

APPENDIX H: Proposed Log Frame to plan the implementation of Mahinda Chintana

SO 1: To conserve the coastal and aquatic environment (fisheries component)				
Result 1: Management systems created and implemented				
Activity	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<p><u>Activity 1</u> Management plans set for commercially important fisheries (coastal, inland and high seas fisheries) and including international laws and agreements (IOTC, FAO into Management plans) and local agreements (TURFS).</p>	<ul style="list-style-type: none"> • Definition and re-evaluation of management areas • DFAR / NARA / NAQDA establish management areas where stocks require urgent attention: • 14 offshore District Committees operational within 5 years, with input into the management plan by year 2 • 20 additional coastal & perennial MPs per annum, all operational by year 10 • Beche-de-mer, chank & ornamental MPs by year 3 • Integrated extension service applied to inland and coastal fisheries • New Fisheries Act has included IOTC & FAO obligations 	<p>Workshops reports and management plans prepared by stakeholders</p>	<p>NARA/DFAR/NAQDA/NIFNE</p>	<p>DFAR apply appropriate resources</p> <p>DFAR acting on advice from NARA without political interference</p> <p>Willingness of all stakeholders to engage</p> <p>No resulting delays in Legal drafting</p> <p>FCS sufficiently strong to support management area</p>
<p><u>Activity 2: Upgrade existing legislation to take account of new management strategies</u></p>	<ul style="list-style-type: none"> • Legislation / Statutory Instrument changes to reflect changes in the management plans 	<p>New Statutory Instrument published</p>	<p>DFAR Legal specialists (including specialist in international law)</p>	<p>Revised Legislation enacted</p>
<p><u>Activity 3: Promote and facilitate partnerships and capacity building to support Fishery Management Areas</u></p>	<ul style="list-style-type: none"> • 20 Coastal Fishery Management Areas fully operational by year 3 • 4 High sea zones management zones operational by year 5 • FMA functional in all areas by year 10 	<p>Reports of committee meetings detailing actions taken</p>	<p>DFAR/NARA/NIFNE</p>	<p>All States providing active support for joint MCS action</p>
<p><u>Activity 4: Train fisher leaders and communities in participatory co management</u></p>	<ul style="list-style-type: none"> • Training syllabus defined • 200 of fisher leaders trained in participatory co management practices • Awareness raising in village communities 	<p>Attendance lists Training certificates</p>	<p>FCS / NIFNE training program in co management and resource conservation in consultation with NARA / NAQDA/DFAR</p>	<p>All stakeholders to be aware of national and international fisheries laws</p> <p>Fisher/ extension/ research link should function efficiently</p>

