
Second FIGIS-CWP meeting

20 January 2003, Mahé, Seychelles

FIGIS-FIRMS progress report

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Background

1. It is reminded that at CWP19 in July 2001, on the occasion of the first CWP-FIGIS meeting:
 - ✓ the design of the FIGIS system was presented and a demonstration of the very first prototype of the Stocks and Resources application was made, showing how FIGIS could handle in an harmonised view stock status reports processed from different partners;
 - ✓ 6 Regional Fishery bodies (SPC, ICCAT, ICES, NAFO, IOTC, GFCM) had been approached and pre-agreements had been established between them and FAO for the implementation of case studies

I Agenda item 1: review of the progress status on the FIGIS and the FIRMS developments, and workplan

2. Annex A presents the progress achieved on the development of the FIGIS system and the FIRMS partnership since the first CWP-FIGIS session held in Noumea in July 2000, as part of CWP19. Beyond the paragraphs recapitulating aspects already known to most of CWP agencies, readers are invited to pay specific attention to following paragraphs:
 - ✓ Par. II Institutionalisation of FIGIS
 - ✓ Par. III.1.2 on the status of FIRMS partnership development
 - ✓ Par. III.1.3 on plans for the FIRMS partnership development
 - ✓ Par. III.2.5 on technical developments since the FIGIS-FIRMS workshop
 - ✓ Par. III.2.6 on 2003 technical developments plans
 - ✓ Par. IV focussing more particularly on the level of implementation of the workplan for starting contributions to FIRMS, agreed during the FIGIS-FIRMS methodological workshop
3. The FIGIS-CWP meeting is invited to comment on these points, and agencies are in particular requested to state what their intention is with respect to proposed workplan.

II Agenda item 2: FIRMS partnership agreement

4. The third draft of the proposed FIGIS-FIRMS partnership agreement was discussed by email with the CWP agencies during the period following the CWP inter-sessional meeting (Rome, March 2002). In addition, the FIGIS-FIRMS July 2002 workshop elaborated a number of technical recommendations directed to the FIRMS Steering Committee. The present document organises both these recommendations and the comments received during the above mentioned discussion, to facilitate the FIGIS-CWP meeting to debate and hopefully resolve outstanding questions.
5. It is proposed to set up a “FIGIS-FIRMS partnership agreement guidelines” document in which will be found the master partnership agreement document, the guidelines for the detailed arrangement (current Annex 1), the rules of procedures of the FIRMS steering Committee, and the FIGIS-FIRMS information management policy.

II.1 Master FIRMS Partnership Agreement document

6. The comments received during the email discussion held in May and June 2002 can be classified in three groups:
- ✓ comments of editorial nature which clarified the meaning were inserted under track change mode and a fourth version of the draft is accordingly attached for review.
 - ✓ comments of editorial nature which FAO opposed with counter arguments are open to debate during this CWP-FIGIS meeting (see concerned comments and response in Annex B)
 - ✓ comments raising fundamental questions of system governance and cost nature are compiled in Annex C, for debate.

II.2 Detailed arrangements with a single partner (Annex 1 of the FIRMS Partnership Agreement)

7. Annex 1 of the Agreement is a guidelines document indicating the type of information to be included in the specific agreement between FAO (on behalf of FIRMS) and the partner. It should therefore be located in the “guidelines” document accompanying the FIRMS partnership agreement. It is proposed to elaborate a few examples of Annex 1 with the partners ready to start (ICCAT?).

II.3 Information management policy

8. The FIGIS-FIRMS July 2002 workshop considered in its report/annex 7 some of the elements of an information management policy, including quality assurance, which should in due course be developed by the FIGIS/FIRMS Steering Committee (FSC). These elements are reported in Annex E of the present document, and completed with relevant paragraphs captured from the FIGIS-FIRMS report and few additional questions from FAO.

III Preparation of the first session of the FIRMS Steering Committee

III.1 Rules of procedures of the FIRMS Steering Committee (Annex 2 of the FIRMS Partnership Agreement)

9. The current draft (based on the rules of procedure of the CWP, a body established under article VI of the FAO Constitution) needs to be discussed and agreed in details on first convening the FSC. In addition to needs for modifications that may arise from the general debate (in particular third bullet of agenda item 2.1), FAO raised a few questions for discussion by the present meeting in Annex D.
10. The meeting is invited to provide guidance for the resolution of these questions relevant to the operation of the FIRMS steering committee.
11. The meeting should review and validate the content of this document, and it is proposed to tentatively prioritise the items that the FSC should tackle in detail.

