FAO Technical Assistance (GCP) Project

Cover Page

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EXECUTIVE SUMMARY

The Islamic Republic of Iran, the Republic of Iraq, and the State of Kuwait share the marine waters of the northern Persian Gulf and enjoy its rich fishery and potential for marine cage and shrimp culture. These countries have recently recorded declining catches from the marine waters and a realisation that improved collaborative management is essential to protect the stocks from over-exploitation. There have also been problems with marine finfish aquaculture in Kuwait and shrimp aquaculture in Iran. There is the potential to increase production from aquaculture, but this requires greater knowledge and technological developments. Iran, Iraq and Kuwait have worked together during tripartite meetings held in 2009–2011 to prepare the groundwork for a cooperative project known as the "*Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI*" or the "*Initiative*" in short. This project will jointly assess marine fisheries and marine cage and shrimp culture in the sub-region by cooperatively exchanging information and data. This will allow the three countries to focus on various common issues and, through the Regional Commission for Fisheries (RECOFI), or by bi-lateral and/or multi-lateral agreements, to harmonise measures throughout the sub-region that will be consistent with the Code of Conduct for Responsible Fisheries (CCRF) and its associated Technical Guidelines and Plans of Action.

The Initiative project was further developed during a field visit to Iran, Iraq (at the FAO Iraq Office in Jordan) and Kuwait in December 2011 and is based as far as possible on the original concepts developed by the three countries during their tripartite meetings. The project will be implemented by FAO over a two-year period and contains elements that can be completed during that time span and elements that require further planning and support. The purpose of the project is to stimulate cooperation and it is agreed that this is best achieved by addressing real and significant issues that are presently facing fisheries and aquaculture in the sub-region.

The project will work with three fisheries departments to coordinate work on the shared stocks of silver pomfret *Pampus argenteus*, hilsa shad *Tenualosa ilisha*, and penaeid shrimps, following the minimum data reporting requirements adopted by RECOFI in 2011. This will be supported by research projects on hilsa shad and fishing gear impacts so that management measures are underpinned by a strong science base. The cooperative work will lead to an improved understanding of stock status and to better and harmonised management measures that can be proposed to RECOFI. The project will also work with Iran, Iraq and Kuwait on Illegal, Unreported and Unregulated (IUU) fishing issues and on the supporting use of Vessel Monitoring Systems (VMS) and port State control procedures, to ensure that management measures are respected. The international nature of the shared fishery will again mean that the support of RECOFI is fundamental to reduce or eliminate IUU fishing in the sub-region. A third component is in the harmonisation and simplification of the regulations on fish trade and markets that are not overly restrictive and encourage the positive benefits associated with trade. The components require that the fisheries departments, as part of their regular program, prepare documentation and collect appropriate high quality data that can be shared and analysed at project workshops. Some of the work components will be undertaken in participatory meetings with vessel owners, masters and buyers to ensure measures are consistent with the needs of all the stakeholders.

The marine cage and shrimp culture in the sub-region is mainly in the hands of the private sector, though often with favourable Government support and loans. Both are currently facing difficulties and it is realised that information sharing and technology advance would help to identify solutions. To achieve this, the project will hold a symposium, which will include side-events, with participants invited from the research, management, private and industry sectors. It is hoped that the bringing together of the different stakeholders will result in useful cross-fertilisation of knowledge and information necessary to stimulate growth in the aquaculture industry.

It is also appreciated that the fisheries infrastructure in Iraq has suffered over the past 25 years. The Government fisheries sector is in need of rehabilitation and the marine branch in Basra in particular. The project will work with the Government fisheries department to develop a support package for the rehabilitation of its marine capacity. This will proceed along with the work on the fisheries and aquaculture development in the northern Persian Gulf.

Contents

Acronyms

ADG	Assistant Director General (Fisheries and Aquaculture Department, FAO)
CCA	Common Country Assessments
CCRF	Code of Conduct for Responsible Fisheries
CWP	Coordinating Working Party on Fishery Statistics
DSA	Daily Subsistence Allowance
EAF	Ecosystem approach to fisheries
FAO	Food and Agriculture Organization of the United Nations
RNE	FAO Regional Office for the Near East and North Africa
GBFD	General Board for Fisheries Development, Iraq
GCP	Government Cooperative Programme
IFO	Iran Fisheries Organization (SHILAT), Iran
IFRO	Iran Fisheries Research Organization, Iran
IUU	Illegal, Unreported and Unregulated
KISR	Kuwait Institute for Scientific Research, Kuwait
LTO	Lead Technical Officer (FAO)
LTU	FAO Lead Technical Unit (FAO)
MCS	Monitoring, Control, and Surveillance
MDGs	Millennium Development Goals
MSC	Marine Science Centre, Basra, Iraq
NGOs	Non-Governmental Organization
NMTPF	National Medium Term Priority Framework
PAAF	Public Authority of Agriculture Affairs and Fish Resources, Kuwait
RECOFI	Regional Commission for Fisheries
RFB	Regional Fishery Body
UN	United Nations
UNCLOS	UN Convention on the Law of the Sea, 1982
UNDAF	United Nations Development Assistance Framework
UNFSA	UN Fish Stock Agreement, 1995
UTF	Unilateral Trust Fund
VMS	Vessel Monitoring System
Y1, Y2	Year 1, Year 2 (of project)

1. BACKGROUND

1.1. GENERAL CONTEXT

The Islamic Republic of Iran, the Republic of Iraq, the State of Kuwait (hereinafter respectively Iran, Iraq and Kuwait) have significant and shared interests in fisheries and aquaculture in the northern area of the Persian Gulf. These activities provide important sources for employment in the coastal areas and an important source of high-quality protein in the diet. There are also significant trade aspects with Kuwait and Iraq importing fish to satisfy demand, and Iran exporting fish and fish-products to markets within and outside the sub-region. These three countries, though neighbours, are however very different with respect to their fishery and aquaculture operations, and would benefit from enhanced cooperation and knowledge sharing.

The 28th Near East Regional Conference requested FAO to "*further strengthen collaboration among Member Countries of the Regional Commission for Fisheries (RECOFI) in its areas of competence and encourage the provision of assistance to Iraq in rebuilding and rehabilitating its fisheries institutions and infrastructure*"[1]. The 30th Near East Regional Conference called upon Member Countries to "*Strengthen the Regional Fisheries Commissions, particularly RECOFI in order to ensure sustainable fisheries management and aquaculture development, including the socioeconomic component*" and requested FAO to "*Continue providing technical support to enhance cooperation among Islamic Republic of Iran, Iraq and Kuwait related to the FAO/RECOFI initiative for sustainable fisheries management by applying the Ecosystem Approach to Fisheries*" and to "*Continue providing technical assistance to enable Member Countries abide with international fish trade and stand against Illegal, Unreported and Unregulated (IUU) fishing*."[2].

The management of fisheries and aquaculture throughout the Persian Gulf and Sea of Oman, with the exception of internal waters, is formally coordinated by RECOFI through its members since 2001. RECOFI, and particularly the Working Group on Fisheries Management, the Working Group on Aquaculture, and the RECOFI Secretariat, have been proactive in promoting various fisheries and aquaculture monitoring, management and research programmes. Iran, Iraq and Kuwait are members of RECOFI and would benefit from a closer cooperation in the northern sub-region of the Persian Gulf. The Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI (hereinafter "Initiative") project will provide the forum and necessary expertise to develop this cooperation.

The annual catch of marine fish and shellfish (excluding tuna and other large pelagic species) from the Persian Gulf (FAO Statistical Area 52.2) by Iran, Iraq, and Kuwait, in 2009 was estimated at 122 893, 12 246 and 4 373 t, respectively[3]. These were caught by demersal trawls (that target mainly Penaeid shrimp and fully utilise the bycatch), traps (known locally as gargoor), and bottom-set and pelagic gillnets. The dominant species or species groups are demersal shrimps, croakers, groupers, and the pelagic or semi-pelagic mullets, sea breams, shad, pomfret and mackerels. However, there are actually some 70 or more species landed with 20–45% of the marine catch being recorded as "unidentified marine fish". Iran is the only country of the three to exploit the large pelagic species in the Persian Gulf and currently lands around 50 000 t annually.

The Government support to fisheries is also very different in the three countries. Iran has a large well supported Government fishery infrastructure that provides many state subsidies and operates within its policy framework and legislation. Kuwait's fishery is smaller and operated by the private sector, and is also supported by a good Government fishery infrastructure. The Government infrastructure in Iraq, and the facilities available to it, has suffered greatly over the past 25 years and is in desperate need of rehabilitation and rebuilding.

The fishery legislation and policies of all three countries tend to be orientated towards increasing production from marine capture fisheries and aquaculture. The legislation requires landing to be monitored and all three countries make annual returns to FAO that can be downloaded using the FishStatJ[3] software. There are little or no requirements to follow the ecosystem approach to fisheries (EAF) or the FAO Code of Conduct for Responsible Fisheries (CCRF). The countries all report concerns regarding declining marine fish stocks and difficulties in maintaining high catch rates. Unfortunately the stock monitoring programmes, despite repeated requests from RECOFI, have not been of sufficient quality to adequately monitor stocks and track population size. The monitoring programmes are orientated towards recording the quantities of fish landed, and it has long been known that landings can be a poor indicator of stock size and stock health. It is timely to ensure that main stocks are properly assessed, that appropriate management plans are developed and enacted, and that stocks are rebuilt as necessary and harvested in a sustainable manner that safeguards the environment. This requires

[1] ftp://ftp.fao.org/docrep/fao/meeting/011/j8361e.pdf, p. 49
[2] http://www.fao.org/docrep/meeting/021/MA068E.pdf, p. 45
[3] FAO Fisheries and Aquaculture Department, Statistics and Information Service FishStatJ: Universal software for fishery statistical time series. http://www.fao.org/fishery/statistics/software/fishstatj/en. Release 1.0.1 (March 2011 RECOFI dataset)

coordination among the three countries, and an improved integration of the relevant sections of the United Nations fisheries conventions and agreements into national legislation and policies. This can be achieved with the assistance of RECOFI.

1.2. SECTORAL CONTEXT

1.2.1. Development Priorities and MDGs

The World Bank classifies Iran, Iraq, and Kuwait as having, respectively, upper-middle, lower-middle, and high income economies[4]. Further, FAO classifies Iraq as a low-income food-deficit country[5]. All three countries are members of the UN and therefore support the UN MDGs[6]. The targets of immediate relevance to this project are:

> UN MDG GOAL 7: Ensure Environmental Stability (Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources; Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss); and
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> UN MDG GOAL 8: Develop a Global Partnership for Development (Target 8.A: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system; Target 8.B: Address the special needs of least developed countries; Target 8.F: In cooperation with the private sector, make available benefits of new technologies, especially information and communications)

The indicator most relevant for Goal 7B was introduced in 2007 and is "*proportion of fish stocks within safe biological limits*" that is classified as fully exploited, moderately exploited, recovering, underexploited, overexploited and depleted[7,8]. The first and second national MDG reports for Iran (2004[9], 2006[10]) were compiled prior to the introduction of the fish stocks indicator and no more recent reports have been published. The national MDG reports for Kuwait (2010[11]) notes that there is no reliable information to identify fish stock status. Iraq has not provided an MDG report to the UN. Iran in their 2004 report asked that "*International development agencies can support the Government and NGOs concerned to overcome the aforesaid challenges in framework of the following initiatives. (1)*[...]. *(2) Assisting the establishment of a comprehensive national and regional environmental information system. (3) Providing technical advice for carrying out programmes on protecting biodiversity and natural resource projects.*" Information is lacking for the marine environment to report on another Goal 7 indicator relevant to this project "*proportion of terrestrial and marine areas protected*" (originally and as described in the Iran reports "*ratio of area protected to maintain biological diversity to surface area*"). However, both Iran and Kuwait have fishing regulations that identify temporal and seasonal closures that afford some degree of protection to commercial fish species. But again, without proper monitoring of stock size, it is not possible to know how effective these are. Again, detailed information is not available to assess the final relevant indicator to Goal 7 "*Proportion of species threatened with extinction*". The indicators for Goal 8 are not well covered or not considered fully relevant, in the reports from Iran and Kuwait. Iran and Kuwait both note that they have been significant donors and provided assistance to developing countries.

The fisheries policies of both Iran and Kuwait support the MDGs in general terms. However the lack of any monitoring of stock size is a serious impediment in assessing MDG targets and also in monitoring the impact of the fishery. The monitoring of fish stocks and the fishery in Iraq appears to have virtually ceased in recent years, and it is vital that this be re-established.

The most significant regional programme and a supporter of this project is RECOFI that was established under an FAO agreement 1999 and came into force in 2001 to manage fisheries and aquaculture throughout the Persian Gulf and Sea of Oman, with the exception of internal waters. The Commission in 2007, at the 4th Session of RECOFI, "*expressed its support to all efforts taken to rebuild and rehabilitate the fisheries institutions in Iraq and regretted in this respect the absence of the Iraqi delegation from this Session.*" and "*The*

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[4] http://data.worldbank.org/country (viewed June 2012)
[5] http://www.fao.org/countryprofiles/lifdc.asp (viewed June 2012)
[6] http://www.un.org/millenniumgoals/ (viewed June 2012)
[7] Official List of MDG indicators. http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm (viewed March 2012)
[8] Proportion of Fish Stocks within their Safe Biological Limits. http://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets/oceans_seas_coasts/fishstocks.pdf (viewed March 2012)
[9] The First Millennium Development Goals Report 2004: Achievements and Challenges. http://www.undg.org/archive_docs/5457-Iran_MDG_Report.pdf p. 38 (viewed June 2012)
[10] The Second Millennium Development Goals Report of the Islamic Republic of Iran 2006. http://www.undp.org.ir/doccenter/mdgs/Iran%20MDGs%20Report%2006-English.pdf (viewed March 2012)
[11] State of Kuwait The Millennium Development Goals Country Progress Report 2010. http://www.undg.org/docs/11526/MDG-R-2010.pdf (viewed March 2012)

Commission hoped that Iraq will resume participating at the future sessions of RECOFI and stressed that it would welcome further information from Iraq on the most immediate needs concerning the efforts taken to rebuild and rehabilitate its fisheries institutions."[12]. The response given at the 5th Session in 2009 was "*The delegate of Iraq with the support of the delegates from Islamic Republic of Iran and Kuwait requested the Secretariat to facilitate sub-regional cooperation among the three countries to address fisheries issues of common concern, including IUU fishing. After considerable discussion on the matter, the Commission agreed that the Secretariat should support, on an ad hoc basis, a sub-regional meeting among the three Members with the view to promote enhanced cooperation. The Commission agreed further that the Secretariat should liaise directly with the three Members concerning arrangements for the meeting*"[13]. The Commission at the 6th Session in 2011 "*welcomed progress achieved with this initiative on fisheries management cooperation in the Northern area of RECOFI that involved three Members (Iran [Islamic Republic of], Iraq and Kuwait). The Commission stressed the value of such collaboration and requested FAO and the RECOFI Secretariat to continue supporting the initiative*."[14].