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 2: Marine and aquatic resources monitored				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Continuous stock assessment surveys (Fishery independent)	Stock assessment program for high seas and coastal and inland water bodies stocks covering each of the groups below on a rolling five year basis, updated annually to incorporate cpue data (Activity 2). The focus to be on the following key fisheries <ol style="list-style-type: none"> 1. Yellow fin tuna, 2. Billfish, 3. skipjack tuna, 4. Coastal pelagic/demersals 5. Perennial Reservoir Fishery 6. Shrimp 7. Lobster Fisheries 8. Lagoon & Estuarine fisheries 9. Chank & Beche-de-mer fisheries <p>Additional attention to By-catch interactions – sharks, birds, marine mammals and turtles</p>	<ul style="list-style-type: none"> • Survey reports • Stock assessment data base 	NARA – stock assessment Resource needs: 8 principal scientists (RAs) RA 8 ROs	Support for stock assessment pre policy decision making Adequate resources applied to stock assessment Fisher cooperation Integrated data collection system functioning with donor support
<u>Activity 2:</u> Continuous monitoring (data collection) of coastal, offshore and inland resources (catch, effort, biological sampling, pollution data, Carrying capacity data)	<ul style="list-style-type: none"> • Data collection and analytical systems fully functional within 1 year • Staff assigned to respective duties within 6 months • Equipment & Laboratories upgraded to undertake analysis • Data exchanges with Regional / Bilateral management groups taking place within 1 year 	<ul style="list-style-type: none"> • Annual fishery statistics booklet / website • Annual stock status reports on major fisheries/resources submitted to MFAR 	CSU (DFAR, NARA, NAQDA, DCS, CFHC) Resource needs: 2 Fishery officers per district	
<u>Activity 3:</u> Evaluation of socio economic variables in the fishing sector	<ul style="list-style-type: none"> • Dedicated socio economics team assigned • Economic surveys commence within 6 months 	<ul style="list-style-type: none"> • Annual socio economic survey report on each fishery segment (coastal, offshore, inland) 		
<u>Activity 4</u> Attendance at International workshops	<ul style="list-style-type: none"> • Scientists and administrators • attending workshops regularly 	Back to the office reports on workshops attended	MFAR/DFAR/NARA	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 3: Fisheries control system operating effectively				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Updating and validating vessel registration and fishing licences	<ul style="list-style-type: none"> 1.Licence and registration data base fully operational by year 2 2.Inspection bench marks established for Marine inspectors by year 2 3.All vessels appropriately marked by year 2 	<ul style="list-style-type: none"> 1.Data base reports 2.Annual Registration progress reports Harbour vessel operational reports 	324 DFAR district Marine inspectors (to be confirmed based on inspection benchmarks) CFHC Harbour Masters	<ul style="list-style-type: none"> Appropriate resources provided to DFAR No political interference
<u>Activity 2:</u> Inspector training program is established and running	<ul style="list-style-type: none"> • Training syllabus prepared within 6 months • 324 inspectors trained within year 1 • Inspector training revised annually to take account of experiences and changes to legislation 	Inspector training certificates	DFAR/NIFNE	<ul style="list-style-type: none"> Functional vessel registry Better coordination between DFAR & CFHC
<u>Activity 3:</u> Monitoring vessel activities to ensure compliance with national regulations (catches and landings)	<ul style="list-style-type: none"> • 2 inspectors (port) per 8 hour shift per harbour • 1 inspector (coastal) per 8 km • 2 inspectors (inland) per district • Log books introduced by Year 5 • Monthly reports on infringements detected • Monthly inspection coordination meetings • Monthly Inspection reports submitted to District offices • Quarterly inspection reports submitted by districts to HQ • AD offices upgraded with intranet facilities • Designated ports defined for multi day vessels 	<ul style="list-style-type: none"> • Inspection reports indicating principal non compliance problem areas • Reports on prosecutions secured (offenders, offence types, fines and licence revocation details) • MOU between DFAR & CFHC 	Xx DFAR district inspectors List required resources?? 1. Harbour Manager 2. Training for harbour Managers & Jetty Supervisors / FRMA?? of DFAR	<ul style="list-style-type: none"> Funds provided Vessel owners installed transponders Regulations to be framed. Donor assistance obtained
<u>Activity 4:</u> Prosecuting magistrates undertaking fishery familiarisation	<ul style="list-style-type: none"> • Magistrate Workshops (2 per annum) on familiarisation with principal fishery issues • Internet communications established between DFAR prosecution officer and Magistrates 	Workshop reports	DFAR Legal team	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 5:</u> operating vessel communication systems	<ul style="list-style-type: none"> Fishers verifying positions and updating Radio officers providing weather reports Radio Officers giving position of fishing grounds to fishermen 	1. Monthly incident reports 2. MCS monthly feedback reports	Xx DFAR Radio officers Equipment	
<u>Activity 6:</u> Operating a VMS system for offshore vessels	VMS system fully functional by 2009 years for all vessels fishing the High Seas. VMS to be conditional on high seas (national and international) vessel licences landing into Sri Lanka MoUs established with foreign high seas control authorities	Fisheries Monitoring Centre in place	Xx DFAR Inspectors VMS system (US \$ 40000) VMS transponders??	
<u>Activity 7:</u> Establishing permanent MoUs with the Defence Ministry to protect fish resources within EEZ (regulate fishery activities)	<ul style="list-style-type: none"> Navy personnel and Coastguard undergoing inspector training Navy personnel boarding fishing vessels in compliance with MoU Airforce monitoring activities inside territorial limits in compliance with MoU 	<ul style="list-style-type: none"> Memorandum of Understanding produced Report on sightings, boardings and offences detected 	Xx Navy personnel assigned to Fishery Protection duties Xx air force personnel assigned to fishery protection duties NIFNE training program for inspectors	
<u>Activity 8:</u> Establishing joint enforcement agreements with other nation states	<ul style="list-style-type: none"> Agreements covering information exchanges (VMS and boarding and arrest details) signed with India, Indonesia, Maldives, Thailand, Bangladesh Coordinating Committee to deal with foreign detentions 	Memorandum of Understanding produced	MFAR/DFAR/ MFA	
<u>Activity 9:</u> Develop community MCS groups	<ul style="list-style-type: none"> 1,000 fisher communities empowered by Year 10, including provision of support equipment to assist compliance 	District progress report	DFAR/ FCS / NIFNE training program in community MCS	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

