The Development of a Global Record of Fishing Vessels: High Level Project Plan

Prepared by

for

The Food & Agriculture Organization of the United Nations

Final Report

Note that this report is a discussion document only and has no formal FAO status. The views contained within it are those of the authors and do not necessarily represent those of FAO.

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Acronyms

ACP	African, Caribbean, Pacific
COFI	The Committee on Fisheries (FAO)
COMESA	Common Market for Eastern & Southern Africa
COREP	Regional Fisheries Committee for the Gulf of Guinea
CRFM	Caribbean Regional Fisheries Mechanism
CSRP	Commission Sous-Régionale des Pêches
EEZ	Economic Exclusive Zone
EQUASIS	European Quality Shipping Information System
FFA	Forum Fisheries Agency
EU	European Union
FAO	The Food and Agriculture Organisation of the United Nations
GT	Gross Tonnage
HSTF	High Seas Task Force
HSVAR	High Seas Vessel Authorization Record
HSVIS	High Sea Fishing Vessels Information System
IMO	International Maritime Organization of the United Nations
IUU	Illegal, Unreported and Unregulated
IT	Information Technology
KIS	Keep it Simple
LRF	Lloyds Register – Fairplay Ltd.
M&E	Monitoring and Evaluation

MCS	Monitoring, Control and Surveillance
OR	Open Register
P&I	Protection and Indemnity
RFMO	Regional Fishery Management Organization
SADC	Southern African Development Community
SAG	Stakeholder Advisory Group
SRO	Senior Responsible Organization
STCW	International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978
STO	Senior Technical Officer
TA	Technical Assistant
TL	Team Leader
UN	United Nations
UVI	Unique Vessel Identifier
VMS	Vessel Monitoring System
WWF	World Wildlife Fund
STTA	Short Term Technical Assistant

1. Introduction and Background

The report entitled "The Development of a Global Record of Fishing Vessels: Conceptual Structure and Governance Options" explores the conceptual structure for the GR, presents principles of best practice for governance of projects with features similar to the Global Record (GR), and considers governance arrangements for a GR. This related output provides detail for the planning and development of the GR and its implementation. Most importantly the report revisits the proposed project outline for the Development Phase (Appendix 3) of a feasibility study completed by FAO in 2006 entitled "Comprehensive Record of fishing vessels, refrigerated transport vessels, supply vessels and beneficial ownership" (FAO, 2006), and updates its contents based on the findings.

To be effective the GR needs to exhibit the following core characteristics:

- it would add value to existing sources of information on vessels, and be an appropriate mechanism to deter illegal activities, thus building on and superseding existing authorization and blacks lists, including both RFMO as well as EEZ authorizations;
- MCS practitioners would support the information requirements outlined in the proposed search criteria and be able to use this to identify and manage risk or identify potential illegal unreported and unregulated (IUU) vessels and act accordingly;
- national authorities, including developing countries, would concur that the GR is an effective compliance tool;
- Open Registries (ORs) and States with larger vessel registries not party to the existing Compliance Agreement are persuaded to participate;
- An effective web portal would be based on user demand containing access to registration information, but providing other additional information (fishing authorizations, sightings, inspections etc) from the registration and licensing authorities.
- The web portal would conform to the principles of KIS (Keep it Simple), and avoid scope creep.
- the source of GR data would be a combination of at least the following four data bases: (i) Lloyds Registry – Fairplay Ltd (LRF) providing information on vessels in excess of 100 GT using LR IMO numbers as Unique Vessel Identifiers (UVIs); (ii) national registries providing information on all their vessels supported by a unique vessel numbering scheme for vessels less than 100 GT; (iii) RFMOs, providing lists of vessels authorized to fish; and (iv) national licensing authorities, providing details of legitimate domestic and third party fishing activities (e.g. fishery partnership authorizations) fishing inside the EEZ.
- the GR would be public available, but require users to apply their judgment on the contents of the data base.

2. Review of existing project plan for the development of the Global Record

The context in which this project has evolved has not enabled a more methodical approach to project development. The mandate provided by COFI has placed certain constraints on the nature of the work undertaken to date, resulting in some sequencing issues and gaps in the developmental process that now need to be addressed.

Having reviewed the existing literature (Appendix 1) and HSTF dialogue there would appear to be a number of areas requiring further consideration:

- Relevant reports and documentation identifies the GR as a strong deterrent but does not provide any cost / benefit analysis justifying its adoption. Most significantly lessons learned can be gleaned from RFMOs operating Compliance ('white') and black lists and the benefits quantified. It is important to quantify the benefits of a GR in order to justify the potential development cost, and possible evolution to users paying for use of the GR
- The focus to-date has been on the technical content of the GR and on legal issues, when there needs to be more thought and contribution from MCS practitioners as to the required scale of the GR, how it will be applied, and whether it will act as an effective deterrent with full or partial adherence from national registries;
- Consultation to-date on the GR and its application has been effective but restricted to the 'great and the good'. Specific and highly relevant stakeholder groups include:
  - the developing countries that are the custodians of significant fishing EEZs (e.g. the IOC and FFA countries, and others such as Mauritania),
  - their regional organizations (FA, CSRP, COREP, CRFM, EU, PRAO, SADC)
  - the major ORs,
  - Countries not listed on existing global portals (e.g. 30,000 Chinese vessels over 100 GT that are not part of the LRF)
  - The RFMOs
- Special attention needs to be paid to identifying the impact of the GR, and its likely effectiveness as a deterrent. Existing feasibility reports do not address this in detail.
- There is some dialogue[1] on possible expansion of the coverage of the GR to include vessels below 15 m. Having determined the boundaries of the UVI questions remain as to whether there is really justification for extending the GR to a larger list of vessels, thereby expanding the demands on both the portal and on the data suppliers. The development of the GR has to be seen as a deterrent, not as an all embracing data system. The MCS users will thus need to determine whether other deterrents could more effectively deal with such vessels, or indeed if smaller groups of vessels are significant contributors to IUU. The Technical consultation will need to be informed of the cost/benefit implications of extending the remit to one that is both desirable and cost-effective.

[1] Reference to the UVI correspondence group re-evaluating the lower limit

- There is discussion[2] about including other compliance elements such as the Torremolinos Protocol, 1997, and the International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978. These are issues that would detract from the central focus of the GR as an MCS deterrent. Nevertheless, additions such as these could be added at a later stage.

The conclusions from the above are that the following principles should apply:

Principle 1: There needs to be a clear focus and understanding on what the costs and benefits[3] of the GR are, especially if the GR is evolve to a user pays system, i.e. is it nice or necessary to have, and will it contribute to a reduction in IUU?
Principle 2: The GR needs to be user driven with a focus on its content in support compliance?
Principle 3: There must be support from significant number of users, i.e. at least the RFMOs and those countries with very active foreign EEZ activity, thus demonstrating that the GR is a strong tool, surpassing the effectiveness of the present white and black lists;
Principle 4: The project must encourage participation, taking what is available and converting it to a suitable format, while supporting capacity building to national registries, thus ensuring high quality inputs to the GR;
Principle 5: The web system must be simple to interrogate and provide access to regularly updated information;
Principle 6: Access must be assured to a wide group of users, not be restricted, thus avoiding the possible dangers of duplication.

The previous technical feasibility study completed by FAO in 2006 proposed a project implementation plan for establishing and maintaining a GR. Key components of this plan are identified in Box 1 below.

Box 1: Proposed GR project outline (FAO 2005/2006)

1. The project envisages activities directed at maritime administrations and fisheries administrations in individual countries, regional fisheries management organizations and fisheries management bodies. Technical assistance would be made available in relation to data storage and reporting formats.
2. The development project's objective would be '*to provide a single source information system (the GR) on fishing vessels, and fishing support vessels (supply ships, reefers and bunkers), which would enhance national and international initiatives to better manage the exploitation of fishery resource*s'.
3. The project would comprise a series of activities starting with **correspondence groups**, identifying the critical issues (Unique Vessel Identifier, Database architecture, User Requirements MCS), with a lead in to suggested solutions, **technical reporting** evaluating the outputs of the correspondence groups and evaluating the feasibility of the GR, **regional workshops** and a **development project** operated by dedicated specialists.
4. Other purposes/strategies were identified in the FAO document and included

[2] The opportunity exists to obtain information on vessels complying with the Torremolinos Protocol, as well as for the implementation of other maritime instruments, such as the Collision Regulations and the Convention on Standards of Training and Certification and Watchkeeping (STCW-F Convention)
[3] Benefits would be determined through measuring the degree to which compliance changed as a result of the introduction of RFMOs White and Black lists, and at what cost..

focusing on policy support, capacity building and cooperation;
5. A development phase would run for not less than 2 years after which it would be expected that a substantial number of countries would be expected to provide data to a GR
6. The project personnel would comprise a Team Leader, data base expert, and legal experts. The Project would operate from FAO headquarters in Rome, with some allowances for secondment of FAO Technical support staff.
7. The costs of project development were estimated at US$ 2,466,790 over 3.5 years

The following observations are drawn from the above project design.
1. The GR objectives are well articulated and are *SMART* (Specific, Measurable, Achievable, Realistic, Time bound), but on the proviso that:

- The GR objective is focused without reference to potential linkages to other activities (as originally envisaged by the HSTF, for example, to the MCS Network) (Specific);
- GR inputs are secured and its utilization leads to actions which deter IUU activities (Measurable);
- Developing countries or their corresponding regional organizations or the ORs support the concept[4]. This also requires a Senior Responsible Organisation (SRO) to act as the single point of accountability (Achievable);
- Stakeholder participation is secured (Realistic). This will only be achieved if the proposed regional workshops are sufficiently widespread, well attended and agreement is secured from national administrations (including ORs, regional bodies, and RMFOS);
- It is affordable, and stakeholders share a willingness to cover the cost (as and when its development stage is completed and it is operating) (Realistic);
- The time schedule allows for a detailed project development phase (with strong levels of technical input and project development), followed by a project implementation phase with clearly defined evaluation points (Time bound)

2. The sequence of project development leading to project implementation is defined (as per Box 1 above), but given principles 1 to 4 above it would seem appropriate to more fully justify the GR prior to technical reporting. The correspondence groups have not generated sufficient outputs to lead into technical reporting and more attention needs to be paid to MCS user needs and justifying the project (i.e. justifying and defining the business needs) based on defined quantitative and qualitative deterrent benefits. A revised sequence is therefore suggested as follows:

- A full *ex-ante* impact assessment of the effectiveness of the GR;
- Stakeholder Advisory Group (SAG) evaluation of impact assessment of results, confirmation of business needs and assessment of governance arrangements;
- Data base architecture and development of exchange protocols;
- Technical reporting;
- Technical consultation
- Project implementation

[4] Much of the focus on the GR to date has come from a small number of countries, the HTSF (UK, Canada, Australia, New Zealand, Chile and Namibia; with some further participation of some RFMOs and other OECD and EU countries, but not from the some of the larger fishing nations (e.g. China) or the ORs.

3. Review of key principles, standards and best practice for project development and implementation

A number of key themes of best practice are suggested as being essential in developing and managing the sequence of GR development. A more expansive checklist is provided in Appendix 3, but key themes are summarized below.

Theme 1: Policy context and stakeholder ownership

- There must be a strong commitment to the project with clear expectations of the benefits.