1.2.2. CCA, NMTPF and UNDAF

The United Nations Common Country Assessments (CCA), the United Nations Development Assistance Framework (UNDAF) and the National Medium Term Priority Framework (NMTPF) for Iran and Iraq have been adopted or drafted.

Iran

The CCA for Iran[15] is generally positive, especially as regards to progress over the past 30 years made with human development indictors, use of science and technology, and support to refugees. Certain issues have been highlighted that are relevant to this current fisheries project and are worth reiterating here. Firstly, it is noted that "*limited coverage and delayed publication of official documents makes the analysis of the developmental situation difficult*". This has implications for fisheries management that relies on up-to-date data made available in a timely manner. The CCA further "*notes that Economic growth has been insufficient for the state to fund adequate environmental protection policies*". There was also a call for "*greater transparency and accountability in public administration*" which although not directed at the fisheries administration, does emphasis the need for complete transparency for working with RECOFI and undertaking any shared fisheries management measures. Also, it is noted that "Successes in health, education and the economy are constantly threatened by environmental deterioration" and that "*Raising environmental consciousness and adopting stronger policies may enable Iran to reduce or reverse the damage already done and ensure environmental sustainability (MDG 7).*". Again, though this was not directed directly at fisheries or aquaculture in the CCA, the relevance is clearly apparent.

The UNDAF 2012–2016 for Iran[16] highlights concerns about the negative effects of climate change and environmental degradation. "Environmentally Sustainable Management" is one of five identified priorities for UN support and states that "*National, sub-national and local capacities are enhanced to ensure 1) integrated management, conservation and sustainable use of marine and terrestrial ecosystems, natural resources and biodiversity*". Also "*In line with the provisions of the Fifth NDP, the United Nations System will contribute to the efforts of I.R. Iran to further integrate environmental considerations into decision making at national, sub-national, and inter-sectoral levels. Participatory and innovative approaches to environmental and natural resource management will continue to be promoted, piloted and as appropriate, upscaled, building on the achievements of the previous UNDAF.*" The NMTPF for Iran's Agriculture Sector[17] identifies increased sustainable potential from fisheries and aquaculture "*The country has a tremendous potential for expanding fishery activities. Caspian Sea in the north, Persian Gulf and Oman Sea in the south, as well as inland natural and semi-natural water bodies and rivers, offer considerable scope for expansion of marine fisheries, cold and warm water aquaculture and inland fish catch. Yet, due to lack of proper coordination and link up of research, resource use management, quality control, processing and marketing, the development of fish resources, their conservation and sustainability of production remain suboptimal.*". Increased production from the sea is unlikely to be a reality given recent concerns about stock declines, and Iran is actually hoping just to maintain current catches of wild marine fish constant over the next five years. The point is certainly well taken with respect to aquaculture and knowledge transfer is likely to yield benefits here.

Iraq

[12] ftp://ftp.fao.org/docrep/fao/010/a1628b/a1628b00.pdf, paras,63 & 64.
[13] http://www.fao.org/docrep/012/i1099b/i1099b00.pdf, para. 17.
[14] http://www.fao.org/docrep/014/i2377b/i2377b00.pdf, para. 45
[15] http://www.un.org.ir/documents/CCA_document.pdf
[16] http://www.undg.org/docs/12167/UNDAF-final-version-signed-27-Sep-2011.pdf
[17] ftp://ftp.fao.org/TC/TCA/NMTPF/Country%20NMTPF/Iran/Status/Draft.pdf

The development of the CCA and UNDAF process has only been possible since 2007, and is taken as being indicative of a better future for Iraq. The picture for Iraq from the CCA[18] is very different owing to the political climate in Iraq. Priorities are set at developing governance, inclusive economic growth, and ensuring quality essential services, that are appropriate and urgent requirements for rebuilding a once well-developed country. The CCA notes that "*If the MDGs are to be achieved in Iraq by 2015, a massive scaling-up is needed in delivery of basic services and resources for development. This requires a considerable improvement in the current capacity to plan and manage development programmes and coordination of resources.*"

The UNDAF for Iraq (2011-2014)[19] identifies as its third priority "*Environmental management and compliance with actions taken on ratified international environmental treaties and obligations*". The report notes that "*While economic growth is critical to human development, it must take into account safe environmental practices to preserve natural resources for future generations as well as protect the health and welfare of the people as reflected by MDG 7. Over the past decades, Iraq's environment has suffered greatly from the impact of poor policies regarding pollution and resource management, and natural and man-made disasters, including flooding, conflict and physical infrastructure deterioration. Iraq currently faces drought, desertification, and increasing soil salinity in what was once the breadbasket of the region.*" and "*Blessed with rich biodiversity and natural resources, Iraq is recognizing that exploitation of its natural resources must be accompanied by safeguards. The GoI has identified environment as a priority within the NDP, in order to meet international treaty obligations, and ensure that its plans for economic and human development include environmental considerations.*"

Kuwait

The harmonised programme cycle has not been performed for Kuwait owing to the limited presence of UN Agencies in this country.

1.3. SECTORAL POLICY AND LEGISLATION

1.3.1. National Legislation

Iran

In Iran, sectoral policy in fisheries is administered by the Iran Fisheries Organization (the "Shilat") under the Ministry of Jihad-e-Agriculture. The current national fisheries legislation is the Law of Protection and Exploitation of the Fisheries Resource (1995)[20] that clearly identifies the Shilat as the responsible organisation with functions ranging from monitoring, research, development, management, conservation, licensing, insurance, ports, access rights of foreign vessels, and protection of the fishery resource (capture fisheries and aquaculture). Management measures highlighted in the law relate to gear restrictions, seasonal and temporal closed areas and to minimum fish landing sizes. The Shilat is also given powers of prosecution in the event of non-compliance. There is indicated in this law, under a provision in Article 3, that it must not contradict the duties and powers of the [Iran] Environmental Protection Organisation, but this is the only reference to safeguarding the environment from the acts of commercial fishing operations. Restrictions regarding responsible aquaculture are in place with respect to land usage, water usage, disease control and pollution. Article 14 explains that resource management should be developed on the basis of scientific research and guarantee the sustainable utilisation of the fishery resource. There are, in addition, a number other relevant national laws that impinge on the fishery and the marine environment. For example, the Environmental Protection and Enhancement Act (1974), the Law of Protection of the Sea and Internal Water Bodies against the Oil and Oil Products Pollution (1975), Law of Environmental Protection against Water Pollution (1984), the Law of Environmental Protection and Development (1991), and others. These are generally administered by other sectors with apparently only weak linkage to the marine fisheries sector, and this does have a bearing on how many of the wider issues within fisheries management and the CCRF could be implemented, especially within the marine environment that is not the principal focus of many of the Government departments including the Iran Environmental Protection Agency.

The Government of Iran operates under 5-year strategic plans with the 5th 5-year plan in force from 2010–2014. A translated text of this plan has not been sourced, but through discussion and reference to other documents it appears that the main focus of the 5th 5-year plan is to increase fish production. This is to be achieved through increased in private sector involvement, increased production from capture fisheries and aquaculture, stricter control of IUU fishing activities, habitat restoration, and stock rehabilitation through enhancement programmes and improved management. Discussions with scientists in the Khozistan province indicate that it is realised that

[18] http://www.undg.org/docs/11398/CCA_Final.pdf
[19] http://www.undg.org/docs/11399/UNDAF_May-17_english.pdf
[20] http://faolex.fao.org/docs/pdf/ira16944E.pdf (English translation)

maintaining current marine catch levels may be a more realistic goal and even this may require expansion into new fishing areas. The ultimate aim is to increase the *per capita* consumption of fish, stabilising the socio-economic component, increasing legal trade and stimulating economic growth.

Iraq

In Iraq, sectoral fisheries policy is administered by the General Board of Fishery Resource Development under the Ministry of Agriculture and is currently mainly concerned with restoration and development of inland waters and freshwater aquaculture. This likely reflects the relatively short coastline that limits marine fishing opportunities relative to the large land area providing for inland fisheries and aquaculture. Nevertheless, the importance of commercial marine fisheries is recognised. The main marine fisheries centre is at the Department of Agriculture in Basra, Basra Governorate, and this is supported by research undertaken at the Marine Science Centre, Basra. The current fisheries law (1976)[21] has been recently reviewed by Kuemlamgan (2011)[22] who noted that it primarily relates to aquaculture, inland fisheries and marketing, though marine fisheries is mentioned. The law prohibits destructive fishing methods, gears that may damage eggs and fry, and pollutants deleterious to aquatic life (Articles 1 & 3). The law also introduce management concepts by means of close seasons, prohibited areas, types of fishing gears and its measurements, minimum sizes to be caught, the recording of catches, and effort restrictions by way of limiting the number of licences (Articles 2, 12, 14 & 15). The law gives special privileges to scientific research (Article 2.2, 2.3) and recognises the importance of data collection and requires that each sea fishing harbour should keep records of fishing boats, fishermen and quantities of various kinds of fish caught (Article 13). The law, though very outdated, does contain some important elements to manage fisheries.

Kuwait

In Kuwait, sectoral fisheries policy is under the control of the Public Authority of Agriculture Affairs and Fish Resources and aims at providing sufficient fresh fish to satisfy local demands at affordable prices. There is a realisation that local marine fish stocks are suffering from stock decline due to overfishing and measures are being taken to reduce fishing mortality through seasonal and temporal closures and restricting the number of vessels fishing. The Conservation of Fisheries Resources law (1980)[23] is generally concerned with marine fisheries and the licensing of various activities. The law defines the right of Kuwait to fish and exploit living animals and plant marine resources in the inland and territorial waters, and also at the bottom of the continental shelf. The law contains clauses on gear stipulations, minimum catch sizes, minimum mesh sizes, species prohibitions, prohibits damage to marine weeds, plants, and/or others used by fish as shelters, identifies closures, refers to quantities of fish that may be caught at certain seasons, and regulates catch records by vessels. There have been a number of decrees since 1980, for example the prohibition of fishing within 3 miles of the coast (1983) and measures to restrict the number of fishing vessels (1985).

A summary of the above national fisheries laws is that all three countries have the "basic" legislation in place to manage marine commercial fisheries. These laws were all drafted at a time when increasing fisheries production was seen as the primary target and are consistent with this. Twenty to thirty years on, the interpretation of these laws by the three countries is still largely production orientated, even though the international fisheries community has attempted to move towards an ecosystem approach. It is probably reasonable to say that there is nothing in these national legislations that prohibits the application of an ecosystem approach, but there is also nothing "proactive" that encourages this concept. Another concern is that the laws stipulate various measures that aim to reduce fishing mortality (closures, minimum mesh size, minimum fish size, fleet capacity reductions, etc.), but that there are no measures in place to monitor stock size. This means that the effectiveness of the effort reduction and technical measures cannot be assessed, and neither can progress towards the MDG targets to reduce biodiversity loss and the rate of decline in the "Proportion of fish stocks within safe biological limits".

1.3.2. International conventions and agreements

Also relevant to this current project are the UN Convention on the Law of the Sea (UNCLOS, 1982) and the UN Fish Stock Agreement (UNFSA, 1995). Iran has signed, and Iraq and Kuwait have ratified, the UNCLOS agreement, and Iran has ratified UNFSA. There is currently no agreed EEZ between Iran, Iraq and Kuwait, and therefore there is currently a region of marine waters outside of the 12 nmile territorial limits where the fisheries needs to be managed through bilateral or multilateral agreements. UNLCOS defines the Persian Gulf as a semi-enclosed sea, and as such Iraq and Kuwait have agreed to Article 123 of UNCLOS, that states:

Cooperation of States bordering enclosed or semi-enclosed seas

[21] http://faolex.fao.org/docs/pdf/irq1673.pdf
[22] Kuemlangan, B. 2011. A Proposed Fisheries and Aquaculture Legal Framework for Iraq. FAO – Iraq. 91 pp.
[23] http://faolex.fao.org/docs/pdf/kuw1786E.pdf

States bordering an enclosed or semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavour, directly or through an appropriate regional organization:

(a) to coordinate the management, conservation, exploration and exploitation of the living resources of the sea;

(b) to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment;

(c) to coordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area;

(d) to invite, as appropriate, other interested States or international organizations to cooperate with them in furtherance of the provisions of this article.

Iran, through the ratification of the UNFSA on the Conservation and Management of Straddling Stocks and Highly Migratory Fish Stocks have also agreed to cooperate in the management of shared stocks in their own territorial waters and through a regional fisheries body outside of this zone.

The Regional Fishery Body (RFB) RECOFI is an FAO Article XIV RFB and was formed by an agreement[24] among the member countries of the Persian Gulf and Sea of Oman region that entered into force in 2001. Iran, Iraq and Kuwait, are members of RECOFI. RECOFI has provided a forum for discussion and development of fisheries and aquaculture within its area of competence, and adopted at its 6th session in 2011 a recommendation concerning minimum data reporting requirements. Any fisheries management decisions that affect the regions beyond the 12 nmile limit would need to be adopted by RECOFI and mirrored in national legislation, to allow for the application of consistent measures throughout its area.

2. RATIONALE

2.1. PROBLEMS/ISSUES TO BE ADDRESSED

The northern part of the Persian Gulf has supported, and to a large extent still supports, a productive fishery. However, there are recent concerns that commercially exploited marine stocks have declined, though in many cases the officially published data is not of sufficient detail to accurately quantify this. Over-fishing and pollution are held responsible. Attention is now being given to accurately monitor catch and effort by national vessels and to reduce or eliminate both illegal fishing and illegal trade. It is recognised by Iran, Iraq and Kuwait that sharing information and cooperation is required to manage the fishery and safeguard the environment from the negative effects of the capture fisheries and marine cage and shrimp culture. Further, it is recognised that the fisheries infrastructure in Iraq has suffered over the past 25 years and is in need of support and rehabilitation. Tripartite meetings held in 2009–2011 (see section 2.4.4) previously identified as key issues the management of shared stocks, IUU fishing, marine cage and shrimp culture, and regional fish trade and markets. For the marine fishery, the cooperative management of the shared stocks of silver pomfret *Pampus argenteus*, hilsa shad *Tenualosa ilisha*, and penaeid shrimps, was emphasised. For marine aquaculture, it is finding suitable locations for cage culture, overcoming disease problems with penaeid shrimp, and looking for new opportunities to diversify through knowledge sharing.

RECOFI at its 6th session in 2011 highlighted the need for more extensive data sets on marine fisheries and adopted a minimum data reporting scheme in the RECOFI area[25]. The catch quantity information collected is sufficient for national catch and effort reporting, and to FAO in terms of their data requirements on NS1 forms operated under the CWP[26], but are not sufficient to monitor the impact of fishing on the biomass of the stocks.