SO 2: To improve food safety, product marketing and nutrition				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
Result 1: Food safety monitoring systems upgraded and maintained in full compliance with EC & other food health standards				
<u>Activity 1:</u> Inspectors and industry undertaking continuous and upgraded food safety training requirements	Annual inspector / industry training courses ongoing	Certificates issued to participants	DFAR & EC expertise	
<u>Activity 2:</u> Inspector deployment	10 QC inspectors undertaking regular inspections (frequency of 4 inspections per factory per annum)	Inspection records kept on file	DFAR	Adequate resources applied by DFAR to QC Exporters endorse QC measures
<u>Activity 3</u> Strengthening the existing data base so as to generate results , ensure traceability - for export statistics - for official sampling results	Data base upgraded by 2010	Results generated	DFAR	
<u>Activity 4:</u> Testing facilities upgraded (for antibiotic testing)	2 laboratories upgraded	Laboratory accredited to ISO 17025	DFAR ITI/Univ Peradeniya (Veterinary faculty)	Laboratories maintained the necessary standards Donor support secured for laboratory upgrades & training
<u>Activity 5:</u> Regulations upgraded in the Animal Disease Act & Animal Feed Act for registration, monitoring,, quality assurance, sales & compliance for feeds, pharmaceuticals and biologicals	Gazetted lists of pharmaceuticals, feed, feed additives, biologicals	Regulations gazetted, detect people who violate regulations MoU DAPH & DFAR	MLD/DAPH/DFAR/Fish farmers Association	Lists are gazetted by the Department of Animal Production & Health
<u>Activity 6:</u> Register & evaluate aquaculture drugs and feeds entering Sri Lanka	All drug/feed consignments registered based on documentation and sample testing (microbiological testing & antibiotic testing)	Maintain register, records of test results	Department of Animal production & Health / DFAR/Importers	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 2: Post harvest standards improved on multi day vessels				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Prepare guidelines for improved on board catch preservation (equipment needs and fish handling)	Guidelines / Manual prepared detailing base requirements, and added systems that will improve product quality (use of RSW tanks etc)	Reduced landings of lower quality fish from 30 percent to 10 percent	NARA /DFAR/Exporters/ Boat manufacturers	Fishing vessel owner support secured
<u>Activity 2:</u> Fishers trained in post harvest handling	Training syllabus developed 1200 fishermen receive annual training in fish handling		NIFNE/DFAR/Exporters / FCS and Multi Boat Association/boat owners & crew	Ice manufacturers produced quality ice (Regulations should be framed).
<u>Activity 3:</u> Quality extension officers engaged and trained	23 quality extension officers recruited, trained and deployed. 1 Extension Officer per district to cover multi day & coastal fleet	Monthly report submitted to DFAR QC, Colombo	DFAR/NIFNE	Exporters support training initiatives
<u>Activity 4:</u> Financial packages available for quality investments on board multi day fishing vessels	100 loans made per annum Zero tax for imported equipment Fisher groups with BOI status Business Plan showing Rates of return for QC improvements Commercial loans for quality control upgrades	Loan agreements	Ministry of Finance private sector / Chambers / Exporters (Business Plan) Central Bank of Sri Lanka Commercial Banks, State Banks	DFAR apply appropriate resources Commercial Banks lending based on the application of strict assessment criteria. Not repaying according to schedule affecting annual licence allocation Fully integrated NIFNE/ Exporter / DFAR training No political interference Boats are financially viable.