Theme 2: Project management

- A Senior Responsible Organization (SRO) must be appointed with strong leadership skills, which can provide prolonged support (in this case 7 years, 2 for project development, and 5 for project implementation[5]);
- All legal constraints must be identified and solutions proposed;
- The capacity of the input organizations (data providers) has to be strong or improved with capacity development support. There are 132 national registries in operation (Appendix 4). The data available to the GR needs to be in a specified format. At the present time the quality of data and the capacity of those completing national registers is variable. This will require a support component within the project to assist particular countries in improving the quality of data;
- The management team must have the required skills and resources to undertake any proposed activities.
- Project activities will require appropriate budgets for management personnel, outreach support activities and information services (e.g. LRF).

Theme 3: Project design

- The objectives must be SMART and the expected Result clear without the risk of burdening the development phase with too many activities. For example, the FAO Feasibility Study (FAO, 2006) points to policy formulation, and by implication, tools to assist countries in implementing risk analysis. The purpose of the GR should be seen as providing data, with the recipient beneficiary applying its own judgment as to its application;
- The risks to the project must be identified and strategies prepared to resolve/mitigate them e.g. funding for acquisition of core data from LRF; legal issues and security of information issues; unwillingness of ORs to cooperate despite international obligations to do so;
- Risk mitigation strategies and contingency measures should focus on identifying and resolving risks at an early stage; wide stakeholder representation in the various governance bodies proposed for the project should facilitate good awareness of risks;
- The project must be affordable, with appropriate resources made available to undertake the activities. Project planning must include adequate provision for impact assessment, a Stakeholder Advisory Group and short term technical assistance, as well as regional workshops to ensure stakeholder support (*Theme 1*). Project activities require a programming specialist, and at least 2 outreach

[5] Five years is the normal time frame for a project.

officers/data validators to ensure capacity strengthening and compliance with datarequirements. These officers should not be secondees.

Theme 4: Review of process and performance

- The inputs/activities, outputs, outcomes and objectives must be clearly defined and indicators set and periodically re-evaluated.
- Evaluation principles of efficiency, effectiveness, impact, coherence, relevance and sustainability should apply at all critical stages of decision making.

Theme 5: Readiness for future phases

The project development and implementation phases must be sequenced with checks in place to revalidate:

- Technical and economic feasibility
- Continuing commitment from stakeholders
- Confidence that the project can deliver the required outputs, or whether these require updating
- That the project brief remains valid (efficient, effective, coherent, relevant and sustainable)

Principles and lessons learned regarding *management/implementation* of projects of a similar nature are provided in section 4 below.

4. Management issues from IT development projects with features similar to the Global Record

A number of case studies with features similar to the GR have been reviewed, to learn some lessons in project activity that may be useful in informing the development and operation of the GR (see Appendix 5). The case studies are[6]:

1. Equasis[7], which collates and makes public on the internet existing safety-related information on ships throughout the world.
2. The European Community fleet register, which is an internet-based database where all the fishing vessels flying the flag of a Member State have to be registered in accordance with Community legislation[8].
3. The International Phytosanitary Portal, which provides information of a global nature on the web on the spread and introduction of pests of plants and plant products, as well as more general information of interest to the phytosanitary community[9].

Key project development and management lessons from these case studies are that:

- Those nominated with responsibility of entering data in contributing countries must be able to devote sufficient time to data entry, and have sufficient IT capacity to do so;
- Turnover of staff nominated with responsibility for entering data can be very fast. This suggests the need for ongoing/long-term training, and the use of online training modules/tools. Training courses for those entering data are also a crucial element of a project. Training courses can be used for advocacy about the importance of the portal, and courses must be of a sufficient length, and sufficiently flexible to cater for a wide range of capacities of those being trained;
- Software must be carefully chosen to maximize functions and flexibility, and to meet the needs of users, rather than being based on existing systems purely because they are there;
- Project scope should be kept simple at the outset, but provide for later re-development and expansion;
- Clear project milestones and phasing of activities must be built into project design and operation;
- Sufficient budgets must be provided from the outset, with a mix of both core and extra-budgetary funds in an appropriate balance that provides both guarantees of minimum funding, as well as the strong possibility of raising additional funds;
- IT/systems development work is better done by experts with relevant sectoral knowledge (e.g. plants/pests, or fisheries), than by pure IT specialists. IT/systems development work may be better when kept 'in-house' with project designers/managers. This also ensures that project managers have control of

6 Other portals considered but not reviewed in detail, but which nevertheless have some relevance, include a) Lloyds register/Fairplay http://www.ships-register.com/ b) GCFM data base http://www.gfcm.org/gfcm/topic/16163 c) Greenpeace blacklist http://blacklist.greenpeace.org/ d) the Integrated Taxonomic Information System http://www.itis.gov/ and e) The IUCN Red List http://www.iucnredlist.org/

7 http://www.equasis.org/EquasisWeb/public/HomePage

8 http://ec.europa.eu/fisheries/fleet/index.cfm

9 https://www.ippc.int/IPP/En/default.jsp

any changes in IT/systems without needing to go back to systems developers (with additional associated costs).

- When working within a system that may make quick recruitment of expertise difficult, project managers may be well served to employ people with key/necessary skills on a full-time basis.
- It is not possible to just build up a system and once it is done let it run itself. There will always be some maintenance and improvements that have to be made, and hardware to be maintained, replaced and/or updated.

5. Development of a high level project plan

5.1 Project tasks

A number of activities are suggested below, subject to a mandate being provided by COFI, and based on the GR development principles (Section 2); project development themes (Section 3); and lessons learned (Section 4). These activities may be broadly, but not necessarily, undertaken in sequence (Box 2).

Box 2: Project planning, justification and development activities

Stage 1: Project development and planning phase (January 2009-September 2010)

- FAO accept responsibility as the Senior Responsible Organization (SRO)
- Appoint/hire a Project Director, a Project Manager , a Project Board and a Stakeholder Advisory Group (April 2009);
- FAO recruit technical consultants, one economist, one with MCS experience (user) and one with experience in registries (supplier) to undertake an impact assessment of the GR (May-July 2009);
- Stakeholder Advisory Group and Project Board (September 2009) to review outputs from the impact assessment study, the conceptual structure and governance arrangements and to confirm whether or not to proceed, and then to determine GR definitions;
- FAO recruit/ hire Short Term Technical Assistance (STTA) on governance, data base architecture and legal statutes to support the development of the GR (October to November 2009);
- The Project Manager prepare a technical report on the development of 'proof of concept' detailing the scope, impact and effectiveness of the GR, as well as governance, data requirements, IT design and legal protocols (December-March 2010);
- A Technical Consultation and related output document based on all previous sequences, and incorporating comment from regional groupings and seeking approval to proceed to the Project implementation phase (April 2010);
- Project design phase submitted to COFI for mandate (September 2010)

Stage 2: Project implementation phase (January 2011-December 2015)

The justification for these activities is as follows:

1. FAO undertakes to be the SRO on the grounds that it commands significant respect as an international organization. The alternative is a rather piecemeal evolution with a single country undertaking the role, and with the risk of more limited buy in, especially from critical participating countries;
2. The existing literature refers to the size of the IUU problem, but does not directly identify the importance of the GR as a deterrent, nor does it attempt to gauge the likely economic benefits of establishing a GR. In view of the costs of GR development and implementation, the latter element is critical in justifying the GR. Moreover, the impact assessment study will clearly identify what the business needs are based on lessons learned from the RMFOs;
3. A Stakeholder Advisory Group (SAG) is the recommended governance consultation mechanisms to promote efficient dialogue, especially when the stakeholders (suppliers and users) cover a very large number of countries with different capacities to support implementation. The Stakeholder Advisory Group will also provide feedback to the Project Board to assist the Board in making the decision as to whether to proceed based on the recommendations from the impact assessment[10];

[10] Terms of Reference for the Project Board and SWG are contained in Appendix 6. The Project Board's, comprising 6 persons, focus being on providing advice on the Project's Management; the SWG (comprising 16 persons, including 7 users and 7 suppliers) providing specific feedback on relevant development and relevant regional issues

4. Technical issues that deal with providing advice on the GR mechanics can be isolated to experts under the supervision of a Project Manager. These issues will become very clear once the business needs have been confirmed by the SAG;
5. Drawing from the preceding work, the Project Manager will prepare the Technical Report, for discussion at a Technical Consultation, detailing the scope, impact and effectiveness of the GR, as well as governance arrangements, the data requirements, IT design and legal protocols;
6. A Technical Consultation is a cost effective mechanism of ensuring that stakeholders are made aware of the justification for the GR, and hopefully will provide support prior to project implementation. The alternative would be a more expensive regional consultation road show which has a danger of delivering very different priorities for the projects implementation. The Technical Consultation would provide another check to ensure that there is agreement that the project should proceed.
7. Project development will formulate the design based on the above inputs.

The outline for both the project justification and development phase, and the project implementation phase is presented below. Appendix 7 highlights the anticipated timelines, although these may of course be subject to change and need to remain a little flexible. Each activity contains a box which identifies a project management check-list based on the project management principles and best practice.

Phase 1: Project justification and development phase

Activity 1: FAO accept responsibility as the SRO

Project management check list: • Political support for the project initiative, project planning process specified, and funding available for the review stages (1 year); and with good project funding options for a further 5 years. • Readiness to move to the next phase

Activity 2: Appointment of a Project Director, Project Manager (and related supporting staff), Project Board and a Stakeholder Advisory Group as outlined in the governance arrangements proposed in the report "The Development of a Global Record of Fishing Vessels: Conceptual Structure and Governance Options"

The Project Board would oversee both the project development and implementation phases.

Project management check list: • Specification of a Project Board with the ability to understand project risks and have the capacity to provide solutions; • Long term commitment from the SRO. • Recruitment of a Project Director and Project Manager, both suitably qualified for the work with strong technical capacity in MCS • Readiness to move to the next phase

The FAO Project Manager should be tasked with recruiting consultants and supervising the impact assessment work, with an option for direct participation in this work (*Activity 3*), supporting the stakeholder workshops (*Activity 4*), recruiting and

supervising STTA consultants (database architecture and legal) (*Activity 5*), preparing the technical consultation paper to precede the Technical Consultation (*Activity 6*), coordinating the Technical Consultation (*Activity 7*); and compiling a detailed project plan (*Activity 7*), with the support of STTA, following the regional consultation.

The Project Manager would also request RMFO Executive Directors to agenda the GR at relevant meetings to enable the Project Manager and/or other FAO staff to inform stakeholders about the possibility of establishing a GR so as to seek their views and feedback during the justification and development phase.

***Activity 3*:** Completion of *ex-ante* impact assessment by a 3 person team: economist, MCS expert[11] and a fleet registration specialist**.**

Impact assessment is a set of logical steps which structure the preparation of policy or project proposals. It involves deepening the analysis and formalizing the results in an autonomous report. Doing an impact assessment involves answering a number of basic analytical questions:

- What is the nature, magnitude and evolution of the problem?
- What should be the objectives pursued? What are the main options for reaching these objectives?
- What are the impacts and +/- of options in terms of the economic, social, and environmental costs & benefits.
- What would be the relevance (to needs), coherence (with policy and other activities), effectiveness (impacts/results), efficiency (value for money), and sustainability (self-sustaining without funding support at some stage in future).
- How could future monitoring and evaluation be organized?