The legislation and regulations regarding fisheries and aquaculture in Iran, Iraq and Kuwait, has been developed independently and some sections are in need of modernising to bring them in line with current norms for managing sustainable fisheries and aquaculture. Currently, there are many differences in the regulations of the three countries and this makes it harder to address issues relating to trade and IUU fishing. Harmonisation of legislation, through the coordination and adaption of fisheries and fishing regulations, including legislation that facilitates the fair trade of fish and fish products, is seen as vital to successful sustainable fisheries management in the region. This will be central to all the components and will underpin the work of the project over its two

[24] ftp://ftp.fao.org/FI/DOCUMENT/RNE/recofi_agreement_text.pdf
[25] http://www.fao.org/docrep/014/i2377b/i2377b00.pdf, p.18
[26] http://www.fao.org/fishery/cwp/handbook/T/en

year duration. Any proposals arising from the project's work on harmonisation will be suitable for national discussions and subsequent submission to RECOFI by one or more of the member countries.

2.1.1. Overview

This project document places the specific issues identified in the tripartite meetings within the framework of an FAO implemented project, and describes how collaboration among the three countries could address these issue. The main tasks are to:

- Review the current fisheries and trade regulations affecting the marine fisheries, and the shared stocks in particular, to ensure that they are consistent with the principals of modern fisheries management as outlined in various international instruments, the CCRF and related documents, and RECOFI;
- To create a forum for discussion to address the issues of (1) Shared stocks, (2) IUU fishing and VMS, (3) Marine cage and shrimp culture, and (4) Fish trade and markets.
- To ensure that the project supports (5) Government institutional development and organisational strengthening, and (6) Data sharing and data repository, as necessary to ensure an enabling environment within the Government departments and research institutes.
- To address specific concerns raised during the tripartite meetings within the context of thew above three bullet points.

The purpose of this project is therefore to facilitate solutions through cooperation and discussion that will result in sustainable fisheries and aquaculture whilst safeguarding the environment. The **immediate objective** is to develop a forum for discussion, data sharing and data analysis. The **medium term objective**, which could be realised by the end of the project, is to introduce a modern framework to fisheries management and trade regulations and thereby to develop solutions to the various issues identified by the three countries. The **longer term objective** is for Iran, Iraq and Kuwait to propose and adopt appropriate management measures or initiatives, through RECOFI or bilaterally, and to incorporate them into national guidelines or legislation as appropriate. If undertaken cooperatively, this should result in future increases in fisheries and aquaculture production.

2.1.2. Output 1: Shared Stocks

Iran and Kuwait monitor fishing effort and landings through sampling at the landing ports and logbooks. Sampling has virtually ceased in Iraq. The accuracy of these catch estimates is currently unknown owing to uncertainties arising from mainly IUU fishing. Further, these catch estimates are utilised to monitor production and there is little information on the state of these stocks. The 5th WGFM meeting of RECOFI identified, at their highest priority, a preparatory exercise for implementation of minimum data requirements and establishment of a regional database and information network to support management of major fisheries. This was a recognised prerequisite for monitoring stock size and for then estimating sustainable annual catch and/or effort levels. Fish stocks that straddle or migrate across national boundaries are known as shared stocks. For shared stocks, this must be undertaken cooperatively by the countries fishing and managing these shared stocks; such communication and shared data analysis is missing from countries of the northern Persian Gulf. The tripartite meetings identified three species to target in this project:

- Silver pomfret *Pampus argenteus*, a marine benthopelagic species living over muddy bottoms in 5–110 m of water. This is a high value species that is traded widely in the region, especially to the more lucrative Kuwait fish markets. Landings records show that Iran and Kuwait caught annual averages of 2 588 t and 1 409 t from 1999–2009, respectively. Iraq does not separately report catches of this species.
- Hilsa shad *Tenualosa ilisha* is an anadromous species that spends most of its life in the pelagic marine environment but migrates up rivers to spawn. Again, this is a high value species that is traded widely. Annual landings from 1999–2009 averaged 4 606 t, 770 t and 287 t for Iran, Iraq and Kuwait, respectively. Landings of both these species have declined in Kuwait, though no clear trends can be seen for Iran or Iraq.
- Marine penaeid shrimps, mainly Green tiger prawn *Penaeus semisulcatus*, Kiddi shrimp *Parapenaeopsis stylifera* and Jinga shrimp *Metapenaeus affinis*, form the third shared stock (or stock-complex) that is again traded widely both into Kuwait and exported to other markets in Europe and Asia. Annual landings from 1999–2009 were 6 604 t, 118 t, and 1 704 t for Iran, Iraq and Kuwait, respectively. There is no obvious trend through time.

2.1.3. Output 2: IUU Fishing and VMS

Iran, Iraq and Kuwait all have legislation on fishing in their national marine waters detailing licensing schemes, various technical measures describing the nature of the gears that can be deployed, and various spatial and temporal restrictions dealing with areas closed to fishing. For a variety of reasons, these rules are not always followed and the impacts of IUU fishing in the northern Persian Gulf is of serious concern. There are reports of vessels fishing in unauthorised areas with unauthorised gears, of unauthorised transhipments of catch, and of mis-reporting and poor catch monitoring. There are also concerns that unregulated fishing in international waters adjacent to the 12 nmile national limits is causing over-exploitation and the decline of stocks that are managed nationally in national waters. Due to differences in the timings of seasonal closures by national authorities, for example for silver pomfret and shrimp, it becomes harder to regulate trade and control imports of fish, and this can in fact even encourage IUU fishing. This is exacerbated by differences in market prices that occur among the three countries as fishing close to the lucrative markets brings greater financial reward. A further consequence of this is that illegal and unregistered transhipments of catch to national vessels of the countries with the lucrative markets have been reported, and this has implications for both trade and catch monitoring.

The above issues are further complicated by the lack of agreed EEZs in the northern Persian Gulf between Iran, Iraq and Kuwait. This does not stop the countries on agreeing to and setting regulations in international waters *via* RECOFI (or bilaterally), but it does take the issue out of direct control of a single national authority as would happen if EEZs were agreed (since there would no longer be any international waters in this area as the EEZs would be congruent). Though this project is not concerned with national boundary issues, there is a need to understand the current jurisdiction throughout the marine waters of the northern Persian Gulf and the implications this has for regulating the fishery in the "international" waters beyond the 12 nmile limits.

2.1.4. Output 3: Marine cage and shrimp culture

Marine cage and shrimp culture is largely in the private sector, but it is supported by the fisheries departments in a number of ways. The culture of marine shrimp is well developed in Iran and the production of Indian white prawn *Penaeus indicus* reached 8 903 t in 2004, but this has suffered recently owing to white-spot disease and production of this species in 2009 was only 990 t. The industry, though in a much reduced state, has been partially saved by switching to culture whiteleg shrimp *Litopenaeus vannamei* since 2006 and production of this species in 2009 was 4 138 t. Kuwait is better known for its modest but high value marine finfish cage culture that produced some 346 t in 2000, but since has encountered difficulties due mainly to water quality in Kuwait Bay and production in 2009 was down to an estimated 60 t. Kuwait is currently looking for alternative sites. Iran is showing increasing interest in farming cobia and groupers in marine cages. Iraq does not currently have any marine aquaculture production, with priority being currently given to re-establishing freshwater aquaculture production. However, there is interest and potential for marine shrimp farming in Basra Province. The marine shrimp farming in the coastal areas of Iran (and probably Iraq) is important for local livelihoods in areas where alternative employment is virtually absent.

2.1.5. Output 4: Fish Trade and Markets

The following issues are important and relevant to fish trade and markets in the sub-region: (1) Review of trade regulations, (2) Harmonisation of trade regulations, (3) Facilitating fisheries products trade, and (4) Establishing transaction points and common markets (at border lines). Regulations controlling these aspects of trade between Iran, Iraq and Kuwait, are often seen as complicated and restrictive, with poor associated documentation that imposes difficulties in both monitoring trade and in providing accurate catch documentation. The trade regulations also need to show much stronger links with the fishing regulations so that they support each other within the sub-region to stimulate both efficient trade and responsible fishing.

2.1.6. Output 5: Government Institutional Development and Organisational Strengthening

There are two types of Government support envisaged.

Firstly, there is little history of stock monitoring within the fisheries departments of the Governments of Iran, Iraq and Kuwait, even though field visits showed that appropriate CPUE data, length-frequency data, maturity data, etc, is currently collected for some species, at least by Iran and Kuwait. Sometimes these data are passed to the research institutes and a project undertaken to determine, for example, the stock status of pomfret[27]. However, these data do not appear to be collated or analysed in a regular and systematic way, and the project may have to assist the fisheries departments in developing the capacity to do this, possibly through stronger links to their research institutes. Similarly, it appears that the ecosystem approach and safeguarding the marine

[27] SARC/KISR. 2009. Stock Assessment of zobaidy, *Pampus argenteus*, in the north of Persian Gulf. IFRO, Tehran. 133 pp.

environment from the impacts of fisheries requires improved integration into the regular work of the fisheries departments. Again, support to develop this capacity maybe necessary. This is here referred to as institutional development.

Secondly, the fisheries infrastructure in Iraq has suffered over the past 25 years and is in need of rehabilitation. It is difficult to assess the extent of the support necessary to return the fisheries infrastructure to a fully functional system without visiting Iraq, which under the current UN travel restrictions is difficult. It is however known that the fisheries law requires modernising, the national plans for the marine and coastal fisheries sector needs to be developed, the communication between headquarters and the Government fisheries section of the Ministry of Agriculture, the infrastructure and staff support to marine fisheries in the Basra Governorate, and that the monitoring control and surveillance are all at very low levels. This project can work with the General Board for Fisheries Development in Iraq to develop a support package for organisational strengthening, that may include infrastructure support for landing sites, monitoring facilities, markets, etc, that can then be submitted for funding from an appropriate donor. This would be in addition to any institutional development support that can be provided.

2.1.7. Output 6: Data Sharing and Data Repository

It is well known that data are expensive to collect, verify and analyse. Data also have an owner which in the context of this project is likely to be the Government fisheries departments or research institutes. Furthermore, data can be sensitive and must often be treated as confidential for a variety of reasons. Fortunately, in recent years considerable progress has been made in the international fisheries community as regards protocols for sharing data. Data are not all of the same type and, following the EC data sharing protocol[28] as an example, can fall in to one of four main categories:

1. "Primary data" means data associated with individual vessels, natural or legal persons or individual samples;
2. "Meta data" means data giving qualitative and quantitative information on the collected primary data;
3. "Detailed data" means data based on primary data in a form which does not allow natural persons or legal entities to be identified directly or indirectly;
4. "Aggregated data" means the output resulting from summarising the primary or detailed data for specific analytic purposes.

Typically, Governments and research institutes are unwilling to share primary data, but quite willing to share aggregated or metadata. In general, it is sufficient to share, or at least maintain on open-access databases, aggregated data. However, individual researchers will often need to share the primary data, though in general this is not made publically available or even shared openly at workshops. Shared data also need to be stored in a secure database that has defined access rights. It will be necessary, early in the project, to develop a data sharing agreement and to identify an acceptable and secure location for the data storage.

2.2. STAKEHOLDERS AND TARGET BENEFICIARIES

The primary objective of this project is to create a forum for discussion among the Government policy makers, managers, and researchers of Iran, Iraq and Kuwait to solve various issues for the long-term sustainable benefit of the marine fisheries and aquaculture in the northern Persian Gulf. The project will be guided by the CCRF and the associated technical guidelines and plans of action. The project will strongly encourage the three countries to support and operate through RECOFI as the appropriate RFB in this sub-region.

The primary stakeholders in this project are the members of the Government fisheries departments and the fisheries research institutes and the primary target beneficiaries will be the fisheries departments and research institutes that will be in a better position to manage fisheries and aquaculture though improved cooperation and shared data sets.

The project will develop a participatory approach in three of the project components in order to discuss problems and management measures associated with IUU fishing, fish trade and markets, and marine cage and shrimp culture. The stakeholders involved will be vessel captains/owners, buyers and traders, industry and fish farmers. This will further develop the participatory concept with the fisheries managers and to generate a feedback mechanism that will allow management measures to better match the real situation and the needs of the fishers and farmers.

[28] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32008R0199:EN:HTML

In the longer term, and beyond the life of the project, it is hoped that the improved cooperation will improve the long-term sustainable fisheries and aquaculture yields. This will benefit *per capita* fish consumption and the social and economic wellbeing of those associated with fisheries and farming. And through this, will lead to some of the MDG targets being met.

2.3. PROJECT JUSTIFICATION

This project will provide a forum for development and discussion among various members of the Government fisheries departments (including administration, science and enforcement) under external guidance from appropriate international experts to assist in the development of solutions, consistent with CCRF, to a range of current issues. The output from the discussions will feed into and support RECOFI. No forum currently exists for these three countries to discuss these issues in an informal, friendly and cooperative setting.

In addition, the importance of working with the Government sector in Iraq, and supporting the rehabilitation and reconstruction of their once strong fisheries sector, is appreciated within this project. It is hoped that this project will develop a framework to accomplish mechanisms to achieve this.

2.4. PAST AND RELATED WORK

2.4.1. RECOFI

The main relevant previous work in the region is in the establishment of RECOFI as a forum for regional discussion within the fields of fisheries and aquaculture. FAO, and particularly the FAO regional office (RNE) based in Cairo, Egypt, have fully supported the development of RECOFI. RECOFI through its various Commission and working group meetings has developed general guidelines for the management of fisheries and aquaculture in the region and has adopted minimum data standards. It is the duty of the member countries to develop their own capacity so that they can follow these recommendations.

2.4.2. FAO Projects

In Iraq, FAO has recently completed a project with the Ministry of Agriculture on the "Restoration and Modernization of Fish production in Iraq" focusing on the resumption of large and small scale aquaculture, and has an ongoing project "*Towards Sustainable Development of Inland Fisheries in Iraq*" Part of this project involved an FAO study (OSRO/IRQ/704/UNDG), that has reviewed the 1976 Fisheries Law and a recent draft by the Board for a updated law, and also provided suggestions for how the laws may be re-drafted to be more consistent with various international fisheries instruments. There are also projects in the pipeline concerning the development of fish and shrimp in the salt waters of Basra Governorate, freshwater finfish cage culture, and a study to work on the rehabilitation of the Shatt al-Arab Delta. This is all evidence that the much needed development projects are starting up in Iraq.

It seems that FAO has had little recent active projects in either Iran or Kuwait. These are, respectively, upper middle and high income countries that would not be typical recipients of UN Project aid. This is perhaps a pity as both countries have fisheries sectors that are important within the region and need to have improved sub-regional and regional integration. An FAO UTF project in Iran, "Scientific and Institutional Cooperation to Support Sustainable Fisheries Management and Responsible Aquaculture Development" has a fully drafted project document but has not yet been implemented. Iran was a partner in the 2002-2008 FAO/GEF/UNEP Reduction of Environmental Impact from Tropical Shrimp Trawling through the Introduction of By-catch Reduction Technologies and Change of Management project.