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 5</u> : Extend vessel quality monitoring programme	500 vessels compliant with HACCP standards by 2010, 100 added vessels per annum thereafter HACCP standards should be incorporated in to fishing licenses by 2017.	Certificates issued to vessel owners DFAR /Exporters associate retains record of compliant vessels	DFAR/Exporters/boat owners & crews	Fishing vessel owner support secured Exporters support training initiatives DFAR apply appropriate resources Commercial Banks lending based on the application of strict assessment criteria. Not repaying according to schedule affecting annual licence allocation Fully integrated NIFNE/ Exporter / DFAR training No political interference

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 3: Post harvest standards improved on coastal vessels				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Prepare guidelines for improved on board catch preservation (equipment and fish handling)	50 percent reduction in fish destined for low quality drying	Manual prepared detailing exact requirements, and added equipment that will improve product quality (ice boxes & insulation, fish handling)	NARA / Exporters / DFAR, Boat manufacturers	Fishing vessel owner support secured DFAR apply appropriate resources Micro credit Banks supportive
<u>Activity 2:</u> Fishers trained in post harvest handling	District level workshops through FCS	Certificates issued	DFAR / Private sector fishers / NIFN, NARA	Fully integrated NIFNE/ DFAR training
<u>Activity 3:</u> Quality extension officers engaged and trained	A 4 R 1	Monthly report	DFAR / NIFNE	
<u>Activity 4:</u> Financial packages available for quality investments on board coastal vessels	Funding available through Banks and other micro credit loans schemes	Loan schemes advertised and total awards published	Banks, Commercial Bank (micro credit) Central Bank of Sri Lanka, State Banks	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 4: Coastal landing sites, markets and inland fish markets upgraded and improved				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Guidelines set for fish market food safety standards & ice plants	Manual prepared for food safety guidelines in fish markets, landing sites and ice plants	Manual published and distributed	DFAR/Ministry of Health / Municipal Authorities	Department Health allocate appropriate resources Donor support secured for market upgrades Fully integrated Ministry of Health/ DFAR training
<u>Activity 2:</u> Landing sites and markets upgraded	Xx landing sites Xx coastal markets Xx city / municipal markets Donor support funding secured	Procurement records	MFAR / DFAR/ Donor Assistance/ CFHC/Local Authorities	
<u>Activity 3:</u> Training/ Awareness/ workshops for Local Authorities, Trade Association and market vendors	Training syllabus developed 02 Awareness Programmes for Local Government and Provincial Officials and Minimum 25 work shop for Trade Association and Vendors	Certificates provided	DFAR/ Municipal Authorities / Ministry of Health	
<u>Activity 4:</u> Training workshops on fisheries for Department of Health officials	Training syllabus developed 2 workshops, 1 in Sinhalese, 1 in Tamil	Certificates provided	NIFNE / DFAR / Municipal Authorities / Ministry of Health	
<u>Activity 5:</u> Dept of Health Inspectors deployed to coastal, inland fish markets & ice plants	1 market inspection per municipal market per month 1 inspection ice plant month per month	MoU between DFAR and Dep. Health Inspection reports	Municipal Authorities / Ministry of Health / DFAR	
<u>Activity 6:</u> Ice Plant upgrading including North Eastern and Eastern provinces	20 Plants upgraded by 2010 Test and inspection Report	Registration Certificate provided	Ministry of Health/ DFAR/ Local Authority	
<u>Activity 7:</u> Consumer Awareness on Quality and Safety	Radio and TV Programmes Printed materials (Posters)	Survey Report	Ministry of Health/ DFAR/ Local Authority	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 5: Increased domestic market penetration achieved				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Product development	New products developed: Xx New Products developed	Contracts between ITI and the commercial sector	ITI / NARA	Sri Lankan consumer preference for instant products Price competitive Commercial agreements between processors and Institutions for product development

