment and human health reduced</p>	<p>By 2006, reports from national and regional surveillance and monitoring systems and stakeholders indicate</p> <ul style="list-style-type: none"> Reduced losses from serious disease outbreaks in the region increased signs of recovery in affected cultured species/culture systems in member countries reduced/ no occurrence of any exotic disease in countries of the region <p>By 2006, members report better capacity to address (1) trade issues surrounding aquatic animal and human health and (2) transboundary movement issues of aquatic animals</p>	<ul style="list-style-type: none"> National aquaculture production statistics Farm/export records Outcomes of national/regional/international seminars and workshops Research publications coming from the region NACA/OIE/FAO regional disease reports Reports of regional and international donor and development organizations 	<ul style="list-style-type: none"> National policies strongly support adoption of better practices National/regional programs take proactive role on trade requirements, transboundary movement of live aquatics and in dealing with disease emergencies. Technical and financial assistance made available for promoting better aquatic animal health management principles at various levels (local/national/regional/international) NACA GC and TAC approves and supports the work program
<p><u>Outputs</u></p> <p><u>1.Practical National Aquatic Animal Health Strategies developed, adopted and implemented in some member countries</u></p>	<p>By 2006 members report</p> <ul style="list-style-type: none"> national strategies working in some countries necessary policy changes and adoption by governments organizational chart of implementing mechanisms decisions made on movement of live aquatics based on sound scientific processes such as IIRA 	<ul style="list-style-type: none"> Published national strategy documents Status reports by National coordinators Country reports on working of quarantine and health certification systems Country IRA reports Outcomes of National coordinators workshop Review reports by the AG Review report by the NACA secretariat 	<ul style="list-style-type: none"> Commitments by the governments National coordinators accomplish their roles and responsibilities Necessary technical and financial assistance made available to concerned government bodies Qualified human resources available

<p><u>2. Widespread adoption of better aquatic animal health management practices in the region</u></p> <p>2.1 Extension systems for health management better understood</p> <p>2.2 Awareness and communication of responsible health management practices improved</p> <p>2.3 Training and capacity in aquatic animal health management practices built</p> <p>2.4 Harmful or banned chemical use in aquaculture reduced</p>	<p>By 2006 feedback from the stakeholders, national and regional organizations indicate</p> <ul style="list-style-type: none"> • Reduced losses from disease outbreaks • increased farmer confidence in extension system • Increased awareness and confidence on better management practices • development of voluntary codes of practice • Increased flow of information between regional projects and countries • Increased availability of trained manpower • Quantifiable socio-economic benefits of better management practices • reduced market demand for harmful chemicals 	<ul style="list-style-type: none"> • Reports of farmer meetings and extension programs • Establishment of self help groups and farmer associations • Case study reports • Published extension manuals/reports • Impact assessment reports • Development of voluntary codes of practice • Outcomes of national/regional meetings and workshops 	<ul style="list-style-type: none"> • Demand for aquaculture produce expands • Government policies and programs favorable to aquaculture • Facilitation of technical and financial assistance to aquaculture continues • Farmers continue to be open to open to better practices and new approaches
<p><u>3. Surveillance, reporting and response to disease emergencies in the region improved</u></p> <p>3.1 National and regional capacity for aquatic animal diseases in the region improved</p> <p>3.2 Regional aquatic animal disease reporting improved</p> <p>3.3 National and regional capacity for responding to aquatic animal disease emergencies enhanced</p> <p>3.4 Aquatic animal diseases and their control in the region better understood</p>	<p>By 2006 member governments in the region report</p> <ul style="list-style-type: none"> • Improvement in the quality of FAO/NACA regional disease reports • Improved compliance to disease reporting by member countries • Usefulness of QAAD for IRA in the region • Better handling of disease emergencies • Enhanced capacity for disease outbreak investigations and surveillance • Increased research output from the region • Less serious health problems in the regional aquaculture 	<ul style="list-style-type: none"> • QAAD reports • QAAD reviews prepared by the secretariat • Reports on disease emergencies • Reports of training programs • Research publications from the region • Outcomes of national/regional meetings and seminars 	<ul style="list-style-type: none"> • Commitment by the governments to implementing the national aquatic animal health strategies • Obligations to international agreements and requirements honored • Funding secured from donor agencies for capacity building • Technical and financial assistance secured for tackling disease emergencies

<p><u>4. Harmonised diagnostic procedures and approaches to risk assessment in the region</u></p> <p>4.1 Diagnostics and harmonization improved</p> <p>4.2 Three tier regional resource base for aquatic animal health established</p> <p>4.3 Regional and national capacity for import risk analysis enhanced</p>	<p>By 2006 member countries report</p> <ul style="list-style-type: none"> • Increase in regional approaches and initiatives towards achieving harmonized risk assessment protocols • Improved and responsible trade in live aquatics in the region • Increased cooperation and willingness of regional resources (labs and experts) to assist regional health program 	<ul style="list-style-type: none"> • Progress report of NACA secretariat to GC • Project reports of regional organizations like SEAFDEC • FWG reports of FAO, ASEAN, APEC 	<ul style="list-style-type: none"> • Trade in live aquatics remains active in the region • Governments and regional organizations are committed to having harmonized approaches to dealing with common risks • National governments and organizations encourage collaborations and sharing of expertise
<p><u>5. Regional and international cooperation in aquatic animal health improved</u></p> <p>5.1 Joint activities for risk management in transboundary movement and trade in aquatic animals undertaken</p> <p>5.2 Advisory Group on aquatic animal health working actively in support of NACA health program</p>	<p>By 2006, NACA progress report indicate</p> <ul style="list-style-type: none"> • More collaborative research and development programs in the region • Improved sharing of information between different regional projects • Regular conduct of annual Advisory group meetings 	<ul style="list-style-type: none"> • Reports of NACA to the GC • Reports of NACA to the AG • Reports of the AG to FAO/OIE/FDC • Reports of collaborating agencies like ACIAR, APEC, FAO, ASEAN, MRC 	<ul style="list-style-type: none"> • Member countries share common goals and agenda • Member countries give priority to joint activities for tackling common problems • Donor and development agencies retain aquatic animal health management as a priority issue • Advisory group members fulfill their obligations and responsibilities

Activities Planned to Achieve Outputs	Means and Responsibilities for 5 major outputs
<p><u>Output 1 Practical National Aquatic Animal Health Strategies developed, adopted and implemented in some member countries</u></p> <ul style="list-style-type: none"> • Providing Technical assistance upon request to member countries in support of development and implementation of National Strategies • Preparation of Progress report on implementation of the Technical Guidelines for review and development by Advisory Group (AG). • Supporting and encouraging improving national aquatic animal health networking, to engage relevant stakeholders in the national strategy • Assisting capacity building activities as required • Conducting annual review by AG and reporting to Governing Council (GC) to encourage development of NS's and raise their policy profile • Improving communication with and between National Coordinators (NC) • Meeting of all NCs organized in 2004 to undertake a review of National Strategy development and implementation (FAO/OIE/ASEAN support) 	<p>Responsibilities</p> <ul style="list-style-type: none"> • National Coordinators • National planners and policy makers • NACA Governing Council • NACA Secretariat • Advisory Group • Collaborators and Donors • Technical Experts • Researchers • Extension Specialists • National Centres • Regional Resource centers/Experts • NGO's • Private Service Providers • Farmers/farmer groups and associations <p>Means</p> <ul style="list-style-type: none"> • Raising financial resources to implement the activities • Raising the profile of NACA initiatives at national/regional/international levels • Motivating stakeholders to develop and implement health management programs at different levels (farm/national/regional) <p>Assumptions</p> <ul style="list-style-type: none"> • NACA Governing council and TAC approves and supports the NACA health program • Funding and cooperation secured to advance the NACA initiatives on aquatic animal health management in the region • Member governments, participating organizations, collaborators and donors willing to cooperate and assist NACA to accomplish its health initiatives

Output 2 Widespread adoption of better aquatic animal health management practices in the region

Output 2.1 Extension systems for health management better understood

- Pilot projects with national extension systems to explore means of delivering better health management practices to shrimp farmers (India, Indonesia, Thailand, Vietnam, Australia)
- Pilot projects to explore the concept of better health management through self help groups, and adoption of voluntary codes of practice

Output 2.2 Awareness and communication of responsible health management practices improved

- Developing extension manuals and literature to promote better management practices in shrimp culture
- Assistance for development of systems for effective dissemination of shrimp health information to farming communities (collaboration with NGOs and Private Companies)
- Support on rural aquaculture health management in cooperation with the NACA STREAM initiative.
- Articles on aquatic animal health management published in Aquaculture Asia
- Updating AAPQIS-Asia regularly
- Completing Manual of Molluscan Health Management in Asia-Pacific
- Initiating actions towards establishing national systems for AAPQIS
- Lesson's learned from pilot projects, widely disseminated in the region

Output 2.3 Training and capacity in aquatic animal health management practices built

- Implementing Shrimp Health Management training course with AAHRI
- Implementing Phase III of the Molluscan health training program
- Cooperation with national agencies to implement aquatic animal health management training.

Output 2.4 Harmful or banned chemical use in aquaculture reduced

- Awareness raising on responsible chemical use
- Promoting better management practices and responsible aquaculture
- Collection and dissemination of information and case studies on responsible use of chemicals in (or chemical free) aquaculture.
- Web site further developed with relevant information on chemical use in aquaculture.