2.4.3. National Research Projects

There have been some, although not many, joint Government research projects among scientists from all three countries. For example, the "*Stock Assessment of Zobaidy*" undertaken in 1992-1996 by IFRO, Iran, and KISR, Kuwait (see footnote 28 for reference).

2.4.4. The Tripartite Meetings

There have been a total of six tripartite meetings between Iran, Iraq and Kuwait convened under the auspices of the RECOFI Secretariat from 29 July 2009 to 11 October 2011 to discuss the "*Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI*". These meetings identified specific issues of importance within the fisheries and aquaculture sectors that need to be solved through sub-regional discussion and cooperation. The issues identified in the tripartite meeting[29] of 1-2 November 2010 and 30 March 2011 that are included in this project are: regulations and fishing grounds, statistical systems and fishing information,

[29] See under RECOFI Publications for meeting minutes. http://www.fao.org/fishery/rfb/recofi/en

IUU, research, aquatic animal trade, and marine aquaculture. The tripartite meetings agreed that focus should be directed towards the valuable shared stocks of silver pomfret *Pampus argenteus*, hilsa shad *Tenualosa ilisha*, and penaeid shrimp, that are targeted and traded by the three countries. These elements are all included in this project.

The tripartite meetings also identified three more subject areas that are not included in this project document. These were pollution control, critical habitat protection and rehabilitation, and marine accidents. These are all important issues but it is felt that their success is depended upon the more fundamental issues that are addressed by this project. Of particular note is "pollution control" that was mentioned extensively during the tripartite meetings. Pollution is a serious problem in the Persian Gulf, and strategies do need to be adopted by the three countries to reduce or elimination the sources of the pollution. However, it is not included in this project because it does not fit well with the mandate of the national fisheries departments. There are other national bodies responsible for pollution control and perhaps even other UN Agencies that are better suited to provide the necessary assistance. However, the FAO Guidelines on the human dimension of EAF[30]" stress the importance of multi-lateral agreements and cross-sectoral consultation and cooperation. It is recognised that the links between fisheries, environmental and pollution institutes/agencies need to be strengthened within the sub-region.

2.5. FAO'S COMPARATIVE ADVANTAGE

FAO, as an independent and neutral organisation with a strong history of implementing fisheries projects worldwide, is ideally suited to implement this cooperative fisheries project in the northern Persian Gulf. The project focuses on issues identified by Iran, Iraq and Kuwait that need to be solved in order to stimulated equitable and sustainable fisheries and aquaculture in this sub-region. Furthermore, these issues need to be solved in a way that safeguards the environment and promotes social and economic development of various vulnerable coastal areas and the fishers and fish farmers in those areas. This is within the remit of FAO and can be undertaken by implementing FAO's CCRF and the related Technical Guidelines and Plans of Action and promoting its use within this sub-region. In addition, FAO have had a presence in the region through the FAO-supported RECOFI Secretariat, and the presence of the FAO Regional Office (RNE) in Cairo, the FAO Office Iraq (in Amman, Jordan), and the FAO Office in Tehran, Iran.

Perhaps the most significant reason for FAO to implement this project is that all three countries, during their tripartite meetings, have identified FAO as the suitable body to implement this cooperative project. The success of the project is dependent upon the trust that the members of the three countries have in the project's implanting body, and this has already been documented and demonstrated.

3. PROJECT FRAMEWORK

3.1. IMPACT

The project will, through enhancing cooperation among Iran, Iraq and Kuwait, allow for the development of the management and rational utilisation of shared marine fish stocks in the northern Persian Gulf, and enhance sustainable marine cage and shrimp culture, to provide food and employment in coastal areas. The project will promote RECOFI and the application of the FAO CCRF. Within the life of the project, MDG 7A and 7B on Environmental Sustainability and MDG 8 on Global Partnerships, will be addressed. Improved cooperation will lead to additional MDGs being addressed in the future and is likely to have wider implications for the agriculture sector in general.

3.2. OUTCOME AND OUTPUTS

3.2.1. Overview

The principal outcome of this project is to further develop cooperation among the policy makers, managers and scientists of the Government departments and research institutes dealing with the marine fisheries and aquaculture sectors in Iran, Iraq and Kuwait. This will result in a harmonisation of the regulations and an exchange of information on the shared stock fisheries and marine cage and shrimp culture. The project will encourage Iran, Iraq and Kuwait to continue their support to RECOFI and to take an active role in meetings. Further, the project will work with Iran, Iraq and Kuwait to manage their fisheries and aquaculture sustainably whilst reducing significant adverse impacts on the ecosystem to a minimum. This will sustainably increase fish production and improve the livelihoods of the fishers, fish farmers and other relevant stakeholders.

[30] FAO. 2009. Fisheries management 2. The ecosystem approach to fisheries 2.2 The human dimensions of the ecosystem approach to fisheries. FAO Technical Guidelines for Responsible Fisheries, 4 (Suppl. 2, Add. 2): 1-88.

3.2.2. Output 1: Shared Stocks

The main work with the shared stocks of silver pomfret *Pampus argenteus*, hilsa shad *Tenualosa ilisha* and penaeid shrimps, focusses on the collaboration of Iran, Iraq and Kuwait to acquire, share and jointly analyse information on catches, stock distribution and fishing grounds in the northern Persian Gulf. An increase in the knowledge of commercial catches and landings, stock status, stock distribution and biology of the shared stocks of silver pomfret *Pampus argenteus*, hilsa shad *Tenualosa ilisha*, and penaeid shrimps will lead to better understanding of health and potential productivity of the stocks and the fishery. This work has been divided into two sub-components: (a) stock status, and (b) mapping and management.

This work will be undertaken by Government departments as part of their regular programme and will strongly support the work of RECOFI. It is expected that the Governments will already be implementing the minimum data reporting requirements adopted by RECOFI in 2011. This information, will lead to improved and harmonised management measures than can be further used to monitor the effectiveness of fisheries regulations. Existing information, particularly gained from current sampling programmes in Iran and Kuwait, will be analysed with stock assessment models. The second year of the project will assist nations in drafting joint harmonised management plans for possible submission as proposals to RECOFI. The longer term sustainability will be further assessed through the research project on fishing gear impact to determine possible significant adverse impacts of these fisheries, on other fisheries, and on the environment. The three shared stocks mentioned above will also form a focus under fish trade and markets.

3.2.2.1. Research projects

Collaborative research projects will be undertaken on the biology of hilsa shad *Tenualosa ilisha*, and on the environmental impact of fishing gears in the marine environment, and will be designed to address issues relevant to the management of the fisheries. These would support earlier research work on silver pomfret undertaken collaboratively by Iran and Kuwait, and by Iran on the FAO shrimp bycatch project that will soon be entering a new phase. The details of the research projects will be designed by the research institutes during M1 and M2 of the project through proposals drafted by the research organisations of the three participating countries and have a duration of approximately 18 months. The research institutes will be expected to provide on-the-job training. Concepts of significant adverse impact to the ecosystem will be introduced generally, and particularly with examples from the gear impact research project.

3.2.3. Output 2: IUU Fishing and VMS

The project's IUU fishing and VMS work falls in to two parts.

1. There is a need for the countries to document and share information on their current fisheries regulations and to ensure that this is consistent with the requirements of modern fisheries management. In addition, solutions need to be found for the types of infringements that are observed, and to then propose consistent mitigation measures to reduce or eliminate these types of infringements. In many cases, this may need additional support, especially in Iraq, to strengthen monitoring, control and surveillance operations. In line with monitoring regional trade and its success elsewhere in the world, the use of port State measures will be examined for reducing certain types of IUU fishing in the northern Persian Gulf. This will also be integrated into Component 4 on fish trade and markets.

2. Iran and Kuwait are planning to introduce VMS on their fishing vessels in the near future. The project will discuss the uses of VMS and the issues of data sharing and data use for MCS and management that will inevitably arise. The combined use of port State measures and VMS would be more cost effective than observer and at-sea inspection programs that are likely impracticable or inefficient when fishing is undertaken by a large number of relatively small fishing vessels.

This component of the project will be more participatory and involve the appropriate marine resources protection units and the fishing vessel captains/owners. It is again intended that the output will be passed to the Governments for the development of proposals to RECOFI to coordinate the management measures in the region.

The outputs of this component arise principally from the sharing of information and the drafting of regulations that has been reviewed by the various stakeholders from the three participating countries. The sharing of the vessel registry among Iran, Iraq and Kuwait, and the further development of harmonised inspection procedures at sea and at the landing sites, will improve monitoring and reduce IUU fishing. The harmonisation of fishing and trade regulations is an important output that will further assist enforcement in the sub-region. The various options available to reduce or eliminate IUU fishing will be drafted, after consultation with the fishing industry,

for consideration by the national authorities. The infrastructure required for MCS will be discussed and recommendations made to national authorities.

The outcome of the IUU component is to strive for simple harmonised and enforceable regulations that have the support of the fishers. It is hoped that there will be a shift to regulations that focus more on developing sustainable fisheries through cooperative management whilst safeguarding the environment rather than on regulations that focus on supporting production targets.

3.2.4. Output 3: Marine cage and shrimp culture

The main emphasis in this component of the project is one of knowledge sharing from within and outside of the sub-region. The "FAO Ecosystem approach to aquaculture" guidelines[31] and associated documents will help to guide the process. The high-input and high-profit marine finfish cage culture component, that has occurred mainly in Kuwait, is particularly challenging as it is prone to frequent environmental or technical difficulties that can render the venture as too risky for sensible investment. The culture of marine shrimp has been very successful within the region in the past, mainly in Iran, but has suffered greatly from shrimp disease problems and can be considered as being in a rebuilding phase. The main activity will be a symposium that will build in part on the framework and outputs of an FAO workshop held recently in Mexico in 2010[32] and on the earlier regional workshop held in Oman in 2009[33]. It is planned that the symposium will be held early in Y2 and will include researchers, planners, industry and farmers. Preparation of suitable documents and presentations for the sessions and organisation of the symposium itself will occur in Y1. The symposium will consist of plenary sessions and side vents. There will be a symposium proceedings and other promotional material that will disseminate the information presented at the symposium that will target both researchers and fish farmers.

The outcomes of the symposium and the dissemination of the results is to stimulate awareness in recent advances that will help to encourage investors and farmers to consider or reconsider marine cage and shrimp culture in the sub-region. The benefits of this are to stimulate much needed production for both food and revenue and to provide employment in the poorer coastal regions.

3.2.5. Output 4: Fish Trade and Markets

Articles 11.2 "Responsible international trade" and 11.3 "Laws and regulations relating to fish trade" of the CCRF and the FAO Responsible Fish Trade guidelines[34] both provide guidance on fish trade that will be useful in coordinating a review of the trade regulations in the sub-region. The project approach will follow the outline provided in the tripartite meetings. Initially, current trade regulations will be identified and the strengths and weakness of these discussed in participatory group meetings involving stakeholders from the fishing industry, the traders, and the customs. The conclusions of this will be documented in working papers and presented at a workshop to be held towards the end of Y1. The workshop will review the findings using the CCRF and trade guidelines and produce a report and a plan of work for Y2 of the project.

The following issues are important and relevant to fish trade in the sub-region: (1) Identification of export-import regulations, (2) Coordination of import-export regulations, (3) Facilitating fisheries products trade, and (4) Establishing transaction points and common markets (at border lines). The expected output of this is for improvements in export-import control, easier trans-boundary movements of fish and fish products, and in increased and harmonised monitoring and regulating the fish trade that supports sustainable fisheries and aquaculture.

This project is particularly concerned with sub-regional trade among Iran, Iraq and Kuwait as there are strong links to all the other project components. Development of this component is seen as benefiting local economies and livelihoods, particularly if it can be undertaken in conjunction with some value-added post-harvest processing.

3.2.6. Output 5: Government Institutional Development and Organisational Strengthening

The strength of the current structure of the Government fisheries departments is that monitoring has been established to ensure that the existing legislation is followed (primarily monitoring of weight of fish landed), ensuring that vessel comply with regulations, and that research into biology and environmental impacts is undertaken. The current legislation, and hence the work of the fisheries departments, needs to be supported in a

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[31] FAO. Aquaculture development. 4. Ecosystem approach to aquaculture. *FAO Technical Guidelines for Responsible Fisheries.* No. 5, Suppl. 4. Rome, FAO. 2010. 53p. http://www.fao.org/docrep/013/i1750e/i1750e.pdf

[32] FAO. 2011. Aquaculture in desert and arid lands: Development constraints and opportunities. *FAO Fisheries and Aquaculture Proceedings*, 20: 1-220, FAO, Rome. http://www.fao.org/docrep/015/ba0114e/ba0114e.pdf

[33] FAO. 2009. Report of the Regional Technical Workshop on Sustainable Marine Cage Aquaculture Development Muscat, Sultanate of Oman, 25–26 January 2009. ftp://ftp.fao.org/docrep/fao/011/i0723e/i0723e.pdf

[34] FAO. 2009. Responsible Fish Trade. FAO Technical Guidelines for Responsible Fisheries, 11: 1-23.

way that is beneficial to monitoring stock status and to manage stocks sustainably under appropriately harmonised regulations. The project will work throughout its duration on assisting fisheries departments, as necessary and as required, to ensure that this support is made available.

Iraq is a special consideration with regards to the infrastructure of its Government Fisheries Department, GBFD, as it has suffered over the past 25 years. The project will work with Iraq to develop support programmes for the rehabilitation of its marine administrative sector that can be drafted for submission to appropriate donors for funding.

3.2.7. Project

The project itself would not normally be considered as producing an output, but there are certain interim activities that the project needs to undertake that can be considered as an output and will hopefully continue after the project. The project has a coordination role and many aspects are concerned with the sharing of information or data. There will be a need for this information and data to have secure access and be housed and maintained probably and initially by the project. Arrangements would be made for this database to be moved to another location within the region by the end of project.

3.3. SUSTAINABILITY

The project is so formulated to work with the Governments on issues that have been approved in national plans or are integrated with the work of RECOFI. As such, the project is simply supporting the Governments' regular work programmes and allowing this to be discussed cooperatively among the three countries. The process is adaptive with respect to RECOFI as the project will support the countries to build on work and decisions already undertaken by RECOFI, and to then provide feedback to RECOFI by way of proposals. Participation by the three countries is already established following the development of much of the groundwork during the tripartite meetings. However, setting this groundwork into a project framework, implemented by FAO and within the context of the CCRF and ecosystem approach, has required that a more prescriptive first year of work is being proposed. As the cooperation increases, and with the second year's work programme being planned during the project's workshop meetings held during the first year, it is envisaged that the Government's will play an increasing role in developing harmonised solutions to their current problems that are consistent with the CCRF and the various modern fisheries instruments.