The impact assessment would thus serve to:

- Clearly articulate the MCS economic and the deterrent benefits of the GR, based on stakeholder working observations;
- Provide some guidance on what existing practitioners, the RMFOs, and other users of compliance black lists (e.g. Norway) perceive as the critical inputs;
- Provide details of problem issues associated with the white and black lists and how lessons may be learned in the context of the GR;
- Pose these issues to suppliers, and especially to the would-be critical inputters;
- Propose solutions to perceived barriers in terms of access to input information.

Activity 4: Stakeholder Advisory Group and Project Board workshop to evaluate the outputs of the proposed impact assessment, assess business needs and review governance arrangements (Appendix 6 and report "The Development of a Global Record of Fishing Vessels: Conceptual Structure and Governance Options"), establishing clear recommendations on:

1. GR outputs
    - The range of the UVI;
    - Confirm the GR inputs and outputs;
    - Define further areas for development (legal)

[11] It is recommended that the Project manager form part of this team so that he/she is particularly aware of the project issues. This will also result continuity as well as in project savings.

- Recommend actions to promote the GR

2. Governance arrangements
   - Mandatory or voluntary
   - All or part of data in registers to be made available to the public
   - Exact nature of data to held in registers and GR
   - Extent to which data may need to be paid for e.g. Lloyds
   - Consideration of governance arrangement for the Management and Technical Unit

Project management check list (Activity 3 and 4):

- Expectations confirmed
- Business needs defined
- Legal constraints identified
- Recommendations for risk mitigation
- Non acceptance of scope creep
- Implement an evaluation check list (efficiency, effectiveness, impact, relevance and sustainability)
- Readiness to move to the next phase

Stakeholder Advisory Group to provide feedback to the Board on the ex-ante impact assessment, with the Board making the final decision on whether to proceed to the next activity.

Activity 5: Explore GR technical implementation issues: STTA to propose data base architecture (using a fisheries IT specialist[12]) and legal statutes to support the development of the GR (Box 3).

Box 3: Proposed GR Short Term Technical Assistance inputs

1. IT development

- Reviewing the pre defined business needs;
- Outlining suitable technical architecture
- Defining data modeling requirements
- Defining system requirements
- Defining suitable budgetary requirements
- Data acquisition strategies

2.Legal[13]

- Basis for data format and exchange protocols
- specification of mechanism to resolve disputes

The short-term technical assistance would establish proof of concept based on a pilot using real data available, such as the Lloyds register on high seas vessels over 100GT and other data available from RMFOs. This would ensure that should COFI provide a

[12] Based on lessons learned, Poseidon report 1 stresses the need to engage a specialist that has the required IT fisheries knowledge. Systems should also be based in the specific user requirements and not incur the constraints of a pre defined system.

[13] Most likely perceived mechanism is identified as the Draft Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (hereinafter referred to as the Agreement on Port State Measures) [13]. It would not be proposed to revisit this area, unless the preceding dialogue identified specific additional constraints.

mandate for the GR during its meeting in September 2009, the pilot database could be suitably expanded/amended.

Activity 6: The Project Manager prepares a technical report drawing on the contents of the impact assessment, the technical STTA outputs and the Stakeholder Group Workshop recommendations. The paper will:

- Define the business need and scope of the GR
- Define the costs and benefits of the GR as a deterrent
- Define stakeholder participation i.e. who does what, where, and when, and who must be involved for the GR to be effective
- Identification of stakeholder needs and support
- Identification of risks and risk mitigation strategies
- Define the proposed technical contents: governance, data base architecture and legal definitions
- Provide prospective timelines for GR project planning

Project management check list:

- Business needs defined and evaluated
- Project objectives defined
- Stakeholder responsibility confirmed
- Non acceptance of scope creep ensured
- Evaluation check list (efficiency, effectiveness, impact, relevance and sustainability) re-affirmed
- Readiness to move to the next phase

Activity 7: Technical Consultation, with specialists attending a meeting at FAO HQ. Particular attention will have to be paid to representation from countries participating in RFMO activities, and those with significant EEZs to manage. The RFMOs and regional organizations should be invited as participants. The Technical Report will also present scenarios showing the costs and benefits of specific options, e.g. extension of vessel size groups beyond what MCS users regard as practical; and stressing the dangers of scope creep.

Project management check list:

- Business needs confirmed with strong commitment to the project
- Input/output capacity weaknesses identified
- Risks and risk mitigation measures identified
- Non acceptance of scope creep
- Evaluation check list (efficiency, effectiveness, impact, relevance and sustainability) re-affirmed
- Readiness to move to the next phase

***Activity 8*:** Project design finalised by the Project Manager and a Project planner.

- Identification of project funds
- Project design comprising: reaffirmation of objective, project purpose, results, activities, objectively verifiable indicators, means of verification, assumptions and risks. A working example of project outcomes and activities is provided below (Box 4).

- Preparation of PMU TOR with defined staff requirements
- Preparation of the budget
- Preparation of project timelines

Box 4: Proposed project outcomes and activities

- Output 1: GR data base designed and fully operational
- Activity 1.1: Procure required hardware to operate the GR;
- Activity 1.2: Design the GR fishing vessel data base;
- Activity 1.3: Design the GR fishery support vessels data base
- Activity 1.4: Undertake testing linkages with LRF, Regional/RFMO and good operational Registries (e.g. Canada, Japan, New Zealand, Norway)
- Activity 1.5: Undertake testing with defect registers and identifying development needs
- Activity 1.6; Designing CD Rom training manuals
- Output 2: Improved capacity of regional and national registries to provide the activities needed to support the efficient operation of the Global Register.
- Activity 2.1: Undertake an evaluation of existing national/regional registries based on GR data input needs
- Activity 2.2: Design template structures which could facilitate the linkages between national and regional registrations and the GR;
- Activity 2.3 : Undertake s series of regional/sub regional workshops to promote the concept of compatibility of vessel data at the sub regional, regional and inter-regional levels; the workshops also used to refine minimum data
- Activity 2.4: Design remote training modules to strengthen national registration capacity to implement minimum data requirements
- Activity 2.4: Train regional trainers in data validation and processing
- Output 3: Increased levels of cooperation between regional fisheries management organization leading to detection of IUU vessels
- Activity 3.1: Enter into negotiations with Lloyds to provide LR number for fishing vessels of 100 GT and over
- Activity 3.1: Develop additional links to other fisheries management systems and data bases
- Activity 3.2 Conduct further training workshops to ensure a clear understanding (odd at storage?) and reporting requirements, as well as, links between the register of the vessel, allocation of a flag and the license to fish.
- Activity 3.3. Review the options for linkages to other reporting systems, i.e. Torremolinos Protocol.
- Output 4: Prepare an exit strategy for hand over to the management body
- Activity 4.1: Prepare reports on lessons learned and risk mitigation strategies
- Activity 4.2: Train operational personnel

Project management check list:

- SRO confirmed for the duration of the project
- Stakeholder support reaffirmed
- Project objective, purpose and outcomes defined and agreed by the Project Board
- Risks and risk mitigation measures identified
- Readiness to move to the next phase

Phase 2: Project implementation phase

Activity 1: Role over of Project Board, and continuation of Stakeholder Advisory Group, and appointment of PMTU staff. The Project Board would support the PMTU in matters relating to project planning and budgeting. The Stakeholder Advisory Group would provide input to the Project Board and the PMTU in discussions on key issues relating to project implementation.

Essential staffing components are:

- Project Director, Project Manager (with MCS experience), a Registration coordinator, Programming assistant, 2 outreach officers/data validators[14];
- Clear identification of project milestones
- Software selection that meets the needs of the users;
- Ability to select STTA for specific activities (e.g. legal specialists)
- Continuous need for system and hardware maintenance.

Project management check list: Review of outcomes; risk mitigation strategies; readiness to move to the next phase
Project implementation issues: Those responsible for data input (the stakeholders) must have adequate time to undertake the tasks; the danger of high stakeholder staff turnover will require open learning modules to be provided; Software selection must not be based on existing in house systems but tailored (but harmonized) specifically for the users. A software expert must be experienced in fisheries (as opposed to a pure IT specialist).

5.2 Budget

The projected project justification and development budget is US $ 966,300 from January 2009 to September 2010 (Appendix 8, Table 1).

The budget is based on:

1. Governance (US$ 433,000) by a:
   - Project Board (6 persons, including one from the SRO) and appropriate travel and allowances
   - Project Director and a Project Manager
   - A Stakeholder Advisory Group (7 suppliers and 7 users)
2. Project design (US $ 533,300) including
   - An ex-ante impact assessment study
   - Short term technical assistance (STTA)
   - A Technical Consultation

The projected project implementation budget is US $ 7.364 m covering expenditure for 5 years, 2011 to 2015 (Appendix 8, Table 2).

Budget for project implementation is divided into three components:

1. Governance (US $ 179,400/annum)
2. Project Implementation (US $ 858,000/annum)[15]
3. Capacity building (US $ 415,400/annum)

The distinction between this and other data portals reviewed is the need to optimize participation in order to retain user credibility, which will in turn require a strong level

[14] This should be reviewed base don working experiences. It is conceivable that effort may need to be expanded in data validation or that project explores other avenues, e.g. by using regional organisations as the mechanisms to promote compliance with the supply standards.

[15] Costs in year 2011 (only) are expected to be $958,000, due to an additional $100,000 provided for intensive design costs once/if COFI provide a mandate to proceed with the development of the GR.

of scrutiny and capacity building support. This will require support in terms data validation and capacity building. Effective means will be prepared within the project's operation to minimize costs through the preparation of modules and training of trainers, but data validation is seen as a pre-requisite to success.

5.3 Project TORs

Project Terms of reference are provided in Appendix 9 for the following

- Project Manager
- Ex-ante impact assessment technical consultants (economics, MCS, fleet registration)
- Short Term Technical Assistants (IT, legal specialists, project planner)
- Project Management and Technical Unit (Project Manager, Programming officer, data validator/outreach officer (2), financial and administration officer and bi-lingual secretary

Appendix 1: Bibliography

1. Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels, Rome 25-28 February 2008, FAO, Ref. FIIT/R865.
2. Feasibility Study on the Comprehensive Record of Fishing Vessels, Refrigerated Transport Vessels, and Beneficial Ownership. FAO, November 2006.
3. OECD High Seas Task Force Cost Benefit Analysis of Vessel Database. Poseidon Aquatic Resource Management, October – November 2005.
4. Closing the Net; Stopping illegal fishing on the high seas. High Seas Task Force (2006).
5. Global Fishing Vessel Information System Feasibility Study. Governments of New Zealand and Australia, November 2006.
6. OECD Principles of Corporate Governance, 2004.
7. Directing Change: A guide to governance of project management. Association of Project Management (date unknown)
8. Developing a Project Governance Framework. Ross Garland (date unknown)
9. High Seas Governance. HSTF/09 (2005)
10. Proposed Areas of Focus for the Work of the High Seas Task Force. HSFT/02 (2004)
11. The Global Extent of Illegal Fishing. MRAG, 2008
12. Pauly, D., Christensen, V., Guénette, S., Pitcher, T.J., Sumaila, U.R., Walters, C.J., Watson, R. and Zeller, D. (2002) Towards sustainability in world fisheries. Nature 418: 689-695.
13. FAO. International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing. Rome, FAO. 2001. 24p.
14. Report of the Joint FAO/IMO Ad Hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters. Rome, Italy, 9-11 October 2000. *FAO Fisheries Report.* No. 637. Rome, FAO. 2001. 24p.
15. FAO. Model Scheme on port State measures to combat illegal, unreported and unregulated fishing. Rome/Roma, FAO. 2007. 46p
16. Equasis. Equasis Statistics – the world fleet 2007.
17. Extracts from the FAO correspondence groups, http://grouphost.neafc.org

Appendix 2: Terms of Reference

The Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels

Draft Terms of Reference for the Development of a Conceptual Model, Governance Options and Project Plan

1. Introduction

Illegal, unreported and unregulated fishing (IUU) and related activities remains one of the greatest threats to sustainable fisheries and those whose livelihoods depend on them. While no exact figures are known, it is widely accepted that the scale of illegal fishing is huge and worth an estimated US$10-23 billion dollars annually according to a recent MRAG study.