SO 3: To optimize employment and increase fishery incomes: Marine fisheries				
Result 1: Fishery Cooperatives strengthened and expanded				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
Activity 1: Recruit & train additional FSDD cooperative extension officers	14 additional officers recruited and trained	Training certificates	DAFR/NIFNE	
Activity 2: Increase the no. of Fishery Cooperative Societies	100 FCS become active per annum 4 orientation programs for field officers 100 village level mobilization programs at district level 20 leadership development programs at district level	Development plans prepared Training attended by members Attendance lists Minutes of cooperative societies	DFAR/DCD/NFFC/FCS	Cooperative development given priority Organisational evolution remains bottom up Government / Donor funding available for Indiwara Banks
Activity 3: Strengthening existing FCS	150 Villager FCS empowered per annum 80 percent of fishers become active members increase women participation by 50 percent 10 Training workshops in accounting 30 training workshops in leadership training Training field staff Training cooperative leaders Set regional targets?	Audit reports Progress reports	DFAR/DCD/NFFC/FCS	FSDDS/Dept of Cooperatives deployed without hindrances
Activity 4: Expanding savings mobilization and micro credit programme	20 Indiwara Banks commence operating constructed 20 bank buildings with relevant facilities	Updated accounting systems Members actively use the facilities	FCS / DFAR, NGOs & donors / Central Bank of Sri Lanka	
Activity 5: Cooperative Cluster strengthening	30 inland trade clusters established with defined production targets for commercially (<i>catla</i> , <i>clarius</i> , <i>freshwater species</i> , <i>snalkehead tilapia</i>) orientated Inland ice network promoted 30 coastal cluster developed	Processor participation in clusters Business plans, audit reports, contractual agreements	FCS / NAQDA	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
Activity 6: Promotion of alternative livelihoods programmes	100 alternative livelihoods operating Business Plans for alternative livelihoods options in place Training in alternative livelihoods	Reports of FCS Business Plans Training Certificates	DFAR, FCS	
Activity 7: Strengthening the role of FCS in natural resource management	No. of sites where FCS has supported implementation of management plans	Minutes of FCS meetings	FCS/NARA / DFAR	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 2: Conversion and expansion of tuna longline fleet (to sustainable levels)				
	Objective verifiable indicators	Means of Verification	Responsibilities and resources requirements	Assumptions
<u>Activity 1:</u> Introduce Pilot /demonstration vessels deployed to selected locations	10 pilot vessels in place	Statistical reports	IFAD and other support (US\$200 000/vessel) / MFAR	Banks and IFAD prepared for funding
<u>Activity 2:</u> Preparation of detailed technical inputs, including exact specifications of fishing gear, deck machinery and fish preservation	Manual prepared detailing exact requirements	Manual	MFAR /NARA	Fiscal incentives are provided by GoSL
<u>Activity 3:</u> Convert gillnet vessels to longliners annually with appropriate technology	50 gillnet vessels converted per annum	Progress report	MFAR	Establishment of a reliable statistical system
<u>Activity 4:</u> Introduction high seas tuna long liners	25 Number of boats introduced	Statistical reports	Banks/DFAR	Fishing vessel owner support secured
<u>Activity 5:</u> Feasibility study and business plans for Multi Day and high seas vessel operations	Business Plans and feasibility reports agreeably to Banks	Reports	Central Bank of Sri Lanka/Commercial Banks/ NARA / CRC	Commercial Banks lending based on the application of strict assessment criteria. Not repaying according to schedule affecting annual licence allocation
<u>Activity 6:</u> Provide fiscal incentives /loans for the conversion of gillnets to longliners, for establishing high seas vessels, with supporting onshore investment	Review re financing schemes Tax holidays VAT system reviewed Cess levy on squid bait imports removed		Treasury / BOI / MFAR / Central Bank of Sri Lanka / Commercial Banks / State Banks	
<u>Activity 7 :</u> Encourage farming of milkfish <i>Cross Reference to Aquaculture Log Frame</i>	Number of milk fish farms producing for long liners Amount of squid imported	Statistics	NAQDA / NARA	No political interference
<u>Activity 8:</u> Information systems on tuna migrations operating and updated	Information data base identifying location of shoaling tuna	Data base	NARA/CRC	
<u>Activity 9:</u> Upgrade 2 harbours (West & East) with suitable draft and on shore support facilities to cater for high seas vessels	Upgraded harbours	Progress reports	MFAR / Donors / CFHC	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 3: New fisheries developed to target under-exploited fisheries				
	Objective verifiable indicators	Means of Verification	Responsibilities and resources requirements	Assumptions
Activity 1: New fisheries identified through resources surveys and exploratory surveys	6 major fisheries / resources surveyed and fishing trials conducted	Survey Reports	NARA/CRC /NIFNE	
Activity2: Promote new fishing techniques through training and extension and incentives	Number of vessels engaged in new fishing methods	Statistics	NARA/ NIFNE / CRC	
Result 4: Fisher capacity improved				
Activity 1: Modular training for skippers mandatory within 5 years	1000 Multi day boat fishers trained 5000 coastal fishers trained	Training certificates/progress reports	NIFNE/NARA	Training of skippers is a mandatory requirement