Sustainability is further enhanced by the coordinating role of the project administration. The project itself will only be supporting the work that leads to the outputs, by providing forums for discussion and any expertise necessary. The exception to this is likely to be the development of a temporary database necessary to house at some appropriate location the capture fisheries data provided by the three countries, but this will be relocated as soon as a viable alternative is identified.

3.4. RISKS AND ASSUMPTIONS

This project has arisen out of a real need for various difficult fisheries issues to be solved through cooperation. Some of these issues relate to political (national) considerations and others more relate to knowledge sharing and opportunity. The three countries in this project are at very different stages of their fisheries development cycle. Further, the national development plans to support marine capture fisheries and marine and brackish water aquaculture is different among the three countries. The general project risks and assumptions are presented below as a risk matrix. The risks and assumptions related to individual activities are detailed in the LogFrame (Annex 2).

Risk	Impact	Probability	Mitigation
1. Political instability in the region	Cooperation among participating countries difficult.	Moderate-high	Delay project
2. Human resources within Government not available or not made available to undertake work	Workshops cannot be held due to lack of information and participation. Progress towards solving issues becomes minimal.	Moderate	Enhancing institutional capacity of Gov. departments (largely outside of project control). Develop less ambitious project. Some issues cannot be solved.

3. FAO CCRF not accepted	Slows down project.	Low	Move to longer-term sustainable utilisation and ecosystem approach takes more time to develop.
4. Stock status approach not implemented	State of stock and management impact cannot be assessed.	Moderate	Review need for stock status indictors.
5. Data not made available or shared	State of stock and management impact cannot be assessed.	Moderate	Work with countries to overcome data sharing problem.
6. Communication between project and national staff/researchers ineffective	Slows down project due to lack of coordination	Moderate	The project will require a high degree of coordination and the culture within the national Gov. departments needs to allow this.
7. Project largely successful but no proposals or proposals not supported by RECOFI	Science unable to support policy. Policy does not develop.	Low-moderate	Proposals are the responsibility of the participating countries (largely outside of project control).

4. IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

4.1. INSTITUTIONAL FRAMEWORK AND COORDINATION

The project will work with:

The Iran Fisheries Organization (SHILAT), Ministry of Jihad-e-Agriculture, Islamic Republic of Iran as the lead organisation within Iran, and with the South Iran Aquaculture Research Centre, Ahwaz, Khozistan Province, Republic of Iran, for the research projects. It is expected that the project will also work with the Khozistan Fisheries Department, IFO, Ahwaz, Khozistan Province, Islamic Republic of Iran and the Marine Protection Agency for Aquatic Resources in Khozistan Province. The National Focal Point for Iran has been identified as Mr Ali A. Mojahedi, Director-General for Fishing Affairs, Deputy for Fishing and Fishing Harbors, Iran Fisheries Organization (SHILAT), Ministry of Jihad-e-Agriculture, Islamic Republic of Iran.

The Iraq General Board for Fisheries Development, Ministry of Agriculture, Republic of Iraq as the lead organisation within Iraq, and with the Marine Science Centre, Basra Governorate, Republic of Iraq, for the research projects. It is also expected that the project will work with the fisheries section of the Department of Agriculture, Basra Governorate, Republic of Iraq, and with the appropriate enforcement body responsible for marine protection. The National Focal Point for Iraq has been identified as Mr Abdul Husain, Director of Engineering Department, Iraq General Board for Fisheries Development, Ministry of Agriculture, Republic of Iraq.

The Kuwait Public Authority of Agriculture Affairs and Fish Resources, State of Kuwait, as the lead organisation within Kuwait, and with Kuwait Institute for Scientific Research, State of Kuwait, for the research projects. The project will also work with the appropriate enforcement body responsible for marine protection. The National Focal Point for Kuwait has been identified as Dr Haider Murad, Deputy Director General for Fish Resources, Public Authority of Agriculture Affairs and Fish Resources, State of Kuwait.

The project administration will be limited to a Project Advisor who is expected to work half time (6 months/year) distributed evenly throughout the duration of the project. The project will not required a permanent base but will, if needed, have a temporary office at the FAO Regional Office for the Near East and North Africa in Cairo, Egypt. The project will be supported by short-term international consultants who will provide expert advice and guidance prior to and during the workshops. The use of national consultants to provide local expertise to address these issues is encouraged. The language of the project shall be English, however, translators will be used extensively to provide oral and written translations in Arabic and Farsi as required.

The project will operate under the auspices of the Senior Fishery Officer, FAO Regional Office for the Near East and North Africa in Cairo, Egypt, who will provide overall supervision to the project and the Project Advisor.

4.1.1. Coordination Committee

The project will have a Coordination Committee that will meet at the beginning of the project for an Inception workshop, at the end of Y1, and at the End of Project. It is expected that the Coordination Committee will consist of: the Senior Fisheries Officer, FAO RNE; an FAO representative from FAO, Rome; representative(s) from donor organisation(s); the three National Focal Points; and the Project Advisor. The function of the Coordination Committee is to provide overall guidance on the project activities to the Senior Fishery Officer, FAO Regional Office for the Near East and North Africa. The three Coordination Committee meetings will have a different focus:

- The first meeting will be held around the end of the second month and will serve to guide the project in its first year of work. This will include identifying the personnel in the various Government departments that will work with the project and agreeing on the details of the work plan. The Project Advisor and the three National Focal Points will be responsible for ensuring that this important preparatory work is undertaken prior to this first meeting.
- The second meeting will be held at the end of the first year and is effectively a mid-term review. It serves to review the first year of work and to plan for the second year of work.
- The third and final meeting will be held at the end of the project and will serve to review the project and its outputs and outcomes, and to discuss project sustainability and any future work and support in the region.

4.1.2. National Focal Points

The Project Advisor will coordinate with the Government fisheries departments through the National Focal Points who will be senior members of the Government administration. The National Focal Points will be supporting the project by ensuring that appropriate Government staff and facilities are made available to work on the various project components identified above. The National Focal Points will also be members of the project's Coordination Committee and assist in providing progress reports to ensure that the Government and project are providing the deliverables as stated in the project document. The Terms of Reference for the National Focal Points is given in section 6.4.1.

4.1.3. Component Teams

The project will also establish four Component/Output Teams comprising of 2–3 experts from each of the three countries to work together to undertake the necessary preparatory work, including the drafting of working papers, necessary for the workshops, to attend the workshops, and to undertake follow-up work. The Component Teams will be for (1) shared stocks, (2) IUU fishing and VMS, (3) marine cage and shrimp culture, and (4) fish trade and markets. Each Component Team should elect a Lead Person from each country, who would serve to coordinate the component at the country level and act as a contact point with the Project Advisor. There are no teams envisaged for (5) Government institutional development and organisational strengthening, and (6) data sharing and data repository, and coordination will be undertaken directly between the National Focal Points and the Project Advisor.

4.1.4. Symposium Committee and Technical Committee

The marine cage and shrimp culture component will mainly focus around a symposium that will need a Symposium Committee to plan and organise the event and the National Focal Points and the Project Advisor should be considered for this. It will also need a Technical Committee and the marine cage and shrimp culture team should be considered for this.

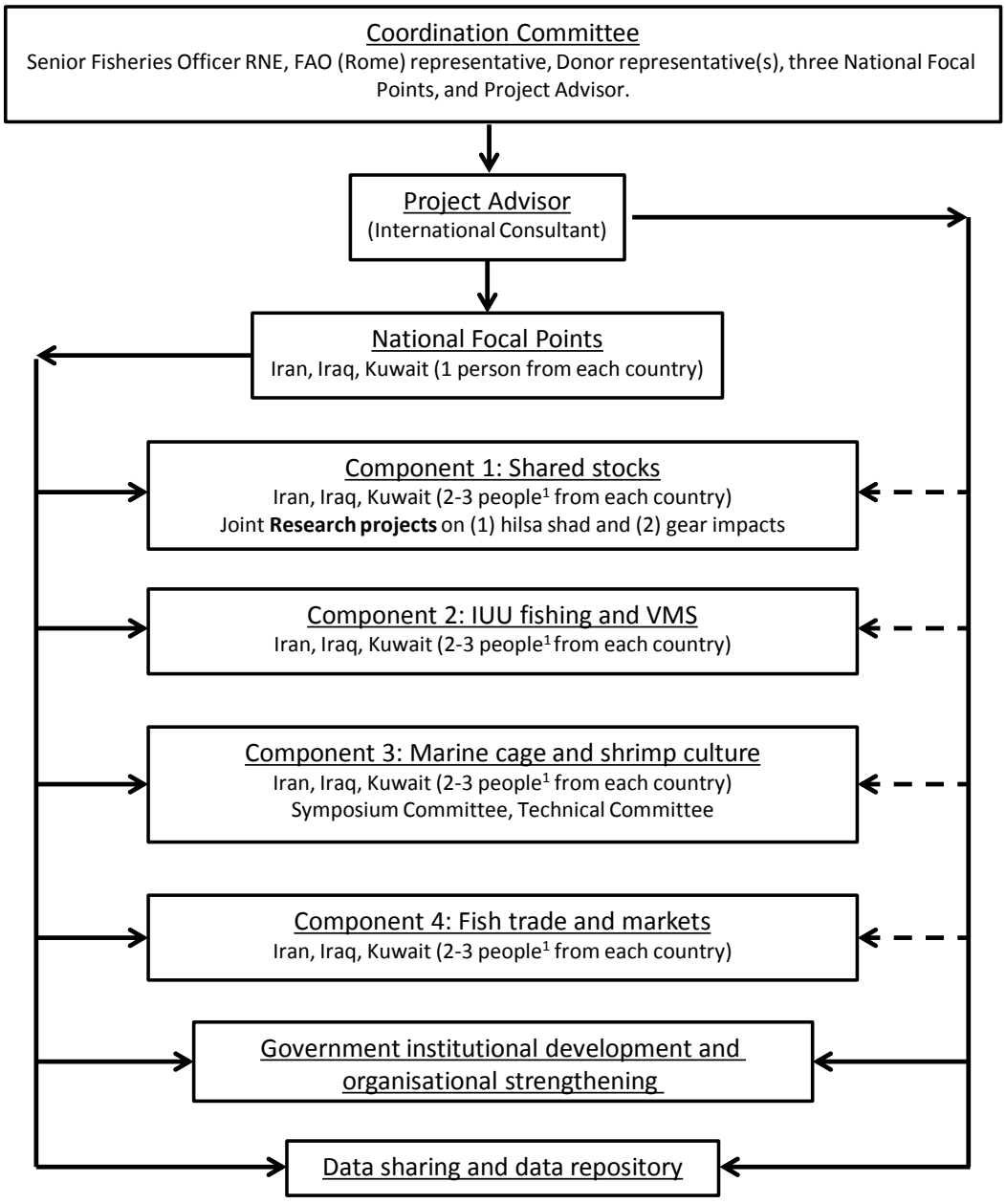
4.1.5. Project Advisor and other project staff

The Project Advisor will coordinate the day-to-day activities of the project with the National Focal Points and lead persons for the Component Teams, undertake the planning of the project activities, and provide advice to the Senior Fishery Officer FAO RNE and Coordination Committee on strategic issues. The Project Advisor will ensure that the project follows the Project Document and any modifications to the Project Document agreed by the Coordination Committee. The Project Advisor will also ensure that the project follows the general principals of international fisheries and aquaculture as described in the various relevant international instruments of the UN and FAO, and through this supports RECOFI and national interests. The Project Advisor will be supported

by international consultants, national consultants, and translators as described elsewhere in this document and in the Terms of Reference given in section 6.4.2–6.4.6.

An outline of the project structure is given in Figure 1.

Figure 1. Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI (Project Structure)



[1] = To include a Lead Person for each Component Team from each country.

4.2. STRATEGY/METHODOLOGY

The tripartite meetings in 2009–2011 identified several issues within the marine fisheries and aquaculture sectors that required solutions. The solutions for these issues need to be generated cooperatively by the three countries and brought to RECOFI by the countries as proposals for discussion and adoption. Alternatively, solutions could arise from bilateral agreements between the countries. The project through its work will strongly support the activities of RECOFI and it is hoped that the previous support given to the project by RECOFI will continue.

It will be necessary to identify Government staff who can work with the project, and to prepare a detailed plan of work, during the first two months of the start of the project. The Project Advisor will work with the National Focal Points to prepare the plan of work for the first year and to present this at the first Coordination Committee meeting for approval.

There are four basic strategies within the project:

1. For the fisheries components of shared stocks, IUU fishing and VMS, and regulations on fish trade and markets, the strategy is to facilitate communication and cooperative work programmes between the three countries that will have a basis in science through national data sharing and analysis. The most important component of the work is in the preparatory phase that occurs in the 6-9 months prior to the workshops. The workshops themselves will provide the focus for the structured discussions (a template for the draft agenda for the first set of workshop meetings is given in Appendix 1). However, the success of the workshops depends on solid preparation. The project outputs will be designed to inform the three fisheries departments of Iran, Iraq and Kuwait, of the work undertaken by the Government departments prior to and as presented at the workshops. The project can assist, in Y2, the development of more formal outputs or proposals that could be taken to the national Governments for onwards transmission to RECOFI, if this is deemed appropriate at the mid-term project review undertaken by the Coordination Committee. There will be multi-stakeholder participation particularly in the IUU fishing and VMS component and the fish trade and markets component that will provide input to the discussions. All project work will be guided by the CCRF and the supporting Technical Guidelines and Plans of Action. The project will recruit short-term international consultants to assist in this process. The use of national consultants to bring more local knowledge to the workshops is encouraged by the project and will be funded by the national Governments as part of their contribution to the project budget. There is no extension work currently planned within this project, though this could be considered in the future if appropriate.
2. For the marine cage and shrimp culture component, the development and sharing of knowledge will build on a recent FAO workshop on *Aquaculture in Desert and Arid Lands - Development Constraints and Opportunities* held in Hermosillo, Mexico, on 6–9 July 2010 and on the *Regional Technical Workshop on Sustainable Marine Cage Aquaculture Development* held in Muscat, Sultanate of Oman, 25–26 January 2009, and will take the form of a symposium involving researchers, coastal planners, industry and suppliers, and farmers. The component will consist of technical presentations and stakeholder side-events. It is intended that there will be more direct links developing between the stakeholder groups during and immediately after the symposium. Much of aquaculture industry is in the private sector, and it is currently unclear as to how much the project or the Governments will become involved with the private sector development of the aquaculture. This will be discussed at the mid-term review.
3. A research component for hilsa shad and gear impacts will be undertaken by the fisheries research institutes in the three countries. This is designed to further cooperation among these national fisheries research institutes and to develop coordinated sub-regional projects to assist in the management of these fisheries. The output from these will be aimed at technical reports and peer-reviewed scientific articles that could be presented at international conferences or RECOFI meetings.
4. There is likely to be a need for the project to provide guidance to the Government fisheries departments on their institutional development and organisational strengthening to undertake some of the work in this project. This is mainly because of a likely increased amount of stock assessment work and the need for an ecosystem approach to protect the fishery and safeguard the environment. In addition, there is a clear need for more extensive support for the rehabilitation of the marine Government fisheries sector in Iraq (mainly in Basra Governorate) and a more proactive dialogue to achieve this will be undertaken in Y1. The current travel restrictions of UN personnel to Iraq will provide an additional challenge to planning any support package. The exact nature of the support to Government fisheries departments is unclear during the development of this project document but will become apparent during Y1 of the project as the work develops. It is likely that additional funding will need to be sourced to provide the

support and perhaps even new projects developed. These aspects will be reviewed at the mid-term review.