The adverse ecological impacts of IUU fishing are wide ranging including compromising the scientific basis of fish stock management, threatening the sustainability of fisheries that many depend on for food and income and having a disproportionate impact on non target species, habitat and ecology.

Over the last fifteen years there have been numerous calls for the development of new tools to prevent, deter and eliminate IUU fishing. One such potential tool under consideration for many years has been the development of a comprehensive global record (GR) of fishing vessels. In February 2008 the FAO hosted an Expert Consultation (EC) on the Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels and recommended the GR be pursued as matter of high priority and be implemented as soon as possible.

2. Background

Purpose and Uses of the Global Record

One of the greatest obstacles faced by fisheries management and enforcement authorities, RFMOs and industry is the lack of access to information on fishing vessel identification, ownership and control. This lack of transparency means there is no ability to trace vessels as they change name, flag, registration, ownership and operators. Currently, there is no single source where basic information about fishing vessels of all sizes is contained or can be accessed. If such a tool was developed it would make it more difficult and costly for vessels and companies which are acting illegally to do business.

The development of a GR would improve transparency and traceability of vessels, products, owners, operators, flags, authorisations and registration. It would facilitate risk assessment for industry, RFMOs and Governments and improve decision making including on fleet capacity, size and structure, management, safety, pollution, security and statistics and more.

The importance of the GR is underscored by new and growing market demands for ecolabels and other forms of product certification which require product traceability. Market forces and incentives could stimulate compliance by countries to provide information to the GR prior to any mandatory legal requirement being imposed.

The GR would support existing binding and non binding instruments to prevent, deter and eliminate IUU fishing and increase the effectiveness of port state measures and MCS activities.

Global Record Concept

A comprehensive GR of fishing vessels is envisioned as an internet based global portal / data base where data and information from many sources is gathered in one location. The GR can be described as a "*single window*" through which vessel related information can be accessed. Eventually, a GR would be a publicly available *one stop shop* with many linkages to information and data sources such as international, regional, national and other vessel related databases.

Some potential features of the Global Record are:

- It is record of publicly available and relevant vessel information. It is not a vessel registry that confers rights or obligations as this is a State function.

- The record will be objective, neutral and non judgemental but may contain information and linkages to other records of authorised and unauthorised vessel.

- Users will make there own judgements and risk assessments based on the information contained in the GR.

- The GR will draw on a range of publicly available information from other sources to capture information on vessel activity, historical behaviour, ownership and authorisations as well as information from monitoring, control and surveillance and port state records.

Scope of the Global Record

Designing for the future is seen as essential and therefore aspirational goals regarding the scope of the GR are appropriate. The definition of "vessel" adopted by the EC in setting the record's parameters is very broad and means any vessel, ship of another type, boat and other craft used for, equipped to be used for, or intended to be used for, fishing or fishing related activities. It has been estimated that there are as many as four million vessels which may fit this definition. Utilizing a broad definition recognizes illegal fishing is a problem not only on the high seas but also in national zones.

It is important to note that while the scope is broad and aspirational, development and implementation of the GR will, by necessity occur in phases over many years.

Next Steps

In accordance with the recommendations of the EC, the UK has stepped forward as a champion for GR and, together with the FAO is undertaking a project of activities designed to raise awareness among potential stakeholders and further develop a number of technical components to move the effort forward. This includes the establishment of Correspondence Groups, awareness raising and support activities. Also included are the commission of technical studies that require deeper analysis and specific expertise than is possible for the Correspondence Groups to give in the time available.

3. Objective

The Objective of this work is to review available relevant information both from within FAO and a wider search as necessary to develop and report on the following issues;

i. A conceptual model or models for the GR
ii. Governance options for the GR
iii. An updated GR project plan and phasing approach

4. Outputs

The outputs of this work are to prepare two documents titled;

i. The Development of a Global Record of Fishing Vessels, Conceptual Model and Governance Options
ii. The Development of a Global Record of Fishing Vessels, High Level Project Plan

The outcomes of these papers together with the outcomes of the Expert Consultation and the interim activities will be presented in summary form to the COFI at the FAO in March 2009 where decisions as to the future of the GR will be made.

5. Content of the Documents

Given the stage of development of the GR, this work will be addressed at a high and / or conceptual level and build on the outcomes of the EC and other work completed in this area.

In respect of the conceptual model and governance options the final paper of an estimated 15 pages (excluding annexes) should include the following key content:

i. Brief Introduction and Background.
ii. Review of the key principles, standards or best practice by which projects of this nature are developed and governed.
iii. Brief description by way of case studies of existing models and governance arrangements of developments with features similar to the GR.
iv. Development of GR conceptual model or models accompanied by explanation of key features and diagrammatic overview.
v. Development of governance options for the GR accompanied by an explanation of key features, and a discussion on the benefits and weaknesses of each model.
vi. Development of recommendations of the preferred governance model and next steps to progress.

In respect of the development of a high level project plan the final paper of an estimated 10 pages (excluding annexes) should include the following key content:

i. Brief Introduction and Background.
ii. Review of the key principles, standards or best practice by which long term projects of this nature are developed and managed.
iii. Brief description by way of case studies of existing management of IT development projects with features similar to the GR.
iv. Review of existing project plans for the development of the GR.
v. Development of a high level project plan that should include;
    a) an appropriate and logical long term phased approach to development and implementation of the GR,
    b) details of key GR project development activities in the next 3-5 years, and more generally beyond,
    c) the number and skill set of personnel required to implement the plan, and

d) development of a project structure with a description of key roles and responsibilities.

vi. Review and update project costs for the next 3-5 years and more generally beyond.

vii. Development of recommendations on appropriate next steps to progress the GR.

Both documents should be appropriately referenced and contain annexes where necessary and include executive summaries and conclusions and be submitted to Stephen Stuart, Global Record Project Manager at FAO.

6. Tasks

The consultant should undertake the following tasks:

i. Attend FAO for a briefing prior to the commencement of the consultancy.
ii. Review existing documents provided by FAO and conduct a wider search for information.
iii. By way of case studies identify and collect information on a range of projects and governance arrangements with features similar in nature to the GR.
iv. Engage with key FAO staff and external experts or groups as required.
v. Monitor and engage where necessary with the Correspondence Groups.
vi. Attend and participate in an experts' meeting in London in mid January 2009.
vii. Prepare a list of documents and sources consulted in the course of this work.
viii. Prepare and present to FAO in draft form two documents titled;

1. The Development of a Global Record of Fishing Vessels, Conceptual Model and Governance Options
2. The Development of a Global Record of Fishing Vessels, High Level Project Plan

ix. Prepare and present to FAO the above described documents in final form.

7. Relevant Documents

i. Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels, Rome 25-28 February 2008, FAO, Ref. FIIT/R865.
ii. Feasibility Study on the Comprehensive Record of Fishing Vessels, Refrigerated Transport Vessels, and Beneficial Ownership. FAO, November 2006.
iii. OECD High Seas Task Force Cost Benefit Analysis of Vessel Database. Poseidon Aquatic Resource Management, October – November 2005.
iv. Closing the Net; Stopping illegal fishing on the high seas. High Seas Task Force (2006).
v. Global Fishing Vessel Information System Feasibility Study. Governments of New Zealand and Australia, November 2006.

8. Timing

The project will commence on 27th October 2008 with a completion date of 24th December 2008

9. Contract Rates

The terms of this contract is a single rate to complete all aspects of the contract to the required quality and within specified timeframes including attendance and participation at meetings and the January 2009 workshop and any overhead costs including travel and DSA.

The single rate for full completion of the terms of this contract is US$ XXXXX

8. Work Plan

	Task	Responsible	Time	Complete by
1	Prepare TOR and Contract	FAO	1st Week	24th Oct
2	Research	Consultant	2nd and 3rd Weeks	7th Nov
3	Mid term progress report including draft annotated outline	Consultant	4th Week	14th Nov
4	Draft Documents Submitted	Consultant	6th Week	28th Nov
5	Comment and Feedback	FAO	7th Week	5th Dec
6	Final Revisions	Consultant	8th Week	12th Dec
7	Document accepted by FAO	FAO	9th Week	17th Dec
8	Participation in Jan. 2009 Workshop	Consultant	January 2009	16th Jan

Appendix 3: Principles of project establishment and management

Policy context	Evidence expected	Yes/No
Is the strategy to which this project contributes agreed with the project sponsoring groups	A clear direction set out in the strategy which is owned by key stakeholder groups	
Does the scope of project fit with the strategy	Documentary evidence that the project sponsoring group have agreed; OR Where there are significant changes in policy priorities in stakeholder views, evidence that there has been a re-appraisal of the project	
Is the governance framework fir for purpose and in particular is there commitment to key roles and responsibilities for this project	Evidence of commitment from the sponsoring group; Key roles have been identified and assigned;	
Are the required skills and capabilities for this project available	Evidence of appropriate project design with appropriate activities and required support skill defined	
Is there a framework for managing issues and risks	Defined roles, responsibilities and risk across the project: Project coordinator (sponsoring organization) Steering Committee,	
Is the organization able to apply experience with this project to the subsequent project	Lessons learned	
Stakeholder ownership		
Is there a clear understanding of the outcomes to be delivered by the project and are they soundly tested	A description of the projects purpose and how it contribution to fisheries management and risk analysis objectives An outline of the expect results and supporting activities Definition of the projects benefits Delivery targets/time bound indicators agreed and set	
Does the project demonstrate a link to policy relevance	Impact analysis and cost/benefit evaluation demonstrating contribution to regulatory impact and sustainable development	
What will constitute success	Definition of critical success factors and measurement of performance Definition of main results and analysis of the leading and lagging indicators Key performance targets agreed with stakeholders over the life of the project A successful project evaluation	
Who are the stakeholders and are they supportive	A list of key stakeholders and a statement of their needs and support for the project Plan for communicating with and involving stakeholders and securing common agreement Clear lines of accountability for resolving any conflicting stakeholder requirements Interaction with external delivery partners (then fishery sector and market accreditation organization)	
Is the project affordable	An estimate of the project cost based on similar projects and identifies gaps in their tasking Available funding identified and additional funding determined Market sounding and assessment of likely cost profiles	
What are the additional factors that could affect success	Risks identified, and mitigating measures established within the project	