Output 3 Surveillance, reporting and response to disease emergencies in the region improved

Output 3.1 National and regional capacity for aquatic animal diseases in the region improved

- Regional training course held on aquatic animal disease surveillance, including use of the ACIAR-supported "surveillance toolbox".

Output 3.2 Regional aquatic animal disease reporting improved

- Collating country disease reports on a quarterly basis
- Publishing Quarterly Aquatic Animal Disease (QAAD) Reports
- Drafting of Annual analysis of Asian disease situation for AG
- Improving quality of QAAD reports according to recommendations of AG
- Developing Disease fact sheets/cards for each new disease added to the regional disease list.
- Encouraging NCs to improve compliance and quality of disease reporting
- Strengthening cooperation with OIE and veterinary authorities on disease reporting

Output 3.3 National and regional capacity for responding to aquatic animal disease emergencies enhanced

- Regional workshop prepared on aquatic animal disease outbreak investigations
- Preparation and dissemination of emergency disease preparedness manual
- Emergency response to disease outbreak in koi and common carp in Indonesia to be developed as a model.
- Identification of key resource persons and institutions in the region and level of willingness to be involved in emergency investigations
- Workshop to develop model contingency plans for different disease outbreaks with assistance from Australia on disease outbreak simulation exercise

Output 3.4 Aquatic animal diseases and their control in the region better understood

- Etiological investigations to diagnose the primary pathogen associated with the outbreak in koi and common carp in Indonesia.
- Planning for Phase III of mollusk health management program early 2004 in Korea.
- Study on Taura Syndrome Virus and *P. vannamei* introduction to Asia completed and lesson's disseminated
- Preparation of a report on the spread of TSV in the region for AG
- Studies initiated on further emerging pathogens and unidentified diseases and syndromes (such as the mourylian virus, loose shell syndrome, mid crop mortality and *Haplosporidium* infection in slow growing shrimp) in the region
- a follow-up workshop on "Epidemiology for aquatic animal health management" and activities designed to promote the use of epidemiological and population-based management methods.

Output 4 Harmonised diagnostic procedures and approaches to risk assessment in the region

Output 4.1 Diagnostics and harmonization improved

- Development of new molecular diagnostic tools for emerging diseases
- Evaluating application of PCR for improved shrimp health management (ACIAR/NACA project)
- Regional training in diagnostic tools including molecular tools (India, Bangladesh, Sri Lanka, Myanmar)
- Harmonization and inter-calibration of PCR in some countries of the region (India, Indonesia)
- Evaluation of diagnostic methodologies used in the region

Output 4.2 Three tier regional resource base for aquatic animal health established

- To develop a list of Regional resource experts (RRE) according to TOR developed by AGM-1.
- To identify Regional Reference Labs (RRL) for diseases of concern to the region according to TOR developed by AGM-1
- To identify and develop Regional Resource Centers (RRC) for Aquatic Animal Health according to TOR developed by AGM-1

Output 4.3 Regional and national capacity for import risk analysis enhanced

- Dissemination of APEC project report on capacity and awareness building on IRA
- Publishing and disseminating IRA Manual to assist NACA member governments
- Follow up actions on APEC project recommendations

Output 5. Regional and international cooperation in aquatic animal health improved

Output 5.1 Joint activities for risk management in transboundary movement and trade in aquatic animals undertaken

- Harmonisation of procedures for health certification, quarantine and diagnostics
- Cooperation with ASEAN members on harmonization of procedures for responsible transboundary movement of live marine fish in ASEAN.
- Cooperation with other ongoing projects in the region to achieve harmonization and inter-calibration of diagnostic procedures.
- Initiating 1 regional project that will further assist countries in increasing capacities on certification, quarantine and harmonization of diagnostic procedures.
- Initiating joint activities between Mekong region countries for risk reduction in shared watersheds (based on the recommendations of the workshop in August 2003 on transboundary movements and aquatic animal health (and exotics) in the Greater Mekong Region.
- Initiating discussions amongst NACA members on the recommendations of FAO/ DFO Canada workshop on surveillance and zoning
- Cooperation between NACA and OIE, FAO, ASEAN, EU, APEC, BIMST strengthened.
- Assisting sub-regional meeting of NCs in the Greater Mekong sub-region to discuss joint approaches to aquatic animal health management

Output 5.2 Advisory Group on aquatic animal health working actively in support of NACA health program

- Holding Annual meetings to review progress and recommend action plans
- Circulating Reports of AGM to NCs, FAO, OIE FDC and to other relevant fora
- Assisting AG to advise member governments on regional health issues
- AG working closely with OIE, FDC and FAO to promote the role of the region in influencing international trade policies
- AG assisting NACA secretariat on a regular basis