4.3. GOVERNMENT INPUTS

4.3.1. Prior Obligations and Prerequisites

The purpose of this project is to stimulate "meaningful" dialogue among the Government fisheries sectors of Iran, Iraq and Kuwait with respect to both policy and the science. The focus is on the four project components that include most of the issues identified during the tripartite meetings. Therefore, the prior obligations and commitments take the form of commitments made by each of the three Governments that they have staff that are prepared to undertake the necessary preparation required to discuss and solve the issues in an open and transparent way, and will do so following the guidance provided by the CCRF, and the associated Technical Guidelines and Plans of Actions. The preparation, the results of which will be presented at the workshops, will take some 6-9 months in Y1, and probably a similar time in Y2.

Further, the project will draw heavily upon previous work undertaken by RECOFI and its working groups, as much of this is of direct relevance to this northern sub-region. To this end, it is expected that the three Governments will have acted on the "Recommendation RECOFI/6/2011/1 on minimum data reporting in the RECOFI area" that was adopted by RECOFI at their 6th session. Therefore it is expected that data on the shared stocks of concern to this project, Silver pomfret *Pampus argenteus*, Hilsa shad *Tenualosa ilisha*, and penaeid shrimp, is already being collected according to the RECOFI minimum data requirements.

4.3.2. Financial and/or Contributions in Kind

Government Staff costs: Government staff associated with the project, *e.g*. National Focal Points, Component Teams, national consultants, and any other staff employed by the Governments of Iran, Iraq and Kuwait, to undertake work associated with the outputs of this project will be regarded as a contribution in kind and will not receive any stipends from the project.

In addition, the Governments of Iran, Iraq and Kuwait, will provide as a contribution in kind any overheads of Government staff associated with the project, including *inter alia* office costs, travel costs, equipment costs, subsistence allowances, etc., to undertake preparatory work and data collection associated with the workshops. (This is because the work and data collection requirements for the project workshops should form part of the normal working responsibilities of the participating countries necessary for their own management purposes and for participation in RECOFI meetings[35].) The costs for the attendance of members of the component teams at the workshops, and certain costs associated with the research projects, are payable by the project as described under "Donor Inputs".

Workshop costs: The costs associated with the venue of the workshops and any equipment normally required to support a workshop will be paid for by the host Government as a contribution in kind.

The local organisation of the workshop will be undertaken by the host Government, or an agent appointed by the host Government, and will be regarded as a contribution in kind.

Owing to UN travel restrictions to Iraq, it is not expected that Iraq will host workshops unless or until the travel restrictions are lifted.

All costs associated with the attendance of national consultants or experts from Iran, Iraq or Kuwait at workshops (limited to a maximum of two per workshop) shall be covered by the Government of the national consultant.

Symposium costs: It is expected that the host country for the symposium will cover the costs associated for the venue and that the other two countries will cover the costs associated with the travel and DSA costs of their own participants.

Research Projects: As far as is possible and reasonable, the project will cover the full costs of the research project up to the limit stated in this project document. This may include some financial support if post-graduate students are performing the work as part of a higher degree. Additional costs beyond those outlined in this project document will need to be covered by the host Government.

[35] Any national constrains that impede the collection of information necessary for the management of fisheries and aquaculture should be addressed under "Government Institutional Development and Organisational Support".

4.4. DONOR INPUTS

Regional organisations have been informally approached as a potential donor and have shown interest in supporting a project that will stimulate cooperation between Iran, Iraq and Kuwait, in marine fisheries and marine and brackish water aquaculture. At present, it is expected that the project will have a single donor and be of a modest overall budget. This is to ensure that the stimulus for cooperation clearly arises from the three participating countries and that the project assumes only a coordinating role. Additional donor funding may be sourced if this cooperative project proves successful.

The project will also work with Iraq on its rehabilitation program for the marine capture fisheries sector within the overall framework of developing the capacity of Iraq to manage its shared fisheries under the guidelines provided by the CCRF. It is expected that this will lead to a more substantial package of support that can be dealt with under a new separate project or an additional phase to this current project.

The detailed budget is presented in Annex 1.

4.4.1. Budget Narrative

This narrative explains the "description" headers used in Annex 1. Note that country financial contributions-in-kind are listed under Section 4.3 "Government inputs" and are not included in the budget given in Annex 1.

Staff costs

This item covers the stipends of staff and consultants associated with the running of the project.

Professionals: This is used for the technical project staff used to manage the project. This project is being managed by one Project Advisor working 50% time over the two years of the project.

International consultants: This is used for the hire of up to six international experts with appropriate specialist technical knowledge required at the workshops and for the research projects. International consultants are used to bring in knowledge and ideas from outside of the region. These are short-term positions with each consultancy lasting for approximately 12 days in each of the two years. The total amount of international consultancy time in the project is therefore 144 days.

Translators: The cost of the Arabic/Farsi translator while attending workshops or the symposium. It is assumed that translators can be identified within country and preferably in the town of the workshop. Also included are funds to cover the cost of document translations for workshop, symposium and project reports into English/Arabic/Farsi as appropriate. Translations of working papers for workshops and the symposium will general apply to the abstract, tables and figures (including legends) only and must be undertaken prior to the meeting. In general, it is expected that translations from Arabic and Farsi into English will be undertaken by the authors. This will ensure that the translation budget is used to maximise the information exchange between Iran (Farsi), Iraq (Arabic) and Kuwait (Arabic).

Contracts

This budget item is for the development of a database to house secure shared data and for the development and maintenance of a project website.

Travel

This budget item covers the costs associated with transportation to and from the meeting and the associated DSA at FAO rates. DSA rates vary considerably according to the location of the meeting and are reduced if meals and accommodation is provided. DSA rates for researchers undertaking fieldwork will be assessed separately and at a rate agreed between the supervisor and the Project Advisor. The agreed rate will not exceed FAO rates and are expected to be considerably less and sufficient to cover actual costs incurred.

Project staff (Project Advisor): The Project Advisor is expected to spend at least two months per year in the sub-region spread over approximately four two-week trips. This is to attend workshops and to visit the fisheries departments of Iran, Iraq (at the FAO Iraq Office in Amman Jordan), and Kuwait. This budget item also includes the costs for the Project Advisor to attend the Coordination Committee meetings and any visits to RNE, Cairo, Egypt.

International consultants: It is assumed for budget planning purposes that international consultants will come from outside the region and require approximately 6 days in the sub-region to attend each of the ten workshops and the symposium. A total of 11 trips over the two years of the project is planned.

Research projects: It is expected to cover, at least in part, the costs of within country travel for the researchers to undertake their field work. This will be awarded on a needs basis up to a total amount for all researchers of US$ 60 000.

Coordination committee: This is to cover the travel costs and DSA of the National Focal Point and one advisor from each country to attend the three 2-day Coordination Committee meetings.

Training

This budget item covers the costs of the travel and DSA costs for the 9 national participants (3 from each country) to attend the 10 workshops. Also under this header are other "incidental" costs associated with the running of the workshops and the symposium that would include document production and distribution.

Equipment

This budget item includes both expendable and non-expendable equipment associated with the operating of project and with the research projects. The non-research expendable costs would be used to support expenditure made to support the workshops and symposium. The research costs would support the operating costs of the research projects. The equipment will mostly consist of scientific softwares for fish stock assessment, GIS modelling and statistical analysis, including technical publications on fisheries resources assessment and EAF application. Minor laboratory equipment could be provided such as tools for fish sample analysis and fish aging Any items associated with non-expendable equipment for the research projects will become the property of the institutes at the end of the project.

General operating expenses

The Project operating expenses budget item includes the costs for running the project. This includes direct costs made by the Project Advisor in running an office to support the project up to a limit of US$ 6 000 per year, which could include hardware, software, communication charges including internet, and mailing costs. It would also include costs for report production and copying. This would also include any costs associated with the development of a support package for the rehabilitation of the marine Government infrastructure for Iraq.

The Technical Support Services item is a fixed rate cost for time given to the project by an FAO staff member, which in the case of this project is most likely to be the Senior Fishery Officer, RNE, Cairo, Egypt.

The Project Servicing Cost are levied to counterbalance the costs of administrative and operational services which are a necessary and inherent part of any projects which the Organization agrees to execute, but which, because of their nature, cannot be readily or directly singled out for charging to the project itself. The rate FAO charges for Technical Assistance (GCP) projects funded by extra-budgetary contributions is 13%.

4.5. TECHNICAL SUPPORT / LINKAGES

It is envisaged that the project will require a total of 20 days (10 days per year) of technical support from the Senior Fisheries Officer, FAO Regional Office for the Near East and North Africa. The Senior Fisheries Officer will provide a supervisory function to the project and will receive the project's quarterly monitoring reports. This will consist mainly of email correspondence but may also include some meetings with the Project Advisor in Cairo and visits of the Senior Fisheries Officer to the sub-region. It is expected that the Senior Fisheries Officer will attend the project Coordination Committee meetings.

This project supports several aspects of FAOs regular results based-management programme including the principal strategic objective of "sustainable management and use of fisheries and aquaculture resources" as described in the CCRF. The project will contribute to five of the six of FAOs organizational results targets: C1 Improved formulation of policies and standards; C2 Improved governance of fisheries and aquaculture; C3 Improved state of fisheries resources, ecosystems and their sustainable use; C4 Increased production of fish and fish products from sustainable expansion and intensification of aquaculture; and C6 More responsible post-harvest utilization and trade of fisheries and aquaculture products, including more predictable and harmonized market access requirements (http://www.fao.org/fishery/about/programme/en).

The project, whilst working directly with the Governments of Iran, Iraq and Kuwait, aims to fully support RECOFI by building on their previous work within the region and by producing output that will feedback into RECOFI. However, it is not expected that the project will have any formal links with RECOFI.

4.6. MANAGEMENT AND OPERATIONAL SUPPORT ARRANGEMENTS

4.6.1. Management and Administrative Support within the Project

The project will have only one staff member, the Project Advisor, who will work 50% time ideally spread more or less evenly over the year. The work will be mainly coordination via email contact and attendance at six workshop meetings per year and the aquaculture symposium. There is no necessity for the project to have a headquarters, though it will have a registered address at the FAO Regional Office for the Near East and North Africa, Cairo, Egypt. The Project Advisor can be based anywhere in the world, providing that there is full unrestricted access to the internet for communications purposes, a fully functional telephone system, and preferably a secure postal system.

For the sub-regional workshops, local arrangements will be managed by the host Governments and the work programme will be managed by the Project Advisor. Hardcopy printing costs will be kept to a minimum, but will be undertaken by prior arrangement with the Project Advisor. The workshops will be supported by the Project Advisor, an international consultant, and possibly by a small number of national consultants as provided by Iran, Iraq and Kuwait. The workshop reports will be multi-author and written by the international consultant supplemented by papers from the participants.

The aquaculture symposium will be a larger meeting consisting of approximately 50 people and the purpose is mainly one of technology transfer. Therefore there will be representatives from Government and the private sector to include policy makers, planers, researchers, industry and farmers. Funding for the symposium venue and facilities will be provided by the host government and supplemented by symposium fees or additional sponsorship.

The language of the project is English, but it is appreciated that the participant's primary language is Arabic or Farsi. Therefore, whenever possible, simultaneous translations in English, Arabic and Farsi will be provided by the project during the workshop meetings and symposium. In addition, key documents will be translated by the project and available in English, Arabic and Farsi.

4.7. MANAGEMENT AND OPERATIONAL SUPPORT TO PROJECTS

Travel arrangements for air flights of the Project Advisor and the project-funded participants will be undertaken by the FAO Travel Office. The FAO RNE, FAO Iraq and FAO Iran will provide support in acquiring travel visas for workshop participants as necessary. The Senior Fisheries Officer, RNE will provide backstopping support to the project that should amount to no more than 10 days per year.

Owing to travel restrictions of UN staff to Iraq, it is expected that the FAO (Iraq) Office in Amman, Jordan, will provide occasional meeting support by prior arrangement.

The project will require a website and that this is best housed at and maintained by FAO. The website will have both open and password-restricted areas and will house general project information, project progress reports, draft and published workshop reports, shared data, and a calendar of project activities.

It is anticipated that a capture fisheries database will have to be designed by the project and housed at a suitable secure location. In the longer term, it is likely that the database would expand from a sub-regional to regional and be managed by and housed at a location decided by RECOFI. However, as a temporary measure FAO will be approached to house the database and ensure that the project is not delayed by database constraints.

The project address will be formally located at the RNE. The project will not require a permanent office.

4.7.1. Languages and Translation

The formal language of the project is English. However, the project will be working in Iran (mainly Tehran and Khuzestan province) where the principal language is Farsi (Persian), and in Iraq (mainly in Baghdad and Basra Governorate) and Kuwait where the principal language is Arabic. The project is working with people employed at senior levels in the fisheries departments of the Government and the universities who have an excellent command of the English language. However, there are aspects of the project that will work with other groups of people who are less familiar with the English language and it is hoped and expected that the outputs from the project will reach a wider audience. Therefore considerable importance is placed on ensuring that certain relevant documents are made available in both Arabic and Farsi. Translation of all documents in to English is not seen as necessary, though it is expected that scientific documents and working papers will have their abstracts, figure and table legends in English, Arabic and Farsi. Generally, the authors will be responsible for providing the English translations and the project will provide the Arabic/Farsi translation.

5. OVERSIGHT, MONITORING, MANAGEMENT INFORMATION, AND REPORTING

5.1. OVERSIGHT AND REVIEWS

The Project Advisor will report to the Senior Fishery Officer, RNE, Cairo, Egypt, who will oversee all aspect of the project.

The Coordination Committee will meet at the end of Y1 to review the project's achievements during the first year and the plan of work for Y2. The Coordination Committee will also meet at the End of Project (End of Y2) to review the project and make recommendations to FAO, the three Governments, and to the donor(s), regarding this and possible future projects. The Coordination Committee will comprise of the Senior Fishery Office RNE, the three National Focal Points, donor representative, and the Project Advisor. The Senior Fishery Officer, RNE will act as Chair and the Project Advisor will act as rapporteur.