	Listing dependent projects and parallel development measures (Port Control measures, MCS Network. The legal framework for the project is comprehensive and sound	
Risk management		
Have the major risks been identified	continually updating major risks to the overall project (strategic, political, and legislative, analyzing for impact and taking measures for corrective actions Early warning indicators identified Evidence that the perceived risks could occur and that corrective measures are planned identified	
How will risks be managed	Identification of governance framework and allocation of risk mitigation responsibilities (Project management/Steering Committee, Responsible Organization)	
Have assurance measures for the project been put in place	The Steering Committee comprises stakeholders that have the capacity to mitigate against the risks Evidence that risk mitigation measures are turned into action That audit processes and evaluation procedures assist in recommending risk reduction strategies	
Is there a contingency plan	Design of contingency measures (project re-design) if risk mitigation measures are not effective	
Review of current outcomes		
Is the project on track	Review of OVIs in the Project Log Frame	
Have problems occurred and if so how can they be resolved	Reviewing expected results, amending activities and OVIs	
Readiness for next phase		
Is there a continuing need for the project	Continuing commitment from stakeholders; Confidence that the project is delivering the required outputs, and will do so if the project is sustained; That the project brief is still valid, or requires updating;	
How will change be managed	Plans for managing the transition to new ways of working, structures and policies, and overcoming any perceived barriers	
Are the funds to reach the next phase available	Budget provision for the project Adequate approached for estimating and controlling project expenditure	
Are the required internal/external individuals suitably skilled, available and committed to undertaking the work	Decision on who needs to be involved, when and what they must deliver Identification of appropriate skills for the next phase	
Are the plans for the next phase realized	Project planning	
Are appropriate management controls in place	Accountabilities allocated to Senior Level Organizations; Reporting procedures established Plan for ongoing management and delivery	

Appendix 4: States operating registries

Table 4.1: List of flag States known to require a fishing vessel to be registered and or licensed

Albania	Algeria	Angola	Argentina	Australia	Bahamas
Bangladesh	Barbados	Belgium	Benin	Bermuda	Bolivia
Bosnia and Herzegovina	Brazil	Bulgaria	Cameroon	Cape Verde	Central African Republic
Chile	China	Colombia	Congo	Costa Rica	Cote DÏvoire
Croatia	Cuba	Cyprus	DPR Korea	Denmark	Djibouti
Dominica	Dominican Republic	Ecuador	Egypt	El Salvador	Equatorial Guinea
Estonia	Fiji	Finland	France	Gabon	Gambia, The
Germany	Ghana	Greece	Grenada	Guatemala	Guinea
Guyana	Haiti	Honduras	Hungary	Iceland	Indonesia
Iran	Iraq	Ireland	Israel	Italy	Jamaica
Japan	Kenya	Korea, Rep. of	Kuwait	Latvia	Lebanon
Liberia	Libya	Lithuania	Luxembourg[16]	Madagascar	Malaysia
Maldives	Malta	Mauritania	Mauritius	Mexico	Micronesia
Morocco	Mozambique	Myanmar	Netherlands	New Zealand	Nicaragua
Nigeria	Norway	Oman	Pakistan	Panama	Paraguay
Peru	Philippines	Poland	Portugal	Qatar	Romania
Russian Federation	St. Kitts and Nevis[17]	Saint Lucia	St Vincent and the Grenadines[18]	Samoa	Sao Tome and Principe
Saudi Arabia	Senegal	Serbia and Montenegro	Seychelles	Sierra Leone	Singapore
Slovenia	South Africa	Spain	Sri Lanka	Sudan	Sweden
Switzerland	Syrian Arab Republic	Tanzania	Thailand	The former Jugoslav Rep. of Macedonia	Togo
Tonga	Trinidad and Tobago	Tunisia	Turkey	Uganda	Ukraine
United Kingdom	United States of America	Uruguay	Venezuela	Viet Nam	Yemen

Source: Annex 1, FAO 2008 (3)

[16] Inland Waters.
[17] Inserted on the basis of information obtained through TCPRLA0069.
[18] Inserted on the basis of information obtained through TCPRLA0069.

Table 4.2: Summary of review of flag state registration details

Flag	Numbers of Vessels		Comment
	HSFVAR	LRF[19]	
Belgium	64	65	No date of build and no B or D. Mainly only the operator is listed.
Benin	12	2	Only one vessel of 24m all other below. Smallest 12m. No call signs given. 4 vessels registered in Lagos the owner of one of them is resident in Benin.
Canada	6	345	Record very good only Shipyard missing. In LRF134 vessels are under 150 GRT. 49 vessels are over 500 GRT
Cyprus	54	54	Many vessels below 24m. Smallest 10m in length. No call signs. In LRF30 vessels are over 700 GRT.
Denmark	160	217	Poor description of operator and lean on owner. B and D scarce.
Finland	24	22	15 listed are in LRF. Many records lacking tonnage, B and D, call sign date of build and length. Very few owners listed.
France	167	235	Reasonably complete but some gaps under B, D and owner
Germany	51	117	44 of vessels listed are also in LRF.. Many gaps under GRT, B and D. Owners scarce and many types of vessels remain unspecified.
Ghana	110	166	Lists vessels of less than 24m. One vessels listed as 208m in length.
Greece	133	81	Gaps under GRT, B, D and the call sign. 6 vessels have no names.
Ireland	96	153	Approx. 56 of listed vessels also in LRF. 63 have no call sign.2 vessels on charter still have the call sign of the primary register. No vessel type listed. Some owner/operator fields left blank and in 2 cases the machine reported a fault.
Italy	337	185	Not acceptable too many fields left unfilled.
Japan	1890	1485	Complete
Namibia	6	128	No single record complete although owner name given. 71 vessels in LRF of 1000 GRT and over. One vessel also in LRF and for that vessel the length given looks suspect.
New Zealand	51	97	Submitted in Excel. Good submission
Norway	125	422	Good data.
Portugal	185	114	Generally no owners listed with gaps under GRT, B and D. Vessel types unspecified
Spain	855	1101	In many cases no GRT, B or D and no date of build .Few owners/operators addresses given. Vessel types unspecified.
Sweden	67	109	59 of listed vessels also in LRF. Similar comments to Spain.
Syria	22	0	Entries down to 12m. No call signs. Ports remain to be specified. Difficult to reconcile GRT with length given in a number of cases.
United Kingdom	229	446	Many blanks under GRT, B, D and date of build. Poor info on owner/operator and in some cases simply unknown.
United States	847	3357	Lists vessels of less than 24m in length. Good with regard to owner/operator. BHP, B and D often omitted.
Total	5,792	8,901	

Source: Annex 1, FAO 2008 (3)

[19] Taken from the LRS data for 2003.

Appendix 5: Case studies on development/running costs and management lessons of similar projects

The report on the conceptual structure and governance arrangements for the GR considers such issues as they pertain to the different case studies. The following text provides some additional detail from these case studies on project implementation and management.

Equasis

Equasis took two years to develop before it was formally launched on 1 September 2000, at a total cost estimated by the Management Unit of around €1 million (Poseidon 2005). France and the European Commission financed the cost of developing and running Equasis until 31 December 2001, with France housing the Management Unit, after which time all MoU participants agreed to share the running costs budget of some €650,000 per year (Costs in 2008 were roughly €170,000/year for the Management Unit, €180,000 for the Technical Unit, €120,000 for software development, and €180,000 for data leasing from Lloyds Fairplay, plus other ad hoc expenses). The French government contribution was €127,000 in 2008 (based on salaries of the Management Unit members and costs of premises for the Management Unit. . From the 1st of January 2009 the Equasis Management Unit will be hosted by the European Maritime Safety Agency in Lisbon. This move was decided during the 2008 Supervisory Committee meeting, based on the need to reduce operating costs, and from a proposal made by the EUMSA to host the Management Unit, and to take over the salaries and expenses of the Management Unit. The Technical Unit will remain under the French Maritime administration.

International Phytosanitary Portal

The IPP took around five years to develop, with one programmer working full time on the project and one senior manager spending 20% of this time on the portal's development. Staff in the IPPC secretariat number five, and the IPP is now supported and managed by one full time webmaster, 1 full-time trainer, and one project manager within the Secretariat spending 20% of this time on the portal. Operating costs for salaries and necessary travel/training is approximately $350,000 per year. The outsourcing of some IT/systems development work has been carried out over the project's life, but this has generally not been that successful, with outputs typically found to be variant from the specifications/instructions provided or in other ways not suitable. The IT system chosen at the outset was required to be one of those already used by FAO, which placed certain constraints on development. Funding is supposed to be split approximately evenly between regular core FAO project funding, and extra-budgetary funding from donors. However in reality around 90% of expenses are derived from core funding.

European Community Fleet Register

The Fleet Register is managed by one full-time member of staff in Brussels, plus part-time IT support. Costs associated with management of the Fleet Register for the project manager and IT support are not available, but vary depending on the development needs. During the last year all evaluation/control rules have been re-written into PL/SQL which involved more manpower and costs. Information on the website is dynamic and has to be updated from time to time, database technology gets updated and new versions have to be installed and tested. Backups must be completed. Staff numbers were previously higher during the development phase of the project to establish the register and related website, which began in 1989. During

its existence the Community Fleet Register has undergone several major developments as technology has evolved and legislation has changed.

Appendix 6: Definitions of Governance groups

Project Board

- The Project Board is comprised of a Project Director, User representatives (2), and Supplier representatives (2), and a representative of the funding organization. Successful projects maintain a close relationship between the users and the suppliers and this is reflected in their membership of the Project.
- The project governance structure will only be as strong as the Project Board, and to be effective the Board needs to be comprised of the right high caliber people who understand projects. Without this, the Project Board will lack authority and project decision making will be poor;
- The User representative(s) in the Project Board represent the end users of the delivered service and promotes their concerns and interests. The Supplier representatives are senior representatives of the project's key data/information suppliers (i.e. national registers, RFMOs, or other registers/lists (e.g. Lloyds FairPlay)) and provide their perspective and expertise;
- There must only ever be one Project Director since project accountability cannot be shared. The Board should be comprised of around 6 people, so as to maintain decision-making efficiency;
- The Project Board represents the decision making forum, but requires input from a wider group of Stakeholders, the Stakeholder Advisory Group

Stakeholder Advisory Group

- The Stakeholder Advisory Group represents key stakeholders, users and suppliers, that have a valid interest in the project and are composed of sub-stakeholder group representatives (e.g. by region)
- The User representative(s) in the SAG represent the end users (MCS practitioners) of the delivered service and promotes their concerns and interests. The Supplier representatives are senior representatives of the project's key data/information suppliers (i.e. national registers) and provide their perspective and expertise;
- The Board should be comprised of around 16 people, 7 representatives drawn from MCS practitioners, and 7 from national registries. The other post will include the Project Director, and possibly one other internal (FAO) expert;
- The SAG represents the working group component which can deliver advice recommendations to the Project Board.

Appendix 7: Proposed Project timelines

Note that some activities may need to overlap

Activity \ Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FAO accept responsibility as the SRO																								
Appointment of a Project Director, Project Manager, Project Board and Stakeholder Advisory Group																								
Ex-ante impact assessment																								
Stakeholder Advisory Group workshop																								
Technical work on data/IT and legal issues to ensure proof of concept																								
Preparation of Technical Report																								
Technical Consultation																								
Project programming																								
COFI approval																								
Project recruitment																								

Appendix 8: Costs

Table 8.1 GR Project development phase costs

			2009/2010
Object of Expenditure	Unit		US $
Stage 1 Project development			
Governance			
Project Board (2 meetings per annum)	Flights	10	64,000
Project Board (2 meetings per annum)	allowances	10	9,000
Project Manager (P 5)	man months	24	360,000
Sub total			**433,000**
Design			
Stakeholder Working Group (1 meeting)	Flights	14	28,000
Stakeholder Working Group (1 meeting)	allowances	84	25,200
FAO impact assessment (economist)	fees	60	33,000
FAO impact assessment (MCS)	fees	40	22,000
FAO impact assessment (Vessel registration)	fees	40	22,000
FAO impact assessment study	flights	20	40,000
FAO impact assessment study	allowances	60	18,000
FAO impact assessment study	Survey costs		20,000
STTA inputs (legal, programme planning, IT)	man months	5	55,000
STTA travel	flights	3	7,500
STTA allowances	allowances	42	12,600
Technical consultation	Workshop, translation, etc		250,000
Sub total			**533,300**
Total			**966,300**

Table 8.2: Project implementation costs

Project implementation					2011	2012	2013	2014	2015	
					US $	US $	US $	US $	US $	Total US $
Governance										
Project Board	flights			10	64,000	64,000	64,000	64,000	64,000	
Project Board	allowances			10	9,000	9,000	9,000	9,000	9,000	
Stakeholder Working Group (2 meetings)	flights			14	56,000	56,000	56,000	56,000	56,000	
Stakeholder Working Group (2 meetings)	allowances			28	50,400	50,400	50,400	50,400	50,400	
Sub total					179,400	179,400	179,400	179,400	179,400	897,000
Implementation										
Project Manager (P5)	man months			12	145,200	145,200	145,200	145,200	145,200	
Project Director (P5 or D level, part time)	lumpsum				30,000	30,000	30,000	30,000	30,000	
Programming Assistant	man months			12	132,000	132,000	132,000	132,000	132,000	
STTA consultants	man months			3	33,000	33,000	33,000	33,000	33,000	
Finance and administration officer	man months			12	92,400	92,400	92,400	92,400	92,400	
Bilingual Secretary	man months			12	66,000	66,000	66,000	66,000	66,000	
Data validator	man months			12	140,400	140,400	140,400	140,400	140,400	
LRF data acquisition					68,875	68,875	68,875	68,875	68875	
Intensive data/IT costs					100,000					
IT Contracts and servising costs					20,000	20,000	20,000	20,000	20000	
Office costs					47,625	47,625	47,625	47,625	47625	
Equipment					20,000	20,000	20,000	20,000	20000	
Servicing costs					30,000	30,000	30,000	30,000	30000	
Supplies					2,000	2,000	2,000	2,000	2000	
Servicing Costs					30,500	30,500	30,500	30,500	30500	
Sub total					958,000	858,000	858,000	858,000	858,000	4,390,000
Capacity building										
Outreach officer	man months			12	140,400	140,400	140,400	140,400	140,400	
Duty Travel	Flights				100,000	100,000	100,000	100,000	100,000	
Duty Travel	Allowances				100,000	100,000	100,000	100,000	100,000	
Training/Meetings					75,000	75,000	75,000	75,000	75000	
Sub total					415,400	415,400	415,400	415,400	415,400	2,077,000
Total					1,552,800	1,452,800	1,452,800	1,452,800	1,452,800	**7,364,000**

Appendix 9: Project component TORs

Appendix 9.1: Draft Terms of Reference for Project Manager

1. Introduction

Illegal, unreported and unregulated fishing (IUU) and related activities remains one of the greatest threats to sustainable fisheries and those whose livelihoods depend on them. While no exact figures are known, it is widely accepted that the scale of illegal fishing is huge and worth an estimated US$10-23 billion dollars annually according to a recent MRAG study.

The adverse ecological impacts of IUU fishing are wide ranging including compromising the scientific basis of fish stock management, threatening the sustainability of fisheries that many depend on for food and income and having a disproportionate impact on non target species, habitat and ecology.

Over the last fifteen years there have been numerous calls for the development of new tools to prevent, deter and eliminate IUU fishing. One such potential tool under consideration for many years has been the development of a comprehensive global record (GR) of fishing vessels. In February 2008 the FAO hosted an Expert Consultation (EC) on the Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels and recommended the GR be pursued as matter of high priority and be implemented as soon as possible.

2. Background

Purpose and Uses of the Global Record

One of the greatest obstacles faced by fisheries management and enforcement authorities, RFMOs and industry is the lack of access to information on fishing vessel identification, ownership and control. This lack of transparency means there is no ability to trace vessels as they change name, flag, registration, ownership and operators. It is believed that compliance organization's access to such information would arguably act as a significant deterrent to operators of IUU fishing vessels. An ability to record and identify vessel characteristics, as well as listing offences, would not only allow vessels to be more traceable but would support compliance organizations is determining risk management strategies. It would arguably make it more difficult and costly for vessels and companies which are acting illegally to do business by improving transparency and traceability of vessels, products, owners, operators, flags, authorizations and registration.

The GR requires access to all national fishing fleet registrations through a Global portal, as well as an array of other vital sources such as the Lloyds Registry, and information held by RFMOs. RFMOs, as custodians to most high Sea fisheries are the present users of vessel compliance lists and Black lists, the former requiring participating countries or owners to register for each season, the latter comprising of vessels detected fishing illegally, or having had their licenses revoked because of legal activity.

Global Record Concept

A comprehensive GR of fishing vessels is envisioned as an internet based global portal / data base where data and information from many sources is gathered in one location. The GR can

be described as a "*single window*" through which vessel related information can be accessed. Eventually, a GR would be a publicly available *one stop shop* with many linkages to information and data sources such as international, regional, national and other vessel related databases.

Some potential features of the Global Record are:

- It is record of publicly available and relevant vessel information. It is not a vessel registry that confers rights or obligations as this is a State function.

- The record will be objective, neutral and non judgemental but may contain information and linkages to other records of authorized and unauthorized vessel.

- Users will make there own judgements and risk assessments based on the information contained in the GR.

- The GR will draw on a range of publicly available information from other sources to capture information on vessel activity, historical behavior, ownership and authorizations as well as information from monitoring, control and surveillance and port state records.

Next Steps

FAO is acting as the Senior Responsible Organization for the introduction of the Global Record. As part of a process of project development, FAO is seeking to recruit a Project Director with responsibility for supervising the planning stages leading up to the implementation of a Project Management Unit which will be specifically responsible for implementation of the Global record.

5. Objective

The Project Manager will be specifically responsible for:

- Recruitment of a Project Board and Stakeholder Advisory Group, the composition of which will be laid down according to set guidelines
- Supervising Board and Group meetings according to pre defined schedules (the Project Board, 2 meetings; the Stakeholder Advisory Group) and agendas;
- Participating with fellow experts in the impact assessment study of the Global record;
- Recruitment and supervision of short term consultants
- Preparing a technical consultation document
- Preparing a project implementation plan with the support of a programming and planning expert.
- Reporting to COFI

8. Timing

The project will commence on 1 April 2009 with a completion date of 30 April 2010

9. Terms of reference

Project Manager

A. Qualifications

A degree in fisheries related subject or equivalent qualification with practical experience in Monitoring, Control and Surveillance, preferably gained from working within an RFMO.

B. General qualifications

Proven ability to supervise fellow professionals and knowledge of FAO working and recruitment practices

C. Specific experience

- Experience in MCS project coordination;
- Experience in the application of risk analysis as applied to the operation of international fisheries activities on the high seas;
- Knowledge of fishing vessel activities covering a wide range of fishing methods;
- Experience in both OECD and developing country fisheries

Appendix 9.2: Draft Terms of Reference for an impact assessment of the Global record as a deterrent to Illegal, unreported and unregulated fishing

1. Introduction

Illegal, unreported and unregulated fishing (IUU) and related activities remains one of the greatest threats to sustainable fisheries and those whose livelihoods depend on them. While no exact figures are known, it is widely accepted that the scale of illegal fishing is huge and worth an estimated US$10-23 billion dollars annually according to a recent MRAG study.

The adverse ecological impacts of IUU fishing are wide ranging including compromising the scientific basis of fish stock management, threatening the sustainability of fisheries that many depend on for food and income and having a disproportionate impact on non target species, habitat and ecology.

Over the last fifteen years there have been numerous calls for the development of new tools to prevent, deter and eliminate IUU fishing. One such potential tool under consideration for many years has been the development of a comprehensive global record (GR) of fishing vessels. In February 2008 the FAO hosted an Expert Consultation (EC) on the Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels and recommended the GR be pursued as matter of high priority and be implemented as soon as possible.

2. Background

Purpose and Uses of the Global Record

One of the greatest obstacles faced by fisheries management and enforcement authorities, RFMOs and industry is the lack of access to information on fishing vessel identification, ownership and control. This lack of transparency means there is no ability to trace vessels as they change name, flag, registration, ownership and operators. It is believed that compliance organization's access to such information would arguably act as a significant deterrent to operators of IUU fishing vessels. An ability to record and identify vessel characteristics, as well as listing offences, would not only allow vessels to be more traceable but would support compliance organizations is determining risk management strategies. It would arguably make it more difficult and costly for vessels and companies which are acting illegally to do business by improving transparency and traceability of vessels, products, owners, operators, flags, authorizations and registration.

IUU occurs on a global scale, with all high seas and large EEZ fisheries affected to different proportions. The main exponents of such activity are beneficial owners based in Chinese Taipei, South Korea, and Spain. The main loophole to the identification is that some of these vessels subscribe to Open Registries where controlling activities are limited. These countries include Belize, Bolivia, Cambodia, Cyprus, Equatorial Guinea, Georgia, Honduras, Marshal Is, Mauritius, Neth Antilles, Panama, St Vincent & Grenadines, Sierra Leone and Vanuatu.

The GR requires access to all national fishing fleet registrations through a Global portal, as well as an array of other vital sources such as the Lloyds Registry, and information held by RFMOs. RFMOs, as custodians to most high Sea fisheries are the present users of vessel

compliance lists and Black lists, the former requiring participating countries or owners to register for each season, the latter comprising of vessels detected fishing illegally, or having had their licenses revoked because of legal activity.

Global Record Concept

A comprehensive GR of fishing vessels is envisioned as an internet based global portal / data base where data and information from many sources is gathered in one location. The GR can be described as a "*single window*" through which vessel related information can be accessed. Eventually, a GR would be a publicly available *one stop shop* with many linkages to information and data sources such as international, regional, national and other vessel related databases.

Some potential features of the Global Record are:

- It is record of publicly available and relevant vessel information. It is not a vessel registry that confers rights or obligations as this is a State function.

- The record will be objective, neutral and non judgemental but may contain information and linkages to other records of authorized and unauthorized vessel.

- Users will make there own judgements and risk assessments based on the information contained in the GR.

- The GR will draw on a range of publicly available information from other sources to capture information on vessel activity, historical behavior, ownership and authorizations as well as information from monitoring, control and surveillance and port state records.

Scope of the Global Record

Designing for the future is seen as essential and therefore aspirational goals regarding the scope of the GR are appropriate. The definition of "vessel" adopted by the EC in setting the record's parameters is very broad and means any vessel, ship of another type, boat and other craft used for, equipped to be used for, or intended to be used for, fishing or fishing related activities. It has been estimated that there are as many as four million vessels which may fit this definition. Utilizing a broad definition recognizes illegal fishing is a problem not only on the high seas but also in national zones.

It is important to note that while the scope is broad and aspirational, development and implementation of the GR will, by necessity occur in phases over many years.

Next Steps

FAO is acting as the Senior Responsible Organization for the introduction of the Global Record. As part of a process of project development, FAO is required to undertake an impact assessment of the prospective effectiveness (benefit against costs) and the GR and to access the current business needs of users, the technical constraints for suppliers and to identify the economic and deterrent benefits that will accrue to compliance organizations as a result of the GR. The results of this work will be tabled for assessment by a Stakeholder Advisory Group before setting out the scope and design of the GR prior to implementation.

6. Objective

The impact assessment will produce a quantified assessment of the benefits, based on the experiences of the RFMOs, will identify the GR's business needs for MCS users and identify the constraints to the GR's evolution from a supplier and user perspective.

7. Outputs

The outputs of this work, which will be undertaken through partly using pre agreed case studies, will be an impact assessment of the Global Record as a deterrent to Illegal, unreported and unregulated fishing. The contents will comprise the following

- A assessment of the quantitative and qualitative MCS benefits of the compliance and black lists and implications for the Global record, with reference to the following case studies:
    - CAMLR
    - WCPFC
    - And one of the following: NEAFC, IATTC, or ICCAT

a. Provide some guidance on what existing practitioners, the RMFOs, perceive as the critical inputs requirements;
b. Provide details of problem issues associated with the white and black lists and how lessons may be learned in the context of the GR;
c. Pose these issues to suppliers, and especially to the would be critical inputers which should include Lloyds Registry – Fairplay, at least two of the main Open Registries; China (as one of the largest registries), and one CSRP country (West Africa)
d. Based on these results, undertake a wider survey of users and suppliers to identify support for the GR;
e. Propose solutions to perceived barriers in terms of access to input information.
f. Assess the likelihood country support for the GR based on its effectiveness, efficiency, impact, coherence and sustainability.

5. Content of the Documents

Given the stage of development of the GR, this work will be address practical problem issues and assess whether these can be overcome and how within the context of the Global; record. The work is seeking to establish what the GR can achieve and what is needed for it to be successful. Issues such as governance, legal protocols and data architecture are issues that will be addressed at a later stage.

The final paper should be no more than 30 pages (excluding annexes) and should include the following key content:

vii. Brief Introduction and background
viii. Identification of deterrents used by RFMOs and the application of compliance/non compliance lists to Risk analysis;
ix. Identification of changes to compliance before and after the introduction of (a) compliance lists; (b) black lists
x. Quantification of RFMO/other agency costs and benefits of list records;
xi. Identification of the limitations of existing lists and assessment of additional benefits that would accrue as a result of improved access to a GR
xii. Summary business needs for the GR based on lessons learned
xiii. Review of data supply constraints and how these can be rectified
xiv. Summary recommendations and perceived effectiveness, efficiency, impact, coherence and sustainability

7. Tasks

The consultants should undertake the following tasks:

x. Attend FAO for a briefing prior to the commencement of the consultancy;
xi. Review existing documents provided by FAO and conduct a wider search for information;
xii. By way of selected field studies identify and collect information on a the effectiveness, efficiency and impact of current vessels lists in terms of improving risk analysis and increasing compliance;
xiii. Quantify and qualify the benefits that presently accrue as a result of the application of these lists;
xiv. Assess the weaknesses in the existing data systems including information sharing and exchanges between RFMOs and others;
xv. Identify the constraints to access to information
xvi. Consult leading groups of suppliers as to barriers to data exchange and these constraints can be overcome
xvii. Make recommendations and evaluate how effectiveness, efficiency, impact and coherence can be improved as a result of access to a Global Record
xviii. Provide guidance as to how the GR can be funded and sustained

7. Relevant Documents

vi. The Development of a Global Record of Fishing Vessels
    a. Conceptual Model and Governance Options, Poseidon 2008
    b. Project Plan
vii. Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels, Rome 25-28 February 2008, FAO, Ref. FIIT/R865.
viii. Feasibility Study on the Comprehensive Record of Fishing Vessels, Refrigerated Transport Vessels, and Beneficial Ownership. FAO, November 2006.
ix. OECD High Seas Task Force Cost Benefit Analysis of Vessel Database. Poseidon Aquatic Resource Management, October – November 2005.
x. Closing the Net; Stopping illegal fishing on the high seas. High Seas Task Force (2006).
xi. Global Fishing Vessel Information System Feasibility Study. Governments of New Zealand and Australia, November 2006.

8. Timing

The project will commence on 1 May 2009 with a completion date of 30th July 2000

9. Consultant TOR

The Assessment Team will be comprised of a Team Leader/economist, an MCS Specialist, and a fishing vessel registrar.

Economist/team leader

An internationally recruited Team Leader/economist will liaise with the FAO ahead of the mission to clarify the terms of reference and obtain advance material. The Team Leader will be responsible for the:

(i) overall coordination of the mission and its team;
(ii) achieving the outputs of the mission
(iii) report finalization;

He or she will have a post graduate degree in economics and have experience in evaluating cost efficiencies of MCS compliance strategies

More specifically the Consultant shall:

- Make contact with the selected organizations/stakeholders to schedule meetings and .identify critical discussion points
- Assess in cooperation with the MCS expert, the critical control strategies applied by each stakeholder, the level resources and the contribution made to deterrence from vessel compliance and white lists
- Quantify and qualify, in cooperation with the MCS expert, the benefits in terms of the lists' application to risk analysis and compliance
- Evaluate in collaboration with the MCS expert and registrar the constraints to existing systems applied;
- Quantify and qualify, in cooperation with the MCS expert the benefits that would accrue as a result of the availability of a GR to these organizations;
- Assess key recommendations for the application of a GR and determine their effectiveness, efficiency, impact, coherence and likely sustainability strategies

MCS specialist

The MCS specialist will be responsible for the

(i) Liaising directly with MCS practitioners in the assigned stakeholder organizations;
(ii) Supporting the Team Leader in the tasks directed by him;

He or she will have experience in MCS Risk analysis and preferably have worked in either an RFMO or a large scale (high seas) EEZ.

More specifically the Consultant shall:

- Assess in cooperation with the Team Leader, the critical control strategies applied by each stakeholder, the level resources and the contribution made to deterrence from vessel compliance and white lists
- Identify the core business needs of MCS practitioners and how these can be improved, either through improvements to the existing lists, or by an expansion to a Global Record
- Assist the Team Leader in the quantification and qualification of benefits in respect to the practical application of the lists' vis a vis to risk analysis and deterrent impact;
- Evaluate in collaboration with the Team leader and registrar, the constraints to existing systems applied;
- Assess key recommendations for the application of a GR and determine their effectiveness, efficiency, impact, coherence and likely sustainability strategies;

Vessel Registrar

The vessel Registrar will be responsible for

(i) Liaising directly with assigned registries
(ii) Supporting the Team Leader in the tasks directed by him;

He or she would have experience in capacity building of vessel registration systems, particularly in developing countries.

More specifically the Consultant shall:

- Identify, in collaboration with the MCS expert, the business needs of the MCS practitioners;
- Explore the appropriate means of accessing such data
- Determine from discussions with the various fishing vessel registrars what the major constraint are to providing information and supporting the business needs
- Identify appropriate solutions
- Assess key recommendations for the application of a GR and determine their effectiveness, efficiency, impact, coherence and likely sustainability strategies

9. Contract Rates

The terms of this contract is a single rate to complete all aspects of the contract to the required quality and within specified timeframes including attendance and participation at meetings and the January 2009 workshop and any overhead costs including travel and DSA.

Appendix 9.3: Draft Terms of Reference for short term technical assistants (STTA) of the Global record as a deterrent to Illegal, unreported and unregulated fishing

1. Introduction

Illegal, unreported and unregulated fishing (IUU) and related activities remains one of the greatest threats to sustainable fisheries and those whose livelihoods depend on them. While no exact figures are known, it is widely accepted that the scale of illegal fishing is huge and worth an estimated US$10-23 billion dollars annually according to a recent MRAG study.

The adverse ecological impacts of IUU fishing are wide ranging including compromising the scientific basis of fish stock management, threatening the sustainability of fisheries that many depend on for food and income and having a disproportionate impact on non target species, habitat and ecology.

Over the last fifteen years there have been numerous calls for the development of new tools to prevent, deter and eliminate IUU fishing. One such potential tool under consideration for many years has been the development of a comprehensive global record (GR) of fishing vessels. In February 2008 the FAO hosted an Expert Consultation (EC) on the Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels and recommended the GR be pursued as matter of high priority and be implemented as soon as possible.

2. Background

Purpose and Uses of the Global Record

One of the greatest obstacles faced by fisheries management and enforcement authorities, RFMOs and industry is the lack of access to information on fishing vessel identification, ownership and control. This lack of transparency means there is no ability to trace vessels as they change name, flag, registration, ownership and operators. It is believed that compliance organization's access to such information would arguably act as a significant deterrent to operators of IUU fishing vessels. An ability to record and identify vessel characteristics, as well as listing offences, would not only allow vessels to be more traceable but would support compliance organizations is determining risk management strategies. It would arguably make it more difficult and costly for vessels and companies which are acting illegally to do business by improving transparency and traceability of vessels, products, owners, operators, flags, authorizations and registration.

The GR requires access to all national fishing fleet registrations through a Global portal, as well as an array of other vital sources such as the Lloyds Registry, and information held by RFMOs. RFMOs, as custodians to most high Sea fisheries are the present users of vessel compliance lists and Black lists, the former requiring participating countries or owners to register for each season, the latter comprising of vessels detected fishing illegally, or having had their licenses revoked because of legal activity.

Global Record Concept

A comprehensive GR of fishing vessels is envisioned as an internet based global portal / data base where data and information from many sources is gathered in one location. The GR can be described as a "*single window*" through which vessel related information can be accessed.

Eventually, a GR would be a publicly available *one stop shop* with many linkages to information and data sources such as international, regional, national and other vessel related databases.

Some potential features of the Global Record are:

- It is record of publicly available and relevant vessel information. It is not a vessel registry that confers rights or obligations as this is a State function.

- The record will be objective, neutral and non judgemental but may contain information and linkages to other records of authorized and unauthorized vessel.

- Users will make there own judgements and risk assessments based on the information contained in the GR.

- The GR will draw on a range of publicly available information from other sources to capture information on vessel activity, historical behavior, ownership and authorizations as well as information from monitoring, control and surveillance and port state records.

Scope of the Global Record

Designing for the future is seen as essential and therefore aspirational goals regarding the scope of the GR are appropriate. The definition of "vessel" adopted by the EC in setting the record's parameters is very broad and means any vessel, ship of another type, boat and other craft used for, equipped to be used for, or intended to be used for, fishing or fishing related activities. It has been estimated that there are as many as four million vessels which may fit this definition. Utilizing a broad definition recognizes illegal fishing is a problem not only on the high seas but also in national zones.

It is important to note that while the scope is broad and aspirational, development and implementation of the GR will, by necessity occur in phases over many years.

Next Steps

FAO is acting as the Senior Responsible Organization for the introduction of the Global Record. As part of a process of project development, FAO is seeking to identify best practice operational procedures from defined GR business needs. The business needs will be determined through an impact assessment study and recommendations from a Stakeholder Advisory Group. Short Term consultants will be recruited to work in FAO for a period of 1 person month to design appropriate outline recommendations for database architecture and legal protocols. The results of this work will be tabled for assessment by the Stakeholder Advisory Group and Technical consultation before setting out the project for the implementation.

8. Objective

Each STTA will produce a report on recommendations for proposed database architecture and legal protocols based on pre defined business needs.

9. Outputs

The outputs of this work will be undertaken following Stakeholder Advisory Group clarification of Business needs. Each activity will be separate and will cover the following:

IT development and data base architecture

- System usage
- Technical architecture
- Data modeling
- Data acquisition strategies

Legal

- Data Format and Exchange Protocols
- specification of mechanism to resolve dispute

Project Design Specialist

- Review outputs and activities based on working documents
- Construct a log frame with M&E indicators that supports the 5 year implementation of Global Record Project Management Unit
- Review Project staffing TOR

5. Content of the Documents

Given the stage of development of the GR, this work will be address practical input issues and assess prospective problems and design solutions.

Each paper should be no more than 10 pages (excluding annexes) and should address the items listed above.

8. Tasks

The consultants should undertake the following tasks:

xix. Attend FAO for a briefing prior to the commencement of the consultancy;
xx. Review existing documents provided by FAO and conduct a wider search for information;
xxi. Prepare a description of the background issues, the proposed design structure and proposed input strategies.

7. Relevant Documents

xii. Recommendations from the Stakeholder Advisory Group on the business needs for a Global record (September 2009)
xiii. Technical and economic feasibility assessment of the business needs for a global record (July 2009)
xiv. The Development of a Global Record of Fishing Vessels
   a. Conceptual Model and Governance Options, Poseidon 2008
   b. Project Plan
xv. Report of the Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels, Rome 25-28 February 2008, FAO, Ref. FIIT/R865.
xvi. Feasibility Study on the Comprehensive Record of Fishing Vessels, Refrigerated Transport Vessels, and Beneficial Ownership. FAO, November 2006.
xvii. OECD High Seas Task Force Cost Benefit Analysis of Vessel Database. Poseidon Aquatic Resource Management, October – November 2005.
xviii. Closing the Net; Stopping illegal fishing on the high seas. High Seas Task Force (2006).

xix. Global Fishing Vessel Information System Feasibility Study. Governments of New Zealand and Australia, November 2006.

8. Timing

The project will commence on 1 October 2010 with a completion date of 30 November 2010

9. Consultant TOR

IT specialist

He or she will have experience in fisheries data system design and costings (41 person days).

The Fisheries IT specialist will be responsible for the

i. Reviewing the pre defined business needs;
ii. Outlining suitable technical architecture
iii. Defining Data modeling requirements
iv. Defining system requirements
v. Defining suitable budgetary requirements
vi. Data acquisition strategies

Legal expert

The Legal specialist will have experience in fisheries, and specifically in data protocols (7 person days). He/she will be responsible for

i. Data Format and Exchange Protocols
ii. specification of mechanism to resolve dispute
iii. Other issues that are identified by the Stakeholder Advisory Group

Project Design Specialist

The Project Design Specialist will have experience in designing long term Project Plans with knowledge of M&E systems (21 days). He/She will be expected to:

i. Review outputs and activities based on working documents
ii. Construct a log frame with M&E indicators that supports the 5 year implementation of Global Record Project Management Unit
iii. Review Project staffing TOR

9. Contract Rates

The terms of this contract is a single rate to complete all aspects of the contract to the required quality and within specified timeframes including attendance and participation at meetings and the January 2009 workshop and any overhead costs including travel and DSA.

Appendix 9.4: Draft Terms of Reference for Global Record Project Management Unit.

1. Introduction

Illegal, unreported and unregulated fishing (IUU) and related activities remains one of the greatest threats to sustainable fisheries and those whose livelihoods depend on them. While no exact figures are known, it is widely accepted that the scale of illegal fishing is huge and worth an estimated US$10-23 billion dollars annually according to a recent MRAG study.

The adverse ecological impacts of IUU fishing are wide ranging including compromising the scientific basis of fish stock management, threatening the sustainability of fisheries that many depend on for food and income and having a disproportionate impact on non target species, habitat and ecology.

Over the last fifteen years there have been numerous calls for the development of new tools to prevent, deter and eliminate IUU fishing. One such potential tool under consideration for many years has been the development of a comprehensive global record (GR) of fishing vessels. In February 2008 the FAO hosted an Expert Consultation (EC) on the Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels and recommended the GR be pursued as matter of high priority and be implemented as soon as possible.

2. Background

Purpose and Uses of the Global Record

One of the greatest obstacles faced by fisheries management and enforcement authorities, RFMOs and industry is the lack of access to information on fishing vessel identification, ownership and control. This lack of transparency means there is no ability to trace vessels as they change name, flag, registration, ownership and operators. It is believed that compliance organisation's access to such information would arguably act as a significant deterrent to operators of IUU fishing vessels. An ability to record and identify vessel characteristics, as well as listing offences, would not only allow vessels to be more traceable but would support compliance organisations is determining risk management strategies. It would arguably make it more difficult and costly for vessels and companies which are acting illegally to do business by improving transparency and traceability of vessels, products, owners, operators, flags, authorisations and registration.

The GR requires access to all national fishing fleet registrations through a Global portal, as well as an array of other vital sources such as the Lloyds Registry, and information held by RFMOs. RFMOs, as custodians to most high Sea fisheries are the present users of vessel compliance lists and Black lists, the former requiring participating countries or owners to register for each season, the latter comprising of vessels detected fishing illegally, or having had their licences revoked because of legal activity.

Global Record Concept

A comprehensive GR of fishing vessels is envisioned as an internet based global portal / data base where data and information from many sources is gathered in one location. The GR can be described as a "*single window*" through which vessel related information can be accessed. Eventually, a GR would be a publicly available *one stop shop* with many linkages to

information and data sources such as international, regional, national and other vessel related databases.

Some potential features of the Global Record are:

- It is record of publicly available and relevant vessel information. It is not a vessel registry that confers rights or obligations as this is a State function.

- The record will be objective, neutral and non judgemental but may contain information and linkages to other records of authorized and unauthorized vessel.

- Users will make there own judgements and risk assessments based on the information contained in the GR.

- The GR will draw on a range of publicly available information from other sources to capture information on vessel activity, historical behavior, ownership and authorizations as well as information from monitoring, control and surveillance and port state records.

Next Steps

FAO is acting as the Senior Responsible Organization for the introduction of the Global Record. As part of a process of program implementation, FAO will supervise the implementation of the Project under the guidance of a Project Board. A Program Management Unit (PMU) will be created with the task of implementing the Global Record data portal. The PMU will report directly to the Project Board, and will be supported by a Stakeholder Advisory Group which will support the PMU by providing advice on the implementation of outputs and activities and mitigation of risks.

10. Objective

The Project's objective is to provide a single source information system (the GR) on fishing vessels, and fishing support vessels (supply ships, reefers and bunkers), which would enhance national and international initiatives to better manage the exploitation of fishery resources

11. Expected Results

The Project's expected results will be defined according to the Project's Log Frame and are likely to conform to the following:

- GR data base designed and fully operational
- Improved capacity of regional and national registries to provide the activities needed to support the efficient operation of the Global Register
- Increased levels of cooperation between regional fisheries management organization leading to detection of IUU vessels
- Prepare an exit strategy for hand over to the management body

12. PMU Scope and tasks

The general tasks of the PMU are as follows:

- Prepare annual work programs to be submitted to the Project Board, and follow up on the implementation of the planned activities;
- Ensure technical, administrative and financial management of the project in conformity to FAO's legal and financial rules and procedures

- Set up a PMU monitoring and evaluation system for technical outputs and financial performance
- Prepare specifications and terms of reference for short term technical assistance, supplies and servicing tenders, evaluate the submissions and supervise and monitor contract performance
- Prepare quarterly progress reports and ensure distribution to the Project Board
- Convene Stakeholder Advisory Group meetings to evaluate activities and assess project risks and mitigation issues

13. Project Staffing Terms of Reference

The PMU will comprise the following members:

- Project Manager
- Programming Officer
- Outreach Officer/Data validator (2)
- Financial and administration manager
- Bi-lingual secretary

Specific staffing TOR follows.

Project Manager
The Project Manager will be responsible for the smooth functioning of the PMU. He/she will report to the Project Board

A. Qualifications
- A graduate degree in fisheries-related or equivalent qualification

B. General experience
- Proven ability to work in teams, to supervise team members and to coordinate team activities
- A working knowledge of English and preferably one other core language (French, Spanish, Chinese, Japanese or Korean)

C. Specific experience
- Experience in MCS program coordination;
- Experience in the application of risk analysis as applied to the operation of international fisheries activities on the high seas;
- Knowledge of fishing vessel activities covering a wide range of fishing methods;
- Experience in both OECD and developing country fisheries

Programming Officer

A. Qualifications
- A graduate degree in computer science with specialist knowledge of fisheries data base design

B. General experience
- Proven ability to work in teams, to supervise team members and to coordinate team activities

C. Specific experience
- Experience in the design of fishing vessel data base systems
- Ability to advise and define data base architecture suitable for user needs
- Ability to advise and define data acquisition strategies to facilitate user compliance
- Ability to design training modules for both users and suppliers

Data validator/outreach officer

A. Qualifications
- A degree in system design or equivalent qualification with proven experience in fishing vessel registration

B. General experience
- Proven ability to work in teams, to supervise team members and to coordinate team activities
- Good PR and communication skills
- Working knowledge of English and at lest one of the following core languages: French, Spanish, Chinese, Japanese and Korean

C. Specific experience
- Experience in the fishing vessel registration
- Ability to advise and define data acquisition strategies to facilitate user compliance
- Ability to train trainers in modules for both users and suppliers

Financial and administration manager

A. Qualifications
- A graduate degree or equivalent in accounting and or business management

B. General experience
- Proven ability to work in teams
- Good human resource skills

C. Specific experience
- Experience in project account with knowledge of FAO/Imprest accounting procedures
- Experience in administering accounts and delivery of quarterly financial progress reports
- Understanding purchase procedures and implementing inventories

Bi-Lingual secretary

A. Qualifications
- Minimum 2 year study in Bilingual Secretariat

B. General experience
- Working knowledge of English and at lest one of the following core languages: French, Spanish, Chinese, Japanese and Korean

C. Specific experience
- Proven experience in day to day logistical and administrative support;
- Excellent capacities in Microsoft office software in particular Word and Access, good command of Word Mailmerge, and Access queries, forms and reports;
- Ability to classify and archive mails and files;
- Ability to translate letters and support staff members in communicating with stakeholders of different nationalities;
- Ability to assist in the organization of the Team, Project Board and Stakeholder Advisory Group meetings;
- Experience in ticketing and arranging core staff, Project Board and Stakeholder travel arrangements.

4. Timing

The project will commence on 1January 2011 with a completion date of 31 December 2015