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

SO 4: To optimize employment and increase fishery incomes: Aquaculture				
Result 1: Sri Lanka's commercial shrimp sector strengthened & sustained				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Conduct resource survey of disease free brood stock availability of marine shrimps	4 Resource surveys at identified coastal locations Brood stock targeting changes	Research papers published and disseminated to the industry	NARA	Appropriate financial resources allocated Niche markets are identified
<u>Activity 2:</u> Develop Best Management Practices / bio secure templates for intensive system management	BMP Guidelines upgraded to international standards & Bio secure certification prepared for shrimp farm systems, hatchery management, brood stock collection (Also See SO2. R1, A5)	Bio secure labelling certificates Aquaculture Management Licence	NAQDA/Shrimp Farmers Association / Exporter partnerships / Department of Animal Production & Health / Central Environmental Authority of NWPC / QC Unit DFAR / Feed Companies	NAQDA / Private sector partnerships secured Producer / Government partnerships secured
<u>Activity 3:</u> Monitor and control hatchery and farm activity	1 inspection / farm & hatchery / month 250 per month, 50 hatcheries	Inspection reports	NAQDA / CEA or NW PC	Banking confidence in the sector restored
<u>Activity 4:</u> Promote diversification into polyculture/ Crop rotation systems (Sea bass, seaweed, milkfish and others)	12 Trials initiated and completed in years 1 & 2 (4 trials per zone)	Field trial results published	NAQDA / Shrimp Farmers Association / NARA / Feed companies/ NW PC	
<u>Activity 5:</u> Promotion of organic / 'investment in people' extensive systems in lagoons	20 special sites identified in NE & NW PC coast 5 field trails	Field trail results published	NAQDA / PCs /FCS (alternative livelihoods) / NARA / International Certification bodies	
<u>Activity 6:</u> Promote loan scheme related to upgrading standards to comply with Certification standards	20 loans per annum	Bank repayment records	Treasury Central Bank of Sri Lanka	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 7:</u> Continually manage the Dutch canal system to improve the water flows and lower susceptibility to disease	15 kms upgraded annually All work completed by 2010 2 500 ha farms recommence activities between years 1 and 5 Monitoring system continued	Disease incidence reports Monitoring reports	NAQDA / Shrimp Farmers Association / Ministry of Finance / Donor support	
<u>Activity 8:</u> Training curriculum developed for brackish water aquaculture	Curriculum developed	Training manual	NAQDA / NARA / Private sector / NW PC	
<u>Activity 9:</u> Training of trainers	20 trainers trained	Training certificated		
<u>Activity 10:</u> Farmer workshops	8 workshops (2 per zone)/ per annum	Workshop attendance records Certificates issues	NAQDA/NARA/NW PC/Private sector	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 2: Seasonal / Perennial tank production expanded				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Develop Business development models based on best practice (community nurseries, stocking, harvesting systems)	Best Management Practice Manuals produced & dispersed by extension officers	Record of distribution	NAQDA	Appropriate financial resources allocated
<u>Activity 2:</u> Provide training and extension support to promote increases in a further 500 ha seasonal tanks per annum	70 Extension officer and 1000 Agrarian Research and Production Assistants (ARPA) engaged and trained 75 number of fishers sub committees supported per annum. Training of trainers	NAQDA /DAD/CBO records	NAQDA/ Department of Agrarian Development (DAD)	Extension officers recruited and trained Conducive socio- political environmental prevailed
<u>Activity 3:</u> Hatchery Business models developed	500 of mini hatcheries/ mini nurseries established 20 M of fingerlings produced	Records of fingerling production of producers/ NAQDA statistics	NAQDA, Govijana Banks ADB/ ARDQIP (Miridiya Sampath Loan) up to 2009, re financing schemes post 2009	Environmental issues are addressed Appropriate legal framework Market for fingerlings developed
<u>Activity 4:</u> Access to finance	50 loans given per annum	Bank repayment records Central Bank reports Post evaluation reports	NDTF/Treasury/NDB/State Banks/Commercial Banks	No severe environmental changers
<u>Activity 5:</u> Strengthening of CBOs to undertake co-management in major perennial reservoirs	70 co-management plans developed in 10 years Minimum of 150 training programmes per annum 50 percent of reduction of illegal fishing	Workshop attendance records Records of court cases and raids 50 percent Reduction of landings of undersize fish (smaller than 80 cm cichlids) CBO records	NAQDA , MASL, Irrigation Department (ID), Police department	
<u>Activity 6:</u> Strengthening of CBOs to undertake co-management in culture based fisheries	200 self sustained systems established for 20 000 ha 500 training /workshops held	CBO records NAQDA records	NAQDA, DAD, ID, MASL , Provincial councils	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 3: Research programs initiated into the feasibility small scale freshwater aquaculture systems (as an alternative to agriculture activities)				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Viable species identified (domestic/and or export demand)	Evaluation of production systems in comparison to other countries (freshwater prawn, carps, tilapia, Freshwater eels)	Number of species identified Number of production systems developed Economic feasibility studies Market assessment	NAQDA / NARA/Private sector /Universities	Subsistence and market demand established for specific products Prices sufficient to generate economic returns
<u>Activity 2:</u> Hatcheries , Land based and water based nurseries and infrastructure facilities improved	Number of hatcheries upgraded per year New hatcheries developed per year 100 mini nurseries established per year Technical specifications defined	Quality and quantity of seeds produced per year CBOs and private ponds established per year	NAQDA /NARA/Private sector /Universities Donor support secured	Home grown feeds readily available Commercial feeds developed Suitable sited identified
<u>Activity 3:</u> Hatchery models Business plans developed for the private sector	Business development model assessing costs of inputs and against price expectations	Manual developed and dispersed	NAQDA / Universities	Adequate resources allocated to extension
<u>Activity 4:</u> Breeding technology and nutrition for new species identified	Technology for new species established Suitable feeds developed	Availability of quality fry Registration of producers	NAQDA /NARA/Private sector/Universities/ITI	Not to violate biodiversity conventions re feed fish
<u>Activity 5:</u> Test sites selected	10 sites identified and field tested through GIS per annum	Site selection maps	NAQDA / NARA / Ministry of Agriculture/ Dept of Irrigation/Universities/M ahaweli Authority	Electricity, water supply and other infrastructure facilities available
<u>Activity 6:</u> Template input/output systems developed for extensive, semi intensive operations	Business development model assessing costs of inputs and against price expectations Culture systems and BMP's developed Markets identified	BMP manuals, Production manuals and Marketing reports produced	NAQDA / NARA/Private sector/Associations	Technical expertise available

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 7:</u> NAQDA/ Private sector Extension officers and Technical officers engaged and trained	25 trainers trained per annum	Certificates issued	NAQDA /Private sector	
<u>Activity 8:</u> Training of extension officers/ of other institutions	25 trainees trained per annum	Certificates issued	NAQDA/Private sector	
<u>Activity 9:</u> Farmer workshops	100 workshops per annum	Certificates issued Training manuals and materials available	NAQDA / NIFNE/ NARA/ Private sector	
<u>Activity 10:</u> Access to micro-credit secured	200 loans given	Bank repayment records Central Bank reports Post evaluation reports	NDTF/Treasury/NDB/ State Banks/Commercial Banks	
<u>Activity 11:</u> Farmer groups/associations and strategic relationships formed and strengthened	10 farmer groups established per annum	Minutes of the meetings	NAQDA/Private sector	
<u>Activity 12:</u> Product development and market promotion for local/export markets	Live and processed products developed	Number of products developed Products and export price statistics	NARA/ITI/Private sector/ EDB	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 4: Mariculture and inland cage culture expanded as an alternative livelihood in coastal and inland fishing communities				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Prepare input /output models for key species (Sea Bass, Tilapia, oysters , mussels, Grouper, carps, Milkfish, crabs, seaweeds, Sea cucumber, Carangids)	Business development model assessing costs of inputs and against price expectations	Manual developed and dispersed	NAQDA / Universities/NARA/Private sector / CRC	Quantities produced in sufficient quantity to generate export potential
<u>Activity 2:</u> Identify appropriate sites	10 sites identified and field tested through GIS per annum	Site selection maps	NAQDA / NARA/Private sector / CRC	Coastal conflicts/environmental issues adequately addressed
<u>Activity 3:</u> Breeding and Culture technology and nutrition for new species identified and technical advice for private sector hatcheries provided	Technology for new species established Suitable feeds developed Advice provided to 6 hatcheries per annum	Availability of quality fry Registration of producers Number of culture systems established	NAQDA /NARA/Private sector/Universities/ITI	Adequate resources allocated to extension
<u>Activity 4:</u> NAQDA/ Private sector Extension officers and Technical officers engaged and trained	25 trainers trained per annum	Certificates issued	NAQDA /Private sector	Infrastructure facilities available
<u>Activity 5:</u> Training of extension officers/ of other institutions	25 trainees trained per annum	Certificates issued	NAQDA/Private sector	Sustainability of production
<u>Activity 6:</u> Farmer workshops	100 workshops per annum	Certificates issued Training manuals and materials available	NAQDA / NIFNE/ NARA/ Private sector/CRC	Credit line available
<u>Activity 7:</u> Access to grants/credit for farm investors and hatchery owners	200 loans given 200 grants given	Bank repayment records Central Bank reports Post evaluation reports	DTF/Treasury/NDB/State Banks/Commercial Banks/Donor Agencies	
<u>Activity 8:</u> Farmer groups/associations and strategic relationships formed and strengthened	10 farmer groups established	Minutes of the meetings	NAQDA/Private sector	
<u>Activity 9:</u> Product development and market promotion for local/export market	Live and processed products developed	Number of products developed Products and export price statistics	NARA/ITI/Private sector/EDB	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 5: Aquatic plants and ornamental fish sector expanded				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Research projects into ornamental fish breeding (endemic species), plant tissue culture and live rocks	10 new species introduced per annum 10 new plant species introduced per annum 5 live rock pilot projects in selected areas	Reports on species and plant varieties on sale	NARA/NAQDA/Private sector/Universities	Adequate resources allocated to extension Regulation will be Reviewed Quarantine measures are in place
<u>Activity 2:</u> Template input/output systems developed for extensive, semi intensive operations	Business development model assessing costs of inputs and against price expectations	Manual produced	NARA/Private sector NAQDA / Universities	
<u>Activity 3:</u> NAQDA extension officers engaged and trained	20 officers recruited	Certificates issued	NAQDA / NIFNE	
<u>Activity 4:</u> Farmer workshops	100 workshops	Certificates issued	NAQDA / NIFNE	
<u>Activity 5:</u> Access to credit secured	100 loans given 100 MILLION	Bank repayment record	Treasury / MFAR / Bank of SL / Commercial Banks	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
 TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

SO 5: To conserve the coastal and aquatic environment (coastal zone component)				
Result 1: Coastal systems rehabilitated and enhanced				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

<p><u>Activity 1:</u> Identification of potential problem areas and solutions</p>	<p>Monitoring 3 critical beach sites for coastal erosion (20 000 sq m lost per annum) twice annually.</p> <p>Undertake a comprehensive study of ocean dynamics and their reaction to man made structures prior to investment.</p> <p>72 CCD planning officers and 12 technical officers work activities to include environmental monitoring. Trained in costal zone monitoring and submitting reports to CCD Area Offices on a weekly basis. Training to cover Marine (Sea level rises and erosion) and human encroachment into CZ, Lagoon and coral reefs covering, mining, public access, water pollution, coastal fisheries and aquaculture</p> <p>CCD Area office network extended in North & E</p> <p>Monthly interaction meetings with other Officers through Planning Offices (Under District Secretary)</p> <p>Research & Design Division trained and undertaking water quality assessments & hydrodynamic investigations including Planning officers monitoring erosion. Hydrodynamic monitoring (2 engineers)</p> <p>Coastal prediction model developed and models applied to support development plans</p> <p>Bathometric surveys undertaken</p> <p>Land Surveys (5-6 Technical Officers)</p> <p>Higher resolutions in GIS Mapping</p> <p>Design of protecting structures</p>	<p>Beach monitoring reports</p> <p>Training curriculum</p> <p>Weekly reports to CCD Area Offices</p> <p>2 Offices built</p> <p>Meting reports</p> <p>Training certificates & submitting annual reports, including annual trend analysis in coastal water pollution Model applied to support Development Plans</p>	<p>CCD</p> <p>CCD/NARA/NAQDA/CEA/MPPA</p> <p>District Secretary / Local Authority / CEA / Dept of Wildlife / UDA / Forestry / DFAR / NAQDA</p> <p>CCD</p> <p>CCD</p> <p>NARA</p> <p>Research & Design Division, CCD</p> <p>NARA</p> <p>Research & Design, CCD</p>	<p>CCD personnel recruited</p> <p>Funds available for training</p> <p>Research funds available</p> <p>Cooperation forthcoming from other National Administrations</p> <p>CCD Office network extended</p>
---	--	---	---	--

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 2:</u> Protection, rehabilitation and enhancement of coastal protective structures	<p>14 Regional Shore Line Development Plans prepared (1 per Province)</p> <p>Regional Development initiatives defined and initiated</p> <p>Interim critical activity areas identified including: Minimum 5km land protection per year protected Xx Groynes deployed Xx Revetments deployed Xx Dykes deployed XX sand nourishment and beach vegetation actions</p>	<p>Contracts with engineering company</p> <p>Inspection Plans & completion report.</p>	<p>CCD / Donors</p> <p>CCD</p>	
<u>Activity 3:</u> Coastal Resource quality improvements	<p>Rehabilitated of access routes to and along beaches (25 per year), 2 per District</p> <p>2 lagoons & channels dredged per annum</p> <p>Salinity, encroachments and water quality control measures in lagoons and rivers applied (mechanisms and partnerships to be identified)</p> <p>4 km green belt established (Crown Land) per annum</p> <p>Awareness and promotion and partnerships established with private land users of private land.</p> <p>5 Community based seagrass rehabilitation programs per annum</p> <p>5 Habitat clearing programs per annum</p> <p>5 coral reef rehabilitation programs per annum.</p> <p>20 km sand dunes sites (identified & rehabilitated).</p>	<p>Environmental quality monitoring reports of CCD and NGOs.</p> <p>Engineering reports of CCD.</p> <p>Habitat monitoring reports and statistics of CCD, NGOs / CBOs</p> <p>1 dredger procurement</p> <p>NARA (Sea grass and coral reefs) / CBOs</p>	<p>CCD/Divisional Secretariat Office / CTB/ CEA/ Mahaweli Authority</p>	

Result 2: Effective coastal management systems operating				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1</u> Five Year development of CZMP	2004 CZMP reviewed and upgraded	New CZMP gazetted	CCD	2003 CZMP updated. CCA amended to accommodate improvements in management. DFAR undertakes fishery management planning.
<u>Activity 2</u> SAM/APC management plans created, upgraded and implemented	9 current SAMs reviewed and upgraded. 3 new SAMs created and operating each year 2 new APCs created and operating each year 50 CCCs operational within 10 years	SAM/APC plans gazetted. CCD reports. DFAR fishery data/reports. DFAR fishery management plans consistent with SAM/APC plans NARA extension of research findings SAM/APC reports.	CCD/NARA/DFAR/ NGOs/ Police	
<u>Activity 3:</u> Upgrading of standards and legal statutes to strengthen management systems	Standards revised. Legislation / Statutory Instruments reflecting changes in management plans.	CCA amended. Guidelines/regulations.	CCD	DFAR undertakes fishery management

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 3: Coastal control systems operating effectively				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
Activity 1: Strengthening of compliance system	167 coastguard trained and deployed 37 Officers of Police Marine Division trained 53 local CCD officials trained 64 local MPPA staff trained 9-54 SAM extension officers deployed (and recruited) 12 days/month regular inspections undertaken per district MoUs with coastguard, Police, DRAF, UDA and CTB, MPPA, Min. of Disaster Management.	DFAR reports. CCC reports. Commissioned Independent reports Agreed MOUs	CCD/DFAR/UDA/Police/ CTB/MPPA/Min. Disaster Management	Appropriate resources provided to DFAR No political interference Functional vessel registry Better coordination between DFAR & coastguard
Activity 2: Application of Permit systems	15 percent Reduction in illegal development activities per year	Police reports CCD reports	CCD / Police	Alternative sources for lime available to counteract illegal mining
Activity 3: Promoting participatory co management	XX TOTs trained 04 Stakeholder trainings /district/year. Adjustments to school curricula. 06 Video programmes on costal habitats Extension/awareness material (Booklets/leaflets/posters) Sign boards on coastal conservation initiatives and restrictions. 01 Visitor Centre established for each SAM/APC. Resource abuser groups identified and training instigated (link to result 4).	CCC reports CCD reports Training reports Videos Leaflets/posters/booklets	CCD/CCC/NARA/Dept. of Education	

FISHERIES INSTITUTIONAL ANALYSIS AND CAPACITY ASSESSMENT
TO THE MINISTRY OF FISHERIES AND AQUATIC RESOURCES, SRI LANKA

Result 4: Livelihoods of coastal communities improved				
	Objectively verifiable indicators	Means of Verification	Responsibilities and resource requirements	Assumptions
<u>Activity 1:</u> Creation of beach parks & recreational facilities	5 parks developed per annum.	CCC reports. CCD reports.	CCD/CCC/Local Authorities / UDA / NGOs	CZMP as basis of interventions. Communities have accepted CCAC and CCC recommendations.
<u>Activity 2:</u> Sanitation improvements				
<u>Activity 3:</u> Eco tourism development and alternative employment opportunities	Options investigated with pilot programs for each SAM/APC XX livelihoods in place Training in alternative livelihoods Private sector projects	Business plans CCC reports DFAR reports	CCD / CTB / NARA DFAR/NAQDA	