5.2. MONITORING AND KNOWLEDGE SHARING

The Project Advisor is responsible for monitoring the project against timelines and targets set out in this document and in the work plan and logframe appended to this document. It is of particular importance to appreciate that this project is primarily concerned with developing cooperation among the three countries as demonstrated by the sharing of data necessary to provide a strong foundation for the development of the outputs. The sharing of raw data or summary data among nations, even when subject to various confidentiality agreements, is no easy task to achieve. It is also appreciated that some of the important data necessary to achieve the outputs in this project may not be routinely collected by all of the three countries. Hence, new data collection protocols may need to be established. However, as noted in the CCRF "*The absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures.*" and so outputs consistent with the precautionary approach should still be developed even in data poor situations. Where applicable, the project will be expected to follow this principle.

The project's success depends upon knowledge sharing, but it is uncertain at this stage as to how much of this will be made available through FAO portals. The project will have a website where reports and papers will be made available. It is also foreseen that the outcome from the aquaculture symposium would be fully published and in the public domain.

5.3. COMMUNICATION AND VISIBILITY

The project will ensure that all published outputs from workshops and the symposium are transparent and freely available on the project's website. In most cases the output will be of immediate relevance to the Governments of Iran, Iraq and Kuwait, and to RECOFI. Dissemination of results to other stakeholders, for example the aquaculture industry or the private sector, will be primarily undertaken by the Governments and supported by the project as necessary.

A limited number of participatory meetings between Government and fishers or vessel owners are planned in order to discuss various ideas that will affect these stakeholder groups. The project is not designed to dissemination information widely to stakeholders in Y1, but participatory approaches may become more significant in Y2.

5.4. REPORTING SCHEDULE

The Project Advisor will produce six-monthly progress reports of the project's activities set against the targets given in this project document. The National Focal Points, representing the Governments of Iran, Iraq and Kuwait, will also provide six-monthly progress reports that review the impact of the project with respect to improving cooperation among the three countries and providing solutions to the identified issues as described in the project document. These reports should be brief accounts outlining the results achieved so far and detailing the relevant opportunities and constraints encountered. The reports will be sent to the Senior Fishery Officer, RNE.

The Project Advisor, in partnership with the National Focal Points, shall produce a work plan for Y2 for discussion at the mid-term Coordination committee meeting. The Project Advisor, in partnership with the National Focal Points, shall produce an End of Project evaluation report for presentation to the Coordination committee at the End of Project Review.

6. ANNEXES

6.1. ANNEX 1. BUDGET

Project costs/budget by expenditure category and year (units: USD)

6.2. ANNEX 2. LOGICAL FRAMEWORK

Design Summary	Indicators / Targets	Means of Verification Data Sources	Assumptions / Risks
Impact Equitable and sustainable use of the wild marine shared stocks and of the marine and brackish water farmed fishery resources among Iran, Iraq and Kuwait and the development of sub-regional partnerships.	Government fishery departments and fisheries research institutes experience increased sub-regional cooperation and joint initiatives	Government reports RECOFI reports Documents Proposals	In the longer term, this will lead to rebuilding of depleted fish stocks, safeguarding the environment and increased per capita fish consumption It is recognised that environmental changes and pollution may have altered overall productivity hindering stock recovery
Outcome Improved cooperation will: • enhance the management of the shared stocks • harmonise regulations • reduce IUU fishing • increase productivity from marine and brackish water aquaculture • generate equitable benefits in terms of employment and fish consumption, especially in the poorer coastal areas	Increased support to RECOFI Improved management of shared fish stocks Increased productivity from aquaculture Improved and coordinated MCS Less restrictive and better monitored sub-regional trade routes	Proposals to RECOFI Documented changes to data collection programmes National annual reports Reduction in IUU infringements Reports Comments from fishers and traders	The currently travel restriction to Iraq by UN Staff will not hinder project support to Iraq or regional cooperation with Iraq Appropriate national legislation can be enforced Work undertaken is consistent with international fisheries instruments and guidelines Proposals will be submitted to RECOFI RECOFI acts on national proposals
Outputs <u>Shared stocks</u> 1a.i Catch/landings monitored 1a.ii Stock status determined (1st Workshop) 1a.iii. Refined data collection 1a.iv. Workshop (2nd stock status) 1b.i. Stock distribution and fishing grounds identified 1b.ii. EIA of shared fish stock fisheries initiated (mapping and management 1st Workshop) 1b.iii. Management options drafted 1b.iv. Mapping and Management (2nd Workshop) 1c.i. Improved understanding of the biology of hilsa shad relevant to management and of the bycatch in the shrimp fishery	Participation of the three countries Three working/review papers submitted Common data collection protocols drafted Two shared stock assessments undertaken Management options developed Workshops successfully held Hilsa shad research project completed At least one sub-regional management plan developed nationally/bilaterally	Catch/landings data held on database (open or restricted access) Working papers Workshop reports Research publications submitted Documented communications among national focal points and researchers Correspondence	Political will for cooperation Countries make human resources available Government institutes receptive to change Countries are willing to exchange data Meetings/workshops may have simultaneous translation and documents may be available in English (the project language) and Arabic and Farsi <u>Shared stocks</u> Countries willing to develop management plans for sustainable fisheries and to safeguard the marine environment

1c.ii. Research project implemented			
<u>IUU fishing and VMS</u> 2a.i. Vessel registry, inspection procedures and regulations reviewed 2a.ii. Options to reduce or eliminate IUU fishing drafted including the use of port State measures 2a.iii. Increased understanding of the use of VMS for MCS and management 2a.iv. IUU and VMS workshop	Countries cooperating Three working/review papers submitted Workshops successfully held One plan of Action developed Protocols for use of VMS jointly drafted IUU reduction options developed Sub-regionally concerted protocols to reduce or eliminate IUU fishing developed nationally/bilaterally	Working/review papers Reports Correspondence	Fishers and other appropriate stakeholders are involved in the legislative development process National resources available for MCS Territorial limits, EEZs, and high-seas waters are clearly identifiable and/or understood Management and other measures understood by all stakeholders VMS data can be shared subject to strict confidentiality agreements
<u>Marine fish and shrimp culture</u> 3.i. Understanding of current status of marine cage and shrimp culture systems in the sub-region 3.ii. Information material produced to assist fish farmers 3.iii. Symposium proceedings finalised and disseminated 3.iv. Develop and distribute information on aquaculture opportunities	Symposium and workshop held concurrently Symposium proceedings published and disseminated Guidelines of EIA relevant to sub-region produced and circulated/shared with stakeholders Factsheets (or other media) produced and distributed to institutions and stakeholders	Symposium papers Reports Evidence of factsheet distribution Correspondence	Sites and human resources available Production must be sustainable (white spot disease in shrimp is a major constraint) Cooperation between Government and private sector Existing training facilities available Ecosystem impacts minimised whilst maintaining healthy fish production and providing local employment opportunities
<u>Fish trade and markets</u> 4.i. Fish trade and market regulations strengthened and harmonised to promote sub-regional trade 4.ii. 1st Trade * Market Workshop 4.iii Trade regulation harmonised 4.iv 2nd Trade and Market Workshop	Three working papers submitted prior to workshop Workshops successfully held Trade regulations that support and facilitate trade agreed upon and jointly drafted	Working papers Reports Correspondence	Border crossing points, landing sites and markets have appropriate infrastructure Regulations should not be overly restrictive, should reduce unauthorised transboundary shipments, and allow for monitoring
<u>Government institutional development and organisational strengthening</u> 5.i. Develop support program for rehabilitation of marine fisheries infrastructure in Iraq 5.ii. Support, as necessary, infrastructure and institutional development within Government Fisheries Departments	Proposals from Iraq for further infrastructure support Discussions and information sharing between fisheries departments and project	Correspondence Reports Proposals	The appropriate government institutional structure exists, or can be developed, within the fisheries sector to accommodate the requirements of modern fisheries management as defined by the various recent international instruments and guidelines Support to Iraq is seen as critical within the northern Persian Gulf region
<u>Project Coordination</u> 6.i. National focal points selected and	National representatives and focal points	Correspondence	Acceptable external "post-project" data centre

National teams established 6.ii. 1st yr workplan developed and agreement for data sharing developed and accepted 6.iii. Coordination Committee meetings held 6.iv. Databases of shared information established 6.v. Coordination with National Focal Points for output 1-5	actively communicating with each other and with the project Secure data repository established and shared by the countries Three Coordination Committee meetings organized	Records of data received, entered and accessed Reports and guidelines	established An acceptable data-sharing agreement can be adopted Confidentiality is maintained for sensitive data Project assumes a coordinating role
Activities <u>Shared stocks</u> 1a.i. Document data collection methods and share catch/landings statistics. Prepare for stock assessments. 1a.ii. Hold 1st stock status workshop to discuss catch/landings data, undertake assessments, and identify data gaps. Work plan for Y2. 1a.iii. Refine data collection protocols and assessments. 1a.iv. Hold 2nd stock status workshop to finalise data collection protocols and assessments. 1b.i. Compile and exchange information on stock distribution, fishing grounds and management regulations. 1b.ii. Hold 1st mapping and management workshop to map stocks and fisheries and develop management options. Work plan for Y2. 1b.iii. Further develop mapping and management work. Develop EIA. 1b.iv. Hold 2nd mapping and management workshop to finalise maps and develop management options. 1c.i. Develop coordinated national research projects on the hilsa shad (assessment and biology) and gear impacts 1c.ii. Undertake research project 1c.iii. Hold research workshops	1a.i. Completed by M9 1a.ii. 1st Workshop held by M10 and work plan for Y2 finalised by M11 1a.iii. Completed by M21 1a.iv. 2nd workshop held by M22 1b.i. Information on stock distribution, fishing grounds and management regulations compiled by M9 1b.ii. 1st workshop held by M10 and work plan for Y2 finalised by M11 1b.iii. Management regulation discussed with stakeholders by M18. Refinements completed by M21. 1b.iv. 2nd workshop held by M22 1c.i. Research programmes developed by M3	Quarterly project reports Monthly budget statements	Data exists and is shared Suitable facilities identified and workshops well supported Research facilities available and project relevant to sustainable exploitation. project identified and approved by external peer-review Links made to RECOFI (WGFM) workshops planned for 2012 on minimum data requirements, management plans and bycatch reduction

	1c.ii. Research projects completed by M23 1c.iii. Workshops held by M12 and M23		
<u>IUU fishing and VMS</u> 2a.i. Review current regulations, fishing vessel registration programmes, and at-sea, port and market inspection procedures. Compile lists of infringements. 2a.ii. Hold 1st workshop. Introduce VMS and port State measures. Work plan for Y2. 2a.iii. Develop options to reduce or eliminate IUU activities. 2a.iv. Hold 2nd workshop.	2a.i. Reviews completed by M10 2a.ii. Workshop held and work plan for Y2 developed by M11 2a.iii. IUU reduction measures developed by M12 2a.iv. Workshop held by M20	Quarterly project reports Monthly budget statements	Generally as for "shared stocks"
<u>Marine cage and shrimp culture</u> 3a.i. Organise symposium on existing marine cage and shrimp culture systems in sub-region and prepare working papers 3a.ii. Hold symposium 3a.iii. Receive papers and publish symposium proceedings 3a.iv. Develop and disseminate information on marine cage and shrimp culture opportunities	3a.i. Symposium organised and working papers received by M12 3a.ii. Symposium held by M13 3a.iii. Symposium proceedings published by M24 3a.iv. Information disseminated by M24	Quarterly project reports Monthly budget statements	Symposium should include workshop sessions to build on RECOFI WGA initiatives and produce plan of work to implement appropriate ones within the project Symposium should include a range of stakeholders including the private sector Information material should aim to increase production under an EAA strategy, particularly in poorer areas
<u>Fish trade and markets</u> 4a.i. Review of regulations 4a.ii. Hold 1st workshop. Work plan for Y2. 4a.iii. Harmonise regulations. 4a.iv. Hold 2nd workshop.	4a.i. Working papers finalised by M11 4a.ii. 1st Workshop held by M12 4a.iii. Harmonisation completed by M21 4a.iv 2nd workshop held by M22	Quarterly project reports Monthly budget statements	Generally as for "shared stocks"
<u>Government institutional development and organisational strengthening</u> 5a.i. Assesses needs for rehabilitation of fisheries infrastructure in Iraq and develop support package. 5a.ii. Assess needs for institutional development within the Government fisheries departments of Iran, Iraq and Kuwait.	5a.i. Discussions on rehabilitation of marine fisheries infrastructure with Iraq started by M2 and support package developed by M12 5a.ii. Discussions with Government departments on their infrastructure development to meet needs of CCRF held in M6, M12, M18 and M24.	Quarterly Project reports	Generally as for "shared stocks"

Project Coordination 6a. Select national focal points and coordination teams 6b. Hold Coordination Committee meetings 6c. Develop data sharing agreement 6d. Establish secure data repository 6e. Database moved to sub-regional repository	6a. National focal points and coordination teams selected by M2 6b. Inception meeting by M2, mid-term meeting by M12 and review meeting by M24 6c. Data sharing agreement drafted by M2 for national approval 6d. Secure data repository agreed upon by M2 and, if with project, is moved to sub-regional repository by M24	Quarterly Project reports Review reports	

6.3. ANNEX 3 WORK PLAN

OUTPUTS / ACTIVITIES	YEAR 1												YEAR 2											
Project months	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Output 1: Shared stocks																								
1a.i Document data collection, catch/landings statistics, preliminary assessments	p	p	x	x	x	x	x	x	x															
1a.ii. Workshop (1st stock status)										W														
1a.iii. Refined data collection											x	x	x	x	x	x	x	x	x	x	x			
1a.iv. Workshop (2nd stock status)																						W	x	x
1b.i. Compile information on fishing grounds and management regulations	p	p	x	x	x	x	x	x	x															
1b.ii. Workshop (1st mapping and management)										W														
1b.iii. Finalise mapping and harmonise management regulations													x	x	x	x	x	x	x	x	x			
1b.iv. Workshop (2nd mapping and management)																						W	x	x
1c.i. Develop hilsa shad and gear impact research projects	p	p																						
1c.ii. Undertake research projects and hold research workshops				x	x	x	x	x	x	x	x	W	x	x	x	x	x	x	x	x			W	
Output 2: IUU fishing and VMS																								
2a.i. Review vessel registration, at-sea, port and market inspections, infringements	p	p	x	x	x	x	x	x	x	x														
2a.ii. Workshop (1st IUU & VMS)											W													
2a.iii. Develop options to reduce or eliminate IUU activities												x	x	x	x	x	x	x	x					
2a.iv. Workshop (2nd IUU & VMS) and follow up																				W	x	x	x	x
Output 3: Marine cage and shrimp culture																								
3.i. Select Symposium committee, Technical committee, organise and hold symposium	p	p	x	x	x	x	x	x	x	x	x	x		S										
3.ii. Prepare papers for symposium			x	x	x	x	x	x	x	x	x	x												
3.iii. Receive papers and publish symposium proceedings														x	x	x	x	x	x	x	x	x	x	x
3.iv. Develop and distribute information on aquaculture opportunities														x	x	x	x	x	x	x	x	x	x	x
Output 4: Fish trade and markets																								
4.i. Review of trade regulations by countries	p	p	x	x	x	x	x	x	x	x	x													
4.ii. Workshop (1st trade)												W												
4.iii. Harmonising trade regulations													x	x	x	x	x	x	x	x	x			
4.iv. Workshop (2nd trade) and follow up																						W	x	x
Output 5: Government institutional development and organisational strengthening																								
5.i. Rehabilitation of fisheries in Iraq (develop support package)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5.ii. Assisting Fishereis Departments with institutional development						x						x						x						x
Output 6: Date depository and Project Coordination																								
6.i. Select National Focal Points and Component teams	p																							
6.ii. Develop plan of work for Y1 and the data sharing agreement	p	p																						
6.iii. Coordination Committee meetings		M										M												M
6.iv. Establish project data repository. Move to sub-regional repository (if necessary)			p																				p	p
6.v. Coordinate's above work for outputs 1-5 with National Focal Points	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p

x = work undertaken by Iran, Iraq and Kuwait. p = Coordinating and planning work of project. M = meeting (2 days). W = workshop (3-5 days). S = symposium (3-5 days).

6.4. ANNEX 4: TERMS OF REFERENCE

6.4.1. National Focal Point

In accordance with the Project Document, the National Focal Point is designated by the relevant national authority to promote and give advice on the Project activities and to participate in the formulation and contribute to the implementation of the Project programme of work.

The National Focal Point shall have an advisory and liaison function with respect to the programme of work and the relevance of this to the national policy of fisheries development and management. The National Focal Point is a high level, experienced fishery scientist/manager who has access to his/her country's main fishery information. He/she will be:

- In direct contact with the Project management;
- Informed by the Project Advisor on the most important Project activities planned and under implementation at the regional level;
- Considered at the head of the Project mailing list and be provided with all the technical output;
- Informed on all the activities carried out at national level.

The function of the National Focal Point is to participate in the overall Project's research and development programme. Specifically, the functions of the National Focal Point are:

1. To advise the Project on appropriate activities and programmes, within the limits of the available Project budget;
2. To review and discuss the annual work plans offering proposals for and planning of scientific and technical meetings and field activities in the context of the Project's framework of activities;
3. To assist the Project, on the basis of the technical work carried out, to draw conclusions and advice for appropriate action in fisheries research and management;
4. To support scientific liaison and coordination with relevant fisheries organisations or related projects and with appropriate institutions and interested scientists in the Project participating countries or outside the Project region;
5. To coordinate specific Project activities and initiatives at the national level also providing all the necessary support in information gathering and data collection;
6. To ensure effective flow of communications regarding the Project activities to and from the national scientific and institutional counterparts, and relevant stakeholders.

6.4.2. International Project Advisor

This is a P5 equivalent position to implement and manage the FAO project *Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI* in the marine and coastal waters of the Islamic Republic of Iran, the Republic of Iraq and the State of Kuwait. The 28th and 30th FAO Near East Regional Conference, and the 5th and 6th sessions of the Regional Commission for Fisheries (RECOFI), asked FAO to develop a project that will increase national cooperation in the northern Persian Gulf for the sustainable benefit of marine fisheries and aquaculture. Iran, Iraq and Kuwait held regular meetings in 2009-2011 and identified the management of shared stocks, IUU fishing, coastal aquaculture, regional trade and markets, and Government institutional development and organisational strengthening, as issues requiring urgent attention. This project establishes a cooperative framework to develop and discuss these issues under the framework provided by the FAO Code of Conduct for Responsible Fisheries.

Duties and Responsibilities: Under the general supervision of the ADG/RNE, the direct supervision of the Senior Fishery Officer (RNE), and in full collaboration with the LTO/LTU, the Project Advisor will manage the project and coordinate the project activities, with the assistance of the National Focal Points, in Iran, Iraq and Kuwait under a cooperative framework. Specifically he/she will:

1. Implement the project according to the project document, or according to modifications made by the project's Coordination Committee.
2. Coordinate, with the National Focal Points and Lead Persons for the Component Teams, the necessary data requirements and working paper preparations for the workshops. Provide follow-up support for subsequent workshop reports and future plans. Act as rapporteur at workshops if required.

3. Coordinate the aquaculture symposium and act as editor for the proceedings.
4. Regularly visit Iran and Kuwait to discuss the project and methods of implementation with the National Focal Points. For security reasons and unless the situation improves, visits to Iraq by UN staff or international consultants are severely restricted and it is not currently anticipated that project staff or consultants will visit Iraq. Discussions regarding Iraq will be held outside of Iraq at a mutually agreeable location.
5. Select international consultants according to the agreed ToRs, ensuring transparency at all times, and provide recommendation for hire to FAO.
6. Prepare work plans and reports necessary to implement and monitor the project.
7. Undertake budgetary planning and produce accounts as required under the FAO system.
8. Represent the project at the Coordination Committee meetings, and as far as is possible, attend workshops and symposium meetings.
9. Maintain close synergy with RECOFI and the RECOFI Secretariat, and ensure that the project cooperates fully with their decisions regarding fisheries and aquaculture.
10. Ensure that the project has a high profile within the sub-region and ensure the participation of relevant stakeholders when feasible and useful.
5. Any other duties required for the success of the project.

Reporting: Submit reports every three-months to FAO and organise and represent the project at the mid-term and final Coordination Committee meetings. Produce *ad hoc* project reports as required by the donors and FAO. Coordinate workshop reports.

Qualifications: The applicant should have an advance degree in marine science, fisheries socio-economics, natural resources, biology, or similar, with at least 10 years of employment with the Government sector or with large International Development agencies, within the capture fisheries and/or aquaculture sector. A further 10 years of experience of full-time work experience with international donor-funded development projects of which at least five years in a project leadership position would be an advantage. Experience of working with regional fisheries bodies on international fisheries issues is desirable. A working knowledge of the common computer software packages is essential.

Language: This post requires excellent written and spoken English language skills. The project language is English. However, the Project Advisor must ensure that important documents are translated and available in English, Arabic and Farsi. When appropriate, the Project Advisor should ensure that simultaneous translation is available during meetings.

Duration of the Assignment: The assignment is for 50% time over a two-year duration.

Duty Station: Project Advisor will be based in his/her country of residence, providing that there is full unrestricted access to the internet for communications purposes, a fully functional telephone system, and preferably a secure postal system.

Travel: The Project Advisor will be required to travel regularly to Iran, Kuwait, Iraq (if practicable) and perhaps elsewhere in the region, and probably to the FAO Offices in Rome Italy, Cairo Egypt and Amman, Jordan as required. There is likely to be at least 2 months of travel per year.

6.4.3. International Consultants for (1) Shared Stocks, (2) IUU and VMS, (3) Aquaculture, and (4) Fish Trade and Markets

The FAO *Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI* project is promoting national cooperation among the Islamic Republic of Iran, the Republic of Iraq, and the State of Kuwait, for the sustainable benefit of marine fisheries and aquaculture in the northern Persian Gulf. All three countries are members of the Regional Commission for Fisheries (RECOFI). The project is specifically concerned with managing shared stocks, IUU fishing and VMS, coastal aquaculture, and regional trade and markets. This will be achieved, in part, through a series of topic-specific workshops. Participants will be asked to prepare working papers and bring relevant national data sets to the meeting. At the meeting, the participants will work cooperatively to analyse the data sets and produce a report that contains the discussions, the results of the analyses and a plan for future work. This will be undertaken in accordance with the FAO *Code of Conduct for Responsible Fisheries* (CCRF).

Duties and Responsibilities: Under the general supervision of the ADG/RNE, the direct supervision of the Senior Fishery Officer (RNE), and in full collaboration with the LTO/LTU and Project Advisor, the consultant will attend the workshops and assist, discuss and advise participants on the appropriate technical issues as required. The consultant shall provide an overall perspective and serve to peer review the methods and conclusions discussed in the workshops. Specifically he/she will:

1. Review and revise the draft agenda, working papers, and any metadata submitted in advance of the workshops. Using published RECOFI reports, identify how the issues have been previously discussed in a regional context. If necessary, raise any questions with the authors prior to the workshops.
2. Attend workshop:
    - lead discussions,
    - assist participants as necessary,
    - ensure that issues are addressed according to the CCRF,
    - assist in the drafting of any proposals that may arise from the meeting, and
    - assist in the production of a future plan of work.
    - Assist in the production of a meeting report.

Reporting: The consultant should provide, during the meeting, an independent draft report of the issue under discussion. This should present the issue in both a regional and an international perspective. In general terms, the report should identify the necessary steps that need to be taken by the Governments of Iran, Iraq and Kuwait, as appropriate, to develop the issue in accordance with the CCRF. The report should clearly identify the strengths, weaknesses, opportunities and threats (or constraints) relevant to the issue at the national level. The consultant's final report should be sent to the Project Advisor for inclusion in the meeting report within two weeks of the end of the meeting.

Qualifications: The consultant should be a recognised international expert in the particular issue with a strong publication record and should have proven experience of working with Government Fisheries Departments. Experience of working with regional fisheries bodies and international development is desirable. The consultant should have experience of leading meetings and in report writing.

Language: This consultant should have excellent written and spoken English language skills.

Duration of the Assignment: The assignment is for 12 days. The consultant will be expected to work for approximately 3-4 days prior to the meeting, 3-5 days at the meeting, and for 3-4 days immediately after the meeting.

Duty Station: The consultant is required to travel to the meeting that will be held in Iran, Jordan, Kuwait, Iraq (if practicable) or Egypt.

6.4.4. International Fisheries Research Consultant

The FAO *Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI* project is promoting national cooperation among the Islamic Republic of Iran, the Republic of Iraq, and the State of Kuwait, for the sustainable benefit of marine fisheries and aquaculture in the northern Persian Gulf. All three countries are members of the Regional Commission for Fisheries (RECOFI). The project is specifically concerned with managing shared stocks, IUU fishing, coastal aquaculture, regional markets, and trade. A component of the shared stocks work is undertaking research projects on the biology of Hilsa shad *Tenualosa ilisha* relevant to the management of that stock, and on the environmental impact of shrimp trawls including an assessment of bycatch. The research projects, in addition to undertaking high quality research, are intended to stimulate cooperation among the marine research centres and Government fisheries management departments of Iran, Iraq and Kuwait.

Duties and Responsibilities: Under the general supervision of the ADG/RNE, the direct supervision of the Senior Fishery Officer (RNE), and in full collaboration with the LTO/LTU and Project Advisor, the consultant will serve to provide external peer review to the research projects and ensure synergy in the design and implementation. Specifically the consultant will undertake the following duties on the research projects:

1. Assist in the design of the research projects and plans of work, and ensure that the projects are of relevance to fisheries management as outlined in the *Code of Conduct for Responsible Fisheries*,

2. Maintain regular contact with the supervisors/researchers and ensure, with the assistance of the Project Advisor, cooperation among the research projects,
3. Undertake a mid-term review, and
4. If necessary, assist in the editing of English-language publications for peer reviewed international journals or reports.

Reporting: The consultant should provide a brief report of the design of the projects and its relevance to fisheries management prior to final approval of the research projects. Thereafter, the consultant should provide a mid-term evaluation report of the progress of the research project against the agreed work plan.

Qualifications: The Consultant should have a doctorate degree and have a solid publication record in peer reviewed research journals. He/she must be a recognised international expert in fisheries science and fisheries management and have worked with fisheries assessments in appropriate regional fisheries body scientific working groups.

Language: This Consultant should have excellent written and spoken English language skills.

Duration of the Assignment: The assignment is for a total of 24 days spread over a period of two years.

Travel: The consultant will be expected to travel to Iran and Kuwait, and Iraq (if practicable) to assist in the project design and to undertake the mid-term review.

Duty Station: The duty station will be considered to be the Consultants home base.

6.4.5. National Consultants for (1) Shared Stocks, (2) IUU and VMS, (3) Aquaculture, and (4) Fish Trade and Markets

The FAO *Initiative on Fisheries Management Cooperation in the Northern Area of RECOFI* project is promoting national cooperation among the Islamic Republic of Iran, the Republic of Iraq, and the State of Kuwait, for the sustainable benefit of marine fisheries and aquaculture in the northern Persian Gulf. All three countries are members of the Regional Commission for Fisheries (RECOFI). The project is specifically concerned with managing shared stocks, IUU fishing, coastal aquaculture, regional markets, and trade. This will be achieved, in part, through a series of topic-specific workshops. Participants will be asked to prepare working papers and bring relevant national data sets to the meeting. At the meeting, the participants will work cooperatively to analyse the data sets and produce a report that contains the discussions, the results of the analyses and a plan for future work. This will be undertaken in accordance with the FAO *Code of Conduct for Responsible Fisheries* (CCRF).

Duties and Responsibilities: The national consultant will prepare for and attend the workshops and assist, discuss and advise participants on the appropriate issues within a local context. Specifically he/she will:

- attend workshop:
- assist in discussions,
- assist participants as necessary,
- ensure that issues are addressed according to the CCRF, and
- assist in the production of a future plan of work.

Reporting: There are no reporting requirements.

Qualifications: The national consultant should be a recognised expert in the particular issue with a strong publication record and should have proven experience of working with Government Fisheries Departments.

Language: This national consultant should have excellent written and spoken English language skills.

Duration of the Assignment: The assignment is for the duration of the workshop (expected to be 3-5 days).

Duty Station: The national consultant is required to travel to the meeting that will be held in Iran, Jordan, Kuwait, Iraq (if practicable) or Egypt.

7. APPENDIX 1. TEMPLATE FOR DRAFT WORKSHOP AGENDAS

This template for the draft agendas is designed to guide the first workshop meetings of the components on (1) Shared stocks, (2) IUU and VMS, , and (3) Fish trade and markets. This draft agenda template will need to be amended so that it is applicable to each of the three component workshops.

1. Opening
    - Appointment of Chair
    - Appointment of Rapporteur
    - Adoption of Agenda
    - Introduction of external consultant
    - Introductions from participants
    - Plan of work
2. Background information
    - The project
    - This component
    - RECOFI and associated relevant discussions and decisions
    - Summary of relevant national legislation and regulations
3. National presentations
    - Iran
    - Iraq
    - Kuwait
4. Sharing and combining of data and/or information
    - *Details to be decided prior to circulation of draft agenda*
5. Analyses of shared data sets/information
    - *Details to be decided prior to circulation of draft agenda*
6. Results and conclusions
    - *Details to be decided prior to circulation of draft agenda*
7. Planning of future work
    - *Details to be decided prior to circulation of draft agenda*
8. Any other business
9. Adoption of report
10. Adjournment