III.2 Respective roles of CWP and FIRMS steering committee in the maintenance of FIGIS standards

12. Annex F recapitulates the attributions of the FIRMS Steering Committee in the management of standards, as compiled from the FIGIS-FIRMS methodological workshop. It is clear from these notes that there is a need to clarify the respective roles of FSC and CWP in the management of standards, and where necessary define their relationships.

Annex A: FIGIS and FIRMS general progress status report and plans for 2003-2004

Contents (Annex A)

- I. Outlook of the overall FIGIS system development
- II. Dissemination system
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- III. Institutionalisation of FIGIS
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 - IV.2.6 Developments since the FIGIS-FIRMS workshop
 - IV.2.7 Plans for 2003-2004
 - IV.3 Progress status on the work plan agreed during FIGIS-FIRMS methodological workshop

I Outlook of the overall FIGIS system development

- 13. The FIGIS system is based on a three tier architecture matching the following requirements: web and GIS based, scalable, platform and proprietary software independent, facilitation of the integration of various Fisheries information domains thanks to the ability to manage XML metadata standards.
- 14. At the end of year 2002 (fourth FIGIS project year), achievements are as follows.

II Dissemination system:

- 15. This represents the set of modules providing an easy access for the target audience to statistics and knowledge built into the system.
- 16. Web-based dissemination of **statistical data**: a statistical module allowing for the dissemination of 7 statistical data sets (Capture, Aquaculture, Production, Fleet, Commodities, Tuna nominal catches, Tuna Atlas) providing different query mechanisms, viewing formats such as tables, graphs and maps, and export facilities.
- 17. Dissemination of **non-statistical data**: 10 modules are operational at the end of 2002, providing various query tools to users (topic trees, search forms, or graphical query

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assistants) to access fact sheets each displaying knowledge in a systematic and consistent way, including tables, graphs or maps built on the fly. It includes the species (470 fact sheets), fishing techniques (237 of gear types, vessel types, equipment and fishing techniques fact sheets), and fishery policy (300 fact sheets) modules. The Virtual library module as well as the species introduction module are being completed. The Resources and Stocks module contains 1000 inventoried units. The High Seas Vessels Authorisation Record disseminates under controlled user access 6443 records from 17 countries, but this older module should be re-deployed according to the more recent FIGIS standards to provide a more systematic and automated exchange of vessel data be the future target. The Glossary module was developed early in the project, but in the last project year work will be undertaken on enhancing its integration with the rest of the FIGIS system. The clearing house of fishery institutions (and the related Fisheries Department mailing list module) was integrated because of the need to address consistently institutional partnerships in the system. A mapping module displays species and stock distribution maps dynamically, as well as spatial distribution of Tuna catch statistics (from the Tuna Atlas data set); this mapping module is configurable to fit many other applications, such as for example a geographical query tool which is under development.

18. During 2003, this integration will be extended to the domains of information for which new data bases are available : Regional Fishery Body summaries, fishing equipment, institutions-programmes and collections descriptions, country profiles including a focus on aquaculture, fisheries and fisheries management systems.
19. For 7 modules involving interactions with **partner systems** namely ONEFISH, ASFA, AAPQIS, SIPAM, and Fishport (ie fish quality and safety information), an effective interoperability with FIGIS will be mainly driven by progress on the thesauruses and Metadata front, which will be one of FIGIS main efforts during 2003. For this purpose, FIGIS actively contributes to the development of the Fisheries Ontology Server (FOS) under the overall framework of the WAICENT Agricultural Ontology Server (AOS) project. This project aims at enhancing the integration of data bases and information systems thanks to the development of relationships between thesauruses. During 2003, it is expected that the results of this project can be utilised by FIGIS to facilitate its interoperability with other systems such as ASFA.
20. **Web-based dissemination of controlled terms, and classifications** : the reference table management sub-system, controlling concepts, related lists of terms and classifications is the indispensable component ensuring integration of the various FIGIS modules. Although this system is already available on the internet (<http://www.fao.org/figis/servlet/RefServlet>) and is planned to be accessible through FIGIS and CWP web sites, the URL was not advertised and the connections from FIGIS and the CWP page were not yet established because some of its content should remain under restricted access, a security function yet not activated.

II.1 Working system, for a user-friendly update of the content:

21. The FIGIS system is, in the back-end, a factory which can produce other dissemination media. At the end of 2002 :

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- ✓ the applications producing the Aquaculture yearbook, Capture yearbook, and Fleet statistical bulletin are completed;
 - ✓ FIGIS will also have contributed to the elaboration of the second Fisheries Atlas CDROM, which includes all fishery policy issues, species, fishing technology, and stocks fact sheets that were available in the FIGIS data base at the end of 2002.
 - ✓ a version of the FIGIS dissemination module had been compiled on CDROM at the end of first project year. For development purpose, the deployment of the whole FIGIS application on external platforms has also proved successful.
22. In a system such as FIGIS based on the principle of updates by data owners, it is essential that a simple user interface be built and made available to these data owners, for the three main types of data: statistics, reference data, and non-statistical data. The latter system is the most advanced, a prototype (ie version 1) being available, and it can be anticipated that a satisfactory version 2 will be available at the end of the project. Although less advanced in development, a satisfactory version 1 should be available for statistics and reference data, which due to their nature will only be accessible to information specialists.

II.2 GIS component:

23. Developing an integrated web and GIS based information system means that all geo-referenced items are open to spatial representation. This is actually the case with regard to the current information domains integrated in FIGIS, all relevant to marine fisheries. Additional species distribution maps, or spatial management unit systems can be smoothly integrated as a “routine” task, following published guidelines. With respect to layers relevant to land areas, hence not specific to the marine sector and thus of FAO corporate interest, FIGIS actively contributes to the work of the UN Geographic Information Working Group (UNGIWG), a UN network which agrees specifications and standards according to which the needed layers for FIGIS are being developed.

II.3 Partnership development, for a long term sustainable system

24. The originally stated objective was to set-up a network of reliable information-providers and partners, implying formal agreements to share common data types and information management policies, so that providers deliver first-hand information to FIGIS. While agreements were established with the Fishbase, ASFA, and SIPAM, and other information networks for data exchange, the global Fishery Resources Monitoring System (FIRMS¹) is the developing information network for FIGIS. The present report intends to detail this aspect in section II of main report.

III Institutionalisation of FIGIS

25. The project for the development of FIGIS is progressively being institutionalised as part of the FAO regular programme. The FIGIS regular staff team will be composed at

¹ FIRMS stands for Fisheries global Resources Monitoring System

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the end of 2003 of 8 persons, including the FIGIS officer, the Fisheries Department technical editor, a web-master, a system administrator (APO), a database administrator, a lead software developer, a software developer (part time), an administrative assistant being also part time web-master assistant, and funding opportunities are sought to establish a post for a Metadata standards specialist.

IV FIRMS development

IV.1 FIRMS network of partners

IV.1.1 Past developments

26. When the project started, informal relationships between FAO staff and regional or national experts governed the production of the “Review of the state of world marine fishery resources”. The task is to transform this informal network into an institutionalised partnership the members of which accepting to share their information according to agreed procedures and quality assurance rules.
27. During 2000 and 2001 (second and third years of the FIGIS project), institutional partners were progressively contacted and invited to participate in the implementation of case studies, as a way to ensure that the system design meets their needs. On-the-job training was implemented for 5 partners, as part of the pre-agreements’ workplan. In parallel, a first FIRMS project document formulated in close collaboration with ICCAT, ICES and NAFO was submitted to the EU through official channels, and EU officially declared its willingness to support the project.
28. During 2002, two major development axes were carried on.
 - ✓ On the technical side, a FIGIS-FIRMS methodological workshop was organised in Rome in July 2002, and attended by 27 external participants representing 20 external organisations (ICES, ICCAT, IATTC, NAFO, SPC, CCAMLR, SADC, GFCM, SEAFDEC, APFIC, WECAFC, CECAF, DFO, NMFS, EU, IFREMER, IRD, ADRIAMED, COPEMED, RFIS). Technical guidance was provided for the consolidation of proposed standards, and a few newcomer institutions declared their interest in joining the partnership.
 - ✓ On the institutional side, a draft FIGIS-FIRMS partnership agreement was discussed and validated with the CWP agencies. A few outstanding questions on the operation of the FIRMS steering committee are reiterated in this report (see section II and referred annexes), and have to be debated during CWP 20.

IV.1.2 Status

29. At the end of 2002, pre-partnership agreements are established with 7 major Regional Fishery Bodies² (SPC – IOTC – ICCAT – ICES – NAFO – CECAF – IATTC), and 1

² Secretariat of the Pacific Community (SPC) – Indian Ocean Tuna Commission (IOTC) – International Commission for the Conservation of the Atlantic Tunas (ICCAT) – International Council for the Exploration of the Sea (ICES) – North Atlantic Fisheries Organisation (NAFO) – Commission for the Eastern Central Atlantic Fisheries (CECAF) – Inter American Tropical Tuna Commission (IATTC) - General Fisheries Council for the Mediterranean (GFCM)

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national Centre of Excellence (USA/NMFS³). Another pre-agreement is under signature with MFMR⁴ Namibia (with the support of the RFIS⁵ DFID funded project), as a test case for the SADC member countries. Statements of interest have also been received from 7 additional institutions⁶ (DFO, BRS, EU, Eurostat, GFCM, CCAMLR, SEAFDEC). At the end of 2002, some of these agencies will have submitted for decision by their governing body the project of formally joining the partnership.

IV.1.3 Plans for 2003

30. The present CWP-FIGIS session should discuss the outstanding points of the FIRMS partnership agreement requiring clarification, and prepare a draft that can be presented to a special FIGIS-FIRMS session to be held during COFI 2003 with RFBs and National partner institutions. The debate of this special session should allow a revised draft to be presented to the Regional Fishery Body meeting scheduled after COFI 2003, hopefully to formally launch the FIRMS Steering Committee.
31. During 2003, a noticeable amount of FIGIS resources (ranging from software development for a facilitated maintenance, to assistance and training to information contributors) will be dedicated to facilitating contributions from FIRMS partners. Contributions from partners should start as soon as the FIRMS modules have been updated to the consolidated standards.
32. Efforts towards attracting additional partners will be deployed, and should consist of supporting them in the implementation of stock or fisheries inventories and the development of a few case studies.
33. Within the overall Fishcode framework and the proposed FAO Strategy for Improving Information on the Status and Trends of Capture Fisheries, funding will be sought for implementation of the strategy at regional and national levels. Development of stock, resources and fisheries inventories, assistance to institutions for collecting and analysing data, and reporting on status and trends using FIGIS are some of the activities which donors are requested to support (see project draft)
34. On this donor support matter, it should be noted that according to a recent meeting (November 2002) held with EC/DGFish's International Division, the EC intends to support RFBs of which the EU is a member to become FIGIS-FIRMS partners. This support could be in the form of a positive vote at decision-making body level, or by extra-budgetary contributions for the development phase.

³ National Marine Fisheries Centre (NMFS – USA)

⁴ MFMR: Ministry of Fisheries and Marine Resources

⁵ RFIS: Regional Fisheries Information System, in support to SADC

⁶ Fisheries and Oceans Canada (DFO Canada) - Bureau of Rural Sciences (BRS Australia) – European Union - Eurostat - General Fisheries Council for the Mediterranean (GFCM) – Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) - South East Asia Fisheries Development Center (SEAFDEC) – South African Development Community (SADC)

IV.2 Status of FIRMS modules development

IV.2.1 Species Module

35. At the end of 2002, the Species data base includes 270 species identification sheets including drawings, texts, scanned photos, dynamically drawn statistical graphs and distribution maps (GIS based), and dynamic links to the corresponding Fishbase species pages and topics. These species have been selected on the criterion that they represent landings above 10,000 mt/year. Additional 200 species fact sheets are ready for integration in the FIGIS data base, selected on the basis of other criteria of interest to FIGIS, such as Species with an annual catch lower than 10 thousand mt but with an high importance for local industry or social group, or with an high commercial value, endangered species by-catch species, species with possible future importance to fisheries, or species of interest to aquaculture. 65 species group fact sheets, describing the ISSCAAP group items, and the major tuna groups are also being elaborated. During the third project year (2001), a photo-library for fish species was built up by the SIDP (Species Identification and Data Programme of FAO) group, and has been further indexed and quality controlled during 2002.
36. This species data base is currently being thematically extended with the integration of the Species Introductions data base (DIAS).
37. Distribution area maps for 500 species were elaborated, 280 of which correspond to species for which there are FIGIS fact sheets, the others having been developed by SIDP as part of the new species catalogs (sharks, mammals, ...).
38. During 2003, the SIDP group will extend the species database to 630 species (i.e. an additional 160). An additional 200 to 300 distribution maps will be developed with a focus on the FIGIS fact sheet species. The species-group module will be developed, thus allowing for full description of the SIDP programme and outputs, composed of species-group identification catalogues in PDF downloadable format.
39. The integration of the SIDP photo-library with the FIGIS system will be tackled during fifth project year, and should be finalised before the end of year 2003.

IV.2.2 Statistical modules

40. Besides the 5 FIDI global statistical data sets already deployed on FIGIS internet, FIGIS developed in collaboration with the FAO Marine Resources Service two Tuna Statistical data sets elaborated from data supplied by Tuna Regional Fishery Bodies: the Tuna nominal catches (organised by stock units, gear type, flag country and year) and the Tuna Atlas (catches organised by species, 5 degree square, gear type, and quarter of year). This latest application is GIS based, and the worldwide distribution of catches can be dynamically mapped from the internet. The Tuna nominal catches data set is currently being deployed on the internet, and the Tuna Atlas should be ready in February or March.

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41. All FIGIS statistical data sets were documented with quality assurance templates addressing the need for supporting the information disseminated with the best scientific evidence. These templates include the coverage and dataset structure, the sources of the information, the description of sampling schemes, primary and secondary processing, aggregation levels, transfer formats, applicable confidentiality. These templates can be viewed at <http://193.43.36.85/figis/servlet/FiRefServlet?ds=staticXML&xml=webapps/figis/wwroot/fi/figis/collection/index.xml&xsl=webapps/figis/staticXML/format/webpage.xsl>

IV.2.3 Stocks and Resources module

42. At the end of 2002, the stocks and resources database contained about 250 resource units, and 1000 stock units (480 inventoried with partners + 540 from the Popdyn application), of which around 1/3 remain to be validated by experts.
43. The FAO 1998 "regional review of the state of world fishery resources: marine fisheries" was fully converted according to the overall design of the Stocks and Resources application, shared by the various FIRMS partner institutions. Thus it provides the top level of the Stocks and Resources tree of information, and should for the future editions be derived from the knowledge captured at lower levels.
44. 11 additional documents supplied by FIRMS partners were converted according to a standard single format, and integrated into the FIGIS Stocks and Resources prototype module, rendering harmonised access and presentation of all these reports.
45. GIS maps for stocks and resources (tuna, shrimps, ...) are dynamically built, based on FAO statistical areas, areas of competence, and spatial management units set by regional fishery bodies (SPC, ICCAT, GFCM, Alaskan area).

IV.2.4 Fisheries module

46. During previous project years, different sources were used in order to design a structure for the fisheries database, the final aim being to make possible contributions from decentralised partners. Fisheries and fisheries management system, topic trees were elaborated from:
- ✓ brief descriptions of fisheries as presented in stock status and trends reports from partner fishery commissions, in fishing technique fact sheets, or in country profiles;
 - ✓ shrimp fisheries reports from the FAO-GEF⁷ programme implemented as test cases;
 - ✓ national profiles of Fisheries Management Systems (FMS), now tested for 18 countries.

IV.2.5 Review of modules design by FIGIS -FIRMS workshop

⁷ Shrimp fisheries information collected in the frame of the GEF-FAO Project (assessment of environmental impacts of shrimp fishing practices) in 14 countries

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47. During the July 2002 FIGIS-FIRMS methodological workshop in Rome, attended by 27 external participants representing 20 external organisations (see list in par.28), the FIGIS-FIRMS prospective partners were asked to provide feedback on the Stocks and Resources prototype, and to review the proposed topic trees. The suggested changes mainly concerned some of the identifiers needed to manage this very dynamic type of information. Additionally, it was recommended to transform the concept of Resources into that of Management unit, and to further consider how these concepts can fit the needs for small scale fisheries.
48. The FIGIS-FIRMS workshