

**ANNUAL ACTION PLAN - 2022**

Ministry of Fisheries / State Ministry of Ornamental Fish, Inland Fish &amp; Prawn Farming, Fishery Harbour Development, Multiday Fishing Activities and Fish Exports (SM)

Division/ Institution : **National Aquatic Resources Research and Development Agency**Priority Area/s : **Fisheries and Aquatic Resources**Most Appropriate SDG No./s: **No 13,14**

NO.	Proposed Project/s	Project Location	Key Performance Indicator/s (KPI)	Allocation 2022 (Rs. Mn)	Project Duration (Start & End date)	Financial Targets (FT) (Rs.Mn) and Physical Target (PT) (%)					Expected Output (Based on Target)	Implementing Agency	Collaboration with	Responsible Officer and Contact No.
						FT/ PT	Q1	Q2	Q3	Q4				
<b>Inland Aquatic Resources and Aquaculture Division</b>														
1.1	Development of aquaculture and health management to enhance fish production in Sri Lanka	Kalpitiya, Chilaw, Hambanthota, Kurunegala and Down south	1. No of trials successfully conducted against the target 2. No. of Samples (feed, water, Disease etc.) analyzed against the target 3. No. of locations visited against disease incidences 5. No. of awareness programmes conducted	2	2022.01.01-2022.12.31	FT	0.4	0.6	0.5	0.5	1. Increase freshwater and mariculture fish production in Sri Lanka by catering to the major issues pertaining in the sector. 2. Introducing new technologies for the aquaculture sector	NARA/IARAD	Lanka saltern - Hambanthota, NAQDA	Dr.W. Rajapaksha, Dr.I. Parakrama, Mr.Ajith Kumara, Mrs. S. Corea, Mr. R. Weerasinghe, Mrs. Amitha Adikari, Ms.L. Maythili, Mr.C. pradeep,Ms L. Jayasekara, Dr. P. Heenatigala +94-112520638
						PT	15	53	78	100				
1.2	Enhancement of export-oriented aquaculture industry in Sri Lanka through development Ornamental fish, Aquatic plants and sea weed culture technology	Around Sri Lanka	1. No. of species that breeding technology developed for the year 2. No. of plants produced from tissue culture 3. No. of experimental trials conducted	1	2022.01.01-2022.12.31	FT	0.2	0.3	0.3	0.2	1. Introducing novel technologies for the development of ornamental fish, plants and sea weeds culture / export industry.	NARA/IARAD	NAQDA	Ms.R. Shirantha, Mr.S. Jayanatha, Dr. T. Nuhansi, Ms.S. Sugeeshwaree, Ms. Harshani Deepakumari +94-112520638
						PT	22	48	81	100				
<b>Marine Biological Resources Division</b>														
2.1	Monitoring and assessment of coastal fishery resources	Major and minor landing sites in 15 fisheries districts in Sri Lanka	1. Percentage of collection and updating of database on biological and fisheries data as against the plan 2. Number of biological samples analyzed against the target 3. Number of CPUE standardization studies completed 4. Number of fish stocks assessed 5. Number of reports/ publications prepared	1.5	2022.01.01-2022.12.31	FT	0.375	0.375	0.375	0.375	1. Information pertaining to the biology, fishery and stock status of key coastal fishery resources	NARA/MBRD	DFAR	Dr. S.S.K. Haputhantri, Dr. R.P.P.K. Jayasinghe, Dr. D.R. Herath, Ms. K.H.K. Bandaranayake, Dr. Sujeewa Athukorala, Dr. Y.C. Aluwihare, Mr. Kasun Randika, Ms. Udari Ayesha, Ms. Dilukshani Gayathri, Mr. Manuja Promodya and Ms. Acihni Fernando +94-112521914
						PT	15	36	62	100				
2.2	Monitoring and assessment of large pelagic fishery resources	Major and minor harbours including large pelagic landing sites in 15 fisheries districts in Sri Lanka	1. Percentage of collection and updating of database on biological and fisheries data as against the plan 2. Number of CPUE standardization studies conducted 3. Data are submitted to IOTC as per IOTC data reporting requirements 4. Number of reports and conference papers / publications prepared and submitted	1.5	2022.01.01-2022.12.31	FT	0.375	0.375	0.375	0.375	1. Information on fishery and stock status of different fishery resources	NARA/MBRD	Ministry of Fisheries (MoF) and Department of Fisheries and Aquatic Resources (DFAR)	Dr. S.S.K. Haputhantri, Dr. R.P.P.K. Jayasinghe, Ms. K.H.K. Bandaranayake, Mr. Kasun Randika, Ms. Thejani Balawardane, Ms. Acihni Fernando, Ms. Udari Ayesha and Ms. Dilukshani Gayathri +94-112521914
						PT	15	36	67	100				

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<b>Fishing Technology Division</b>														
3.1	Feasibility study on modification of existing gill nets to fulfill IOTC resolution and promote Pole and line for Skip Jack Tuna	North-Western, South and Eastern coastal Waters	1. Number of baseline data records collected on existing gill net and pole and line fishery 2. Gear modifications identified 3. number of trial fishing using Pole and Line as alternative for skip Jack Tuna fishery and 4. Recommendations/issues identified in both fishery	0.5	2022.01.01-2022.12.31	FT	0.125	0.125	0.13	0.12	1. Baseline data on existing gill net and pole and line fishery 2. Gear specification for existing gill net modification, 3. Operate Pole and Line as alternative for skip Jack Tuna fishery and 4. Provide recommendations for stakeholders in decision making	NARA/FTD		H.M.T.C.Madhushankha /FTD, W.A.K.Prabath /FTD, Dr. W.N.C. Priyadarshani/FTD, K.H.K Bandaranayake/MBRD and K.P.G.L Sandaruwan/SED +94-112529737
<b>Institute of Post Harvest Technology</b>														
4.1	Enhancement of quality of fish handled in the supply chain	Kaluthara, Negombo, Chilaw, Puttalam, Batticaloa, Mirissa, Kudawella	1. Number of awareness programmes conducted	2.3	2021.01.01-2022.12.31	FT	0.4	0.6	0.8	0.5	1. Efficient system for fish quality enhancement	NARA/IPHT	NERDC, Department of fisheries and aquatic resources CEYNOR	Dr.Sujeewa Ariyawansa, Ms. Pavithra Ginigaddarage, Mr.K.G.S. Nirbadha, Mr.M.G.C. Wijesinghe, Ms Sudeepa Rasnasinghe, Ms Mihirani Subasinghe and Ms Kaumi Piyasiri +94-112529715
4.2	Introduction of ready to eat fish-based snack products and liquid fertilizer to Sri Lankan market and popularization	Fishery Districts	<u>RTE snack product</u> 1. Development of nutritionally acceptable and profitable extruded product. 3. Obtained patent for product 4. Research publication <u>Liquid fertilizer</u> 1. Development of acceptable extruded product 2. Obtained patent for the product 3. Research publication	0.7	2022.01.01-2022.12.31	FT	0.100	0.250	0.250	0.100	1. A commercially viable protein enriched RTE extruded snack product incorporated with fish protein hydrolysates extracted from high quality fish waste/ under-utilized fish. 2. Liquid fertilizer made out of fish waste	NARA/IPHT	University of Sri Jayawardenapura	Dr.S. Ariyawansa ,Ms.P.S.Jayasinghe ,Ms. D.S.Ariyaratna, Ms.M.Paththuwearachchi +94-112529715
<b>Environment Studies Division</b>														
5.1	Assessment of pollution status of selected fishery harbours in the western and southern province of Sri Lanka	Puranawella, Mirissa, Beruwala, Galle and Kudawella Fishery Harbours	1. Number of recommendations accepted to implement 2. No. of research publications produced	1	2022.01.01-2022.12.31	FT	0.2	0.25	0.35	0.2	1. Identified the status of water safety and quality of Fishery Harbours in Southern province. 2. Suitable recommendations to minimize harbour pollution. 3. Provide recommendations to relevant government authorities for sustainable management of Fishery Harbours	NARA/ESD		Dr. A. A. D Amaratunga, Dr. N.D. Hettige, Ms. K. A. W. S. Weerasekara, Ms. W. K. Suwandhahannadi, Ms. M. D. S. R. Maddumage, Ms. S. R. C. N. K. Narangoda, Ms. J.K.P.C. Jayawardhane, Ms. K.M.B.P.P. Kalaotuwawe, Mr. K.S. Premarathna, Ms. Shaynuga Thirukeswaran, Mr. N.K.R.N.Jayawardena 0719353669

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						FT/ PT	Q1	Q2	Q3	Q4				
5.2	Investigation of causes for emergency incidents such as Oil Spills, algal blooms and fish kills (Emergency studies)	Any freshwater, brackish water or marine environment in Sri Lanka	1.No. of studies completed against reported 2. No. of investigation reports provided for the year	0.5	2022.01.01-2022.12.31	FT PT	0.125 25	0.125 50	0.125 75	0.125 100	1.Reports and recommendations on mitigation of pollution and preventive measures for similar incidents in future.	NARA/ESD	Officers of all divisions would participate in investigation studies depending on the situation and expert knowledge required.	All Officers in Environmental Studies Division (Mrs. K. A.W. S. Weerasekara, Dr. A. A. D. Amarathunga, Ms. N.D. Hettige, Mrs. M. D. S. R. Maddumage, Mrs. J. K. P. C. Jayawardhane, Mrs. S.R. C.N.K. Narangoda, Ms. K.M.B.P. Prabha Kalaotuwawe, Mr. N.K.R. Niranga Jayawardhena, Ms. Shynuga Thirukeswaran, and Mr. Kushan Pamarathne) 0719353669
<b>National Institute of Oceanography and Marine Sciences</b>														
6.1	Tuna Fishing Ground Advisory and Fisheries Information Service	Around Sri Lanka	1.Number of advisories generated and disseminated 2.Percentage of accuracy improved of the forecasting 3.Prediction models developed and completed 4.Research publications	0.3	2022.01.01-2022.12.31	FT PT	0.075 24	0.082 50	0.078 74	0.065 100	1.Enhanced high seas fishery of Sri Lanka, with precision fishing, and high fish catch rates.	NARA/NIOMS		Mr.Sudheera Gunasekara 0712273646
6.2	Maintenance of sea level station	Point Pedro, Trincomalee, Colombo, Mirissa, Dondra and Kirinda	1.Number of sea level stations in operation against the total number of station by monthly	0.33	2022.01.01-2022.12.31	FT PT	0.05 14	0.13 39	0.075 67	0.075 100	1.Estimation of annual Sea level rise around Sri Lanka. 2.Establishing of Sea level and Meteorological observations network around the Sri Lanka 3.Development of oceanographic data base for research and national developments.	NARA/NIOMS		Mr. K.W. Indika 0774524616
6.3	Offshore sand investigations in continental shelf of southwestern coast	South- western and Eastern coast	1.No of square kilometers investigated 2. No of samples analyzed 3. Making available sand required for construction industry, land reclamation and beach nourishment to reduce the pressure on river sand. 4.Quantity and quality of field data collection against the field works. 1. Beach profiling (8 profiles) 2. Berm/Sea level beach sampling data 3. Beach width/ slop data\  - Wave climate years (Hs, Tp, direction wave energy) analysis.	0.49	2022.01.01-2022.12.31	FT PT	0.253 27	0.018 42	0.096 59	0.123 100	1.Qualification and Quantification of offshore sand deposit 2. Offshore sediment map of southwestern coast 3. Understanding the seasonal variability of beach profile, sediment grain size, foreshore slope and inshore wave forcing at SW coast of Sri Lanka. 3. Identifying spatial variation of Littoral Cutoff Diameter of sand on the wave-dominated micro-tidal beach.	NARA/NIOMS		Ms.T.B.D.T.Samaranayake , Mr.H.A.S.D Perera,Mr. R.M.R.M Jayathilake 0719353490

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						FT/ PT	Q1	Q2	Q3	Q4				
6.4	Seasonal variability of ocean (boundary) current and other parameters around Sri Lanka	Western and Eastern coastal waters	1. Number of ocean current observation (ADCP) surveys. 2. Number of ocean current observation (ADCP) surveys. 3. Number of spatial and temporal distribution maps of selected biological, physical and chemical ocean parameters. 4. Number of spatial and temporal distribution maps of microplastics	0.45	2022.01.01-2022.12.31	FT	0.13	0.158	0.113	0.049	1. Capacity development for ocean current observation system. 2. Regional Ocean current database. 3. Development of the regional coastal current models to predict the change trend of the coastal currents. 4. Expanded Capacity building on measuring selected ocean parameters at laboratory and in situ monitoring. 5. Base line data report on selected bio-chemical ocean parameters in Sri Lankan marine waters.	NARA/NIOMS		Dr. K. Arulanathan, Dr.W.N.C.Priyadarshani, Mr. R.M.R.M. Jayathilaka, Mr. W.R.W.M.A.P. Weerakoon, Ms. N.G. L. NadeeUthpala, Mr. K.B.S.S.J. Ekanayaka 0718252226
6.5	Hydrology and water circulation of Lankapatuna Lagoon	Rekawa	1. Number of field visits 2. Number of in-situ field investigation conducted 3. Number of water samples collected 4. Number of sediment sample collected 5. Number of Data and samples analyzed 6. Number of publication	0.43	2022.01.01-2022.12.31	FT	0.115	0.1	0.115	0.1	1. Temporal and spatial variability of water balance, water renewal time, circulation, and zonation identification in the lagoon 2. Seasonal variation of salinity, TSS, nutrients and plankton 3. Temporal variations of Water Circulation in lagoon	NARA/NIOMS		Mr.H.A.S.D Perera, Mr. Ruchira jayathilaka Mr. Janaranjana Ekanayaka 0710533948
<b>National Hydrographic Office</b>														
7.1	National Charting Programme	Colombo, Dickowita, Trincomalee	1. Area surveyed in square nautical km against the target by season	1.78	2022.01.01-2022.12.31	FT	0.15	1.36	0.15	0.12	1. Fair Sheet of Nautical Chart from Colombo to Negombo with the scale of 1: 100,000 by 2022 2. Fair Sheet of Trincomalee to Kudremalai point with the scale of 1:300,000 by 2022 3. Fair sheet for covering 50% of Coastal Nautical Chart from little Bases Reef to Pulmoddai Roads by 2022 with the scale of 1: 300,000	NARA/NHO		Mr. S.R.C. Ranaweera, Chief Hydrographer 0714415791
7.2	Establishment of Database and online data processing Unit for Crowd Sourced Bathymetry parallel with the Sea Bed 2030 global mapping project of the General Bathymetric Chart of the Oceans (GEBCO)/Nippon Foundation	Around Sri Lanka	1. Bathymetry coverage by area	0.22	2020.01.01-2030.12.31	FT	0.03	0.06	0.06	0.07	1. Bathymetry database around Sri Lanka 2. Map 3. Research Paper	NARA/NHO	MBRD, NIOMS	Ms.Y.M.R.Nilupa Kumari, Mr.Anura Ariyaratna, Mr.Dulap Rathnayaka, Mr. Dhanushka Yapa, Mr.Dharshana Wickramasingha, Mr.N.V.R.Harshana 0714415791

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						FT/ PT	Q1	Q2	Q3	Q4				
<b>Socio Economic and Marketing Division</b>														
8.1	Value chain analysis of export oriented crustaceans and bivalves in Sri Lanka	NARA head office	1.Number of visits/Database 2.Number of questionnaires, consultancies conduct	0.9	2022.01.01-2022.12.31	FT	0.2	0.2	0.3	0.2	Completed database ,Final report	NARA/SED		Mr.K.H.M.L Amaralal, Ms.M. N. D. F. Abeykoon and Ms.Ayomi M. Bandara +94-112529718
						PT	15	50	75	100				
8.2	Extension Services	NARA head office	1.Develop human resource required	0.1	2022.01.01-2022.12.31	FT	0.025	0.025	0.025	0.025	1.Knowledge dissemination through, exhibitions and demonstrations	NARA/SED		Mr. Bandara and Mr.Rajith Rasanga +94-112529718
						PT	25	50	75	100				
<b>Monitoring and Evaluation Division</b>														
9.1	Online Information Systems and Internet Services	NARA head office	1.No. of hits on the website in a month by countries	3.745	2022.01.01-2022.12.31	FT	0.8	1.052	1.27	0.623	1. Developed IT infrastructure for data sharing, storing, online access to NARA website,Libaray, fish forecasting and sea levels around the country 2. Mail system	NARA/M and E		Mr.A.B.A.K. Gunaratne Director Monitoring and Evaluation +94-112529581
						PT	25	50	75	100				
9.2	Library management Services	NARA head office	1.No. of users visits 2. Number of online users against by quarterly	0.1	2022.01.01-2022.12.31	FT	0.025	0.025	0.025	0.025	1.Strengthening the collection and gathering information.	NARA/M and E		Mrs.R.S.Liyanaarachchi +94-112521633
						PT	25	50	75	100				
<b>Kapparahota Regional Research Center</b>														
10.1	Studying the suitability of deterrent pingers against depredation of hooked yellowfin tuna and assessment of marine mammal abundance	Dikowita, Suduwella	1.Numbers of trials conducted against the target 2. Percentage of effectiveness of the use of deterrent pingers	0.7	2022.01.01-2022.12.31	FT	0.037	0.212	0.25	0.201	1.Publications and reports	NARA/Kapparahota		Mr.U.S.P.K. Liyanage +94-718360025
						PT	25	50	75	100				
<b>Panapitiya Regional Research Center</b>														
10.2	Development of ornamental fish feed and ornamental fish cultures	NARA Regional Research Center, Panapitiya, Kalutara	1.Number of effective Feed formulas formulated for economical and quality ornamental fish feeds	0.4	2022.01.01-2022.12.31	FT	0.075	0.1	0.125	0.1	1.Availability of economical feeds and technology for ornamental fish farmers.	NARA/Panapitiya		Mr. D. A. Athukorala 0342222326
						PT	37	51	69	100				
<b>Rekawa Regional Research Center</b>														
10.3	Supporting livelihood development of selected inland and coastal fisher communities in Southern Sri Lanka.	Bandagiriya and Kattakaduwa tanks, Rekawa Lagoon	1.Increased Survival rate of the freshwater giant prawn from existing rate (8%) 2. Methodologies and strategies accepted for productive prawn culture	0.5	2022.01.01-2022.12.31	FT	0.075	0.15	0.15	0.125	1. Increase survival rate of M. rosenbergii in culture based fisheries. 2. Data base maintenance on variation of water quality in Rekawa Lagoon. 3. Operation and maintenance of effective fish farming system to increase income of the fisher community.	NARA/Rekawa	Monitoring & Evaluation Division, NARA, Environmental Studies Division (NARA),National Aquaculture Development Authority (NAQDA)	Dr.M. Gammanpila, Mr.K. W. R. R. Amaraweera,Ms W. K. Suwandhannadi 0312222479
						PT	40	62	75	100				
<b>Negombo Regional Research Center</b>														
10.4	Impact of water quality and seasonal changes for cage culture sites in Negombo Lagoon	Negambo lagoon	1. Issues and gaps identified for sustainable management of the lagoon. 2. Recommendations	0.155	2022.01.01-2022.12.31	FT	0.03	0.04	0.05	0.035	1.Publications -1 2.Recommendations to lagoon fishery regulations	NARA/Negombo		Mrs. Udeshika, Mrs.J.M.N.M jayasundara 0701687038
						PT	25	50	75	100				

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						FT/ PT	Q1	Q2	Q3	Q4				
<b>Kalpitiya Regional Research Center</b>														
10.5	Biological, fisheries and socio-economic aspects of Gastropod fisheries in the Mananr and Puttalam districts in Sri Lanka	Kalpitiya, Mannar will be covered for baseline survey through approach the landing sites. - Specific locations for dependent survey will be selected through the baseline survey	1.Number of field visits 2. Number of boats sample 3.Number of biological sample analyses 4.Number of parameters analyzed per sample 5.Number of questionnaires filled	0.8	2022.01.01-2022.12.31	FT PT	0.16 20	0.16 38	0.16 56	0.32 100	1.Recommendations to prepare a management plan of gastropod fishery resource in the concerned waters in a sustainable manner 2. Recommendations to prepare regulations to control the fishing effort, fishing time, seasonality, minimum size restrictions, etc. when required to avoid the depletion 3. Long term fishery development plans towards the socio-economic improvement of fishing community and optimal economic benefits 4. Scientific records of gastropod species 5. Resource utilization time series data 6. Scientific publications and reports	NARA/Kalpitiya	1. Marine Biological Resources Division/NARA 2. Department of Fisheries and Aquatic Resources (DFAR) 3. Socio-economic and Marketing Division/ NARA 4. Gastropod fisheries community	Dr.Prabath Jayasinghe (Project Leader), Dr.Sisira Haputhantri, Mr. Aruna Maheepala, Mr.S. Thanusanth, Mr. R. Srikrishnan, Ms.Sachithrangi Aththanayaka, Ms.Ayesha Udari, Ms. Logamani Gayathri 0718689783
10.6	Studies on some biological aspects on fyke-net fishery in selected fishing grounds in Puttulum Lagoon	Kalpitiya	1. No of field visits 2. No. of sampling stations 3. No. of samples collected 4. No of samples analyzed 5. No. of biological parameters analyzed	0.1	2022.01.01-2022.12.31	FT PT	0.03 15	0.03 30	0.02 55	0.02 100	1. To find out the importance of fyke net fishing in Puttalam lagoon fishery. 2. T find out the species composition and seasonality of catch. 3. To study the maturity of fish that entangled in fyke net fishing. 4. Map the fyke net fishing area in Puttalam lagoon. 5. To find out the information related to fyke net fishing net fishing gear and its operation patterns.	NARA/Kalpitiya	1. Department of fisheries. 2. Local fishing societies	Dr.Prabath Jayasinghe (Project Leader), Mr.S. Thanusanth, Mr.R. Srikrishnan, Ms.Sachithrangi Aththanayaka. 0718689783
<b>Vessel Operation</b>														
11.1	R.V. samurdhrika		1. No. of programmes attended 2. No. of hours operated by quarterly	2.5	2022.01.01-2022.12.31	FT PT	0.12 25	0.07 50	0.208 75	2.102 100	1. Offshore and Near Shore Bathymetry for Production of Navigational charts. 2. Oceanographic and Geophysical Data for Scientific Research and Decision Making 3. Chemical and Biological Data for Scientific Research	NARA/Service and Operation Division		Mr.S.K.S. Liyanarachchi Director Service and Operation +94-112529737

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						FT/ PT	Q1	Q2	Q3	Q4				
<b>Research and Development (Total)2507</b>				<b>25</b>		FT	<b>4.680</b>	<b>6.972</b>	<b>6.475</b>	<b>6.873</b>				
						PT	<b>25</b>	<b>50</b>	<b>75</b>	<b>100</b>				
<b>12.1</b>	Rehabilitation of capital Assests			3	2022.01.01-2022.12.31	FT	0.75	0.75	0.75	0.75	1. Better infrastructure facility at NARA and RRC's	NARA/Service and Operation Division	Mr.S.K.S. Liyanarachchi Director Service and Operation +94-112529737	
						PT	25	50	75	100				
<b>12.2</b>	Aquisition of capital Assests		Percentage of procurement completed by quarterly	7	2022.01.01-2022.12.31	FT	1	1	2	3	1. Sophisticated equipment for research and development	NARA/Service and Operation Division	Mr. Nishantha Hewagama Director Finance +94-112521383	
						PT	25	50	75	100				
<b>Public Instutions-2201</b>				<b>10</b>		FT	<b>1.75</b>	<b>1.75</b>	<b>2.75</b>	<b>3.75</b>				
						PT								
<b>Total Capital(2022)</b>				<b>35</b>		FT	<b>6.430</b>	<b>8.722</b>	<b>9.225</b>	<b>10.623</b>				
						PT								
<b>13</b>	<b>Environmental Damage Assessment of X-Press Pearl Ship fire accident</b>			<b>15</b>	<b>2022.01.01-2022.12.31</b>	FT	<b>3</b>	<b>5</b>	<b>5</b>	<b>2</b>		<b>NARA/ All Technical Divisions</b>	<b>Mrs. K. A.W. S. Weerasekara 0719353669</b>	
						PT	<b>33</b>	<b>56</b>	<b>72</b>	<b>100</b>				

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Ministry of Fisheries / State Ministry of Ornamental Fish, Inland Fish & Prawn Farming, Fishery Harbour Development, Multiday Fishing Activities and Fish Exports (SM)  
NATIONAL AQUATIC RESOURCES RESEARCH AND DEVELOPMENT AGENCY (NARA)

NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status	Expected Output
<b>Inland Aquatic Resources and Aquaculture Division</b>								
1.1	Development of aquaculture and health management to enhance fish production in Sri Lanka	√	√	√	2.000	2021-2022	Ongoing	1. Increase freshwater and mariculture fish production in Sri Lanka by catering to the major issues pertaining in the sector. 2. Introducing new technologies for the aquaculture sector
1.2	Enhancement of export-oriented aquaculture industry in Sri Lanka through development ornamental fish, aquatic plants and sea weed culture technology	√	√	√	1.000	2021-2022	Ongoing	Introducing novel technologies for the development of ornamental fish, plants and sea weeds culture / export industry.
<b>Marine Biological Resources Division</b>								
2.1	Monitoring and assessment of coastal fishery resources	√	√	√	1.500	continuous	Ongoing	Information pertaining to the biology, fishery and stock status of key coastal fishery resources
2.2	Monitoring and assessment of large pelagic fishery resources	√	√	√	1.500	continuous	Ongoing	Information on fishery and stock status of different fishery resources
<b>Fishing Technology Division</b>								
3.1	Feasibility study on modification of existing gill nets to fulfill IOTC resolution and promote Pole and line for Skip Jack Tuna				0.500	2022-2022	New	1. Baseline data on existing gill net and pole and line fishery 2. Gear specification for existing gill net modification, 3. Operate Pole and Line as alternative for skip Jack Tuna fishery and 4. Provide recommendations for stakeholders in decision making



NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status	Expected Output
<b>Institute of Post Harvest Technology</b>								
4.1	Enhancement of quality of fish handled in the supply chain			√	2.300	2021-2022	Ongoing	Efficient system for fish quality enhancement
4.2	Introduction of ready to eat fish-based snack products and liquid fertilizer to Sri Lankan market and popularization				0.700	2022-2022	New	1.A commercially viable protein enriched RTE extruded snack product incorporated with fish protein hydrolysates extracted from high quality fish waste/ under-utilized fish. 2.Liquid fertilizer made out of fish waste
<b>Environment Studies Division</b>								
5.1	Assessment of pollution status of selected fishery harbours in the Western and Southern province of Sri Lanka				1.000	2022-2022	New	1. Identified the status of water safety and quality of Fishery Harbours in Southern province. 2. Suitable recommendations to minimize harbour pollution. 3. Provide recommendations to relevant government authorities for sustainable management of Fishery Harbours
5.2	Investigation of causes for emergency incidents such as Oil Spills, algal blooms and fish kills (Emergency studies)	√	√	√	0.500	continuous	Ongoing	Reports and recommendations on mitigation of pollution and preventive measures for similar incidents in future.
<b>National Institute of Oceanography and Marine Sciences</b>								
6.1	Tuna fishing ground advisory and fisheries Information Service	√	√	√	0.300	continuous	Ongoing	Enhanced high seas fishery of Sri Lanka, with precision fishing, and high fish catch rates.
6.2	Maintenance of sea level station	√	√	√	0.330	continuous	Ongoing	1. Estimation of annual Sea level rise around Sri Lanka. 2. Establishing of Sea level and Meteorological observations network around the Sri Lanka 3. Development of oceanographic data base for research and national developments.

NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status	Expected Output
6.3	Offshore sand investigations in continental shelf of South- western coast			√	0.490	continuous	Ongoing	1. Qualification and Quantification of offshore sand deposit 2. Offshore sediment map of southwestern coast 3. Understanding the seasonal variability of beach profile, sediment grain size, foreshore slope and inshore wave forcing at SW coast of Sri Lanka. 3. Identifying spatial variation of Littoral Cutoff Diameter of sand on the wave-dominated micro-tidal beach.
6.4	Seasonal variability of ocean (boundary) current and other parameters around Sri Lanka				0.450	2022-2022	New	1. Capacity development for ocean current observation system. 2. Regional Ocean current database. 3. Development of the regional coastal current models to predict the change trend of the coastal currents. 4. Expanded Capacity building on measuring selected ocean parameters at laboratory and in situ monitoring. 5. Base line data report on selected bio-chemical ocean parameters in Sri Lankan marine waters.
6.5	Hydrology and water circulation of Lankapatuna Lagoon				0.430	2022-2022	New	1. Temporal and spatial variability of water balance, water renewal time, circulation, and zonation identification in the lagoon 2. Seasonal variation of salinity, TSS, nutrients and plankton 3. Temporal variations of Water Circulation in lagoon
<b>National Hydrographic Office</b>								
7.1	National Charting Programme	√	√	√	1.780	continuous	Ongoing	1. Fair Sheet of Nautical Chart from Colombo to Negombo with the scale of 1: 100,000 by 2022 2. Fair Sheet of Trincomalee to Kudremalai point with the scale of 1:300,000 by 2022 3. Fair sheet for covering 50% of Coastal Nautical Chart from little Basses Reef to Pulmoddai Roads by 2022 with the scale of 1: 300,000

NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status	Expected Output
7.2	Establishment of database and online data processing unit for Crowd Sourced Bathymetry parallel with the Sea Bed 2030 global mapping project of the General Bathymetric Chart of the Oceans (GEBCO)/Nippon Foundation		√	√	0.220	2020-2030	Ongoing	1.Bathymetry database around Sri Lanka 2.Map 3. Research Paper
<b>Socio Economic and Marketing Division</b>								
8.1	Value chain analysis of export oriented crustaceans and bivalves in Sri Lanka			√	0.900	continuous	Ongoing	Completed database, Final report
8.2	Extension services	√	√	√	0.100	continuous	Ongoing	Knowledge dissemination through, exhibitions and demonstrations
<b>Monitoring and Evaluation Division</b>								
9.1	Online information systems and internet Services	√	√	√	3.745	continuous	Ongoing	1. Developed IT infrastructure for data sharing, storing, online access to NARA website, Library, fish forecasting and sea levels around the country 2. Mail system
9.2	Library management and Services	√	√	√	0.100	continuous	Ongoing	Strengthening the collection and gathering information.
<b>Kapparithota Regional Research Center</b>								
10.1	Studying the suitability of deterrent pingers against depredation of hooked yellowfin tuna and assessment of marine mammal abundance				0.700	2022-2022	New	Publications and reports
<b>Panapitya Regional Research Center</b>								
10.2	Development of ornamental fish feed and ornamental fish cultures	√	√	√	0.400	continuous	Ongoing	Availability of economical feeds and technology for ornamental fish farmers.

NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status	Expected Output
<b>Rekawa Regional Research Center</b>								
10.3	Supporting livelihood development of selected inland and coastal fisher communities in Southern Sri Lanka				0.500	2022-2022	New	1. Increase survival rate of <i>M. rosenbergii</i> in culture based fisheries. 2. Data base maintenance on variation of water quality in Rekawa Lagoon. 3. Operation and maintenance of effective fish farming system to increase income of the fisher community.
<b>Negombo Regional Research Center</b>								
10.4	Impact of water quality and seasonal changes for cage culture sites in Negombo Lagoon			√	0.155	continuous	Ongoing	1.Publications -1 2.Recommendations to lagoon fishery regulations
<b>Kalpitiya Regional Research Center</b>								
10.5	Biological, fisheries and socio-economic aspects of Gastropod fisheries in the Manar and Puttalam districts in Sri Lanka				0.800	2022-2022	New	1.Recommendations to prepare a management plan of gastropod fishery resource in the concerned waters in a sustainable manner 2. Recommendations to prepare regulations to control the fishing effort, fishing time, seasonality, minimum size restrictions, etc. when required to avoid the depletion 3. Long term fishery development plans towards the socio-economic improvement of fishing community and optimal economic benefits 4. Scientific records of gastropod species 5. Resource utilization time series data 6. Scientific publications and reports
10.6	Studies on some biological aspects on fyke-net fishery in selected fishing grounds in Puttulum Lagoon				0.100	2022-2022	New	1. To find out the importance of fyke net fishing in Puttalam lagoon fishery. 2. T find out the species composition and seasonality of catch. 3. To study the maturity of fish that entangled in fyke net fishing. 4. Map the fyke net fishing area in Puttalam lagoon. 5. To find out the information related to fyke net fishing net fishing gear and its operation patterns.

NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status	Expected Output
<b>Service and Operation Division</b>								
11.1	R.V. samurdhrika	√	√	√	2.500	continuous	Ongoing	1. Offshore and Near Shore Bathymetry for Production of Navigational charts. 2. Oceanographic and Geophysical Data for Scientific Research and Decision Making 3. Chemical and Biological Data for Scientific Research
<b>Research and Development (Total) - 2507</b>					<b>25.000</b>			
12.1	Rehabilitation of capital assests	√	√	√	<b>3.000</b>	continuous	Ongoing	Better infrastructure facility at NARA and RRC's
12.2	Acquisition of capital assests	√	√	√		continuous	Ongoing	Sophisticated equipment for research and development
<b>Public Institutions -2201</b>					<b>10.00</b>			
<b>Total Capital (2022)</b>					<b>35.00</b>			
13	Environmental damage assessment of X-Press Pearl ship fire accident				<b>15.00</b>	2022-2022	New	

## ANNUAL ACTION PLAN - 2022

Ministry of Fisheries / State Ministry of Ornamental Fish, Inland Fish & Prawn Farming, Fishery Harbour Development, Multiday Fishing Activities and Fish Exports (SM)  
NATIONAL AQUATIC RESOURCES RESEARCH AND DEVELOPMENT AGENCY (NARA)

NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status
<b>Inland Aquatic Resources and Aquaculture Division</b>							
1.1	Development of aquaculture and health management to enhance fish production in Sri Lanka	√	√	√	2.000	2021-2022	Ongoing
1.2	Enhancement of export-oriented aquaculture industry in Sri Lanka through development ornamental fish, aquatic plants and sea weed culture technology	√	√	√	1.000	2021-2022	Ongoing
<b>Marine Biological Resources Division</b>							
2.1	Monitoring and assessment of coastal fishery resources	√	√	√	1.500	continuous	Ongoing
2.2	Monitoring and assessment of large pelagic fishery resources	√	√	√	1.500	continuous	Ongoing
<b>Fishing Technology Division</b>							
3.1	Feasibility study on modification of existing gill nets to fulfill IOTC resolution and promote Pole and line for Skip Jack Tuna				0.500	2022-2022	New
<b>Institute of Post Harvest Technology</b>							
4.1	Enhancement of quality of fish handled in the supply chain			√	2.300	2021-2022	Ongoing
4.2	Introduction of ready to eat fish-based snack products and liquid fertilizer to Sri Lankan market and popularization				0.700	2022-2022	New
<b>Environment Studies Division</b>							
5.1	Assessment of pollution status of selected fishery harbours in the Western and Southern province of Sri Lanka				1.000	2022-2022	New
5.2	Investigation of causes for emergency incidents such as Oil Spills, algal blooms and fish kills (Emergency studies)	√	√	√	0.500	continuous	Ongoing
<b>National Institute of Oceanography and Marine Sciences</b>							
6.1	Tuna fishing ground advisory and fisheries Information Service	√	√	√	0.300	continuous	Ongoing
6.2	Maintenance of sea level station	√	√	√	0.330	continuous	Ongoing
6.3	Offshore sand investigations in continental shelf of South- western coast			√	0.490	continuous	Ongoing
6.4	Seasonal variability of ocean (boundary) current and other parameters around Sri Lanka				0.450	2022-2022	New
6.5	Hydrology and water circulation of Lankapatuna Lagoon				0.430	2022-2022	New
<b>National Hydrographic Office</b>							
7.1	National Charting Programme	√	√	√	1.780	continuous	Ongoing
7.2	Establishment of database and online data processing unit for Crowd Sourced Bathymetry parallel with the Sea Bed 2030 global mapping project of the General Bathymetric Chart of the Oceans (GEBCO)/Nippon Foundation		√	√	0.220	2020-2030	Ongoing
<b>Socio Economic and Marketing Division</b>							
8.1	Value chain analysis of export oriented crustaceans and bivalves in Sri Lanka			√	0.900	continuous	Ongoing
8.2	Extension services	√	√	√	0.100	continuous	Ongoing
<b>Monitoring and Evaluation Division</b>							

NO.	Project	Allocation 2019(Rs. Mn)	Allocation 2020(Rs. Mn)	Allocation 2021 (Rs. Mn)	Allocation 2022 (Rs. Mn)	Project Duration	status
9.1	Online information systems and internet Services	√	√	√	3.745	continuous	Ongoing
9.2	Library management and Services	√	√	√	0.100	continuous	Ongoing
<b>Kapparithota Regional Research Center</b>							
10.1	Studying the suitability of deterrent pingers against depredation of hooked yellowfin tuna and assessment of marine mammal abundance				0.700	2022-2022	New
<b>Panapitya Regional Research Center</b>							
10.2	Development of ornamental fish feed and ornamental fish cultures	√	√	√	0.400	continuous	Ongoing
<b>Rekawa Regional Research Center</b>							
10.3	Supporting livelihood development of selected inland and coastal fisher communities in Southern Sri Lanka				0.500	2022-2022	New
<b>Negombo Regional Research Center</b>							
10.4	Impact of water quality and seasonal changes for cage culture sites in Negombo Lagoon			√	0.155	continuous	Ongoing
<b>Kalpitiya Regional Research Center</b>							
10.5	Biological, fisheries and socio-economic aspects of Gastropod fisheries in the Mananr and Puttalam districts in Sri Lanka				0.800	2022-2022	New
10.6	Studies on some biological aspects on fyke-net fishery in selected fishing grounds in Puttulum Lagoon				0.100	2022-2022	New
<b>Service and Operation Division</b>							
11.1	R.V. samurdhrika vessel operation	√	√	√	2.500	continuous	Ongoing
<b>Research and Development (Total) - 2507</b>					<b>25.000</b>		
12.1	Rehabilitation of capital assets	√	√	√	3.000	continuous	Ongoing
12.2	Acquisition of capital assets	√	√	√		continuous	Ongoing
<b>Public Institutions -2201</b>					<b>10.00</b>		
<b>Total Capital (2022)</b>					<b>35.00</b>		
13	Environmental damage assessment of X-Press Pearl ship fire accident				15.00	2022-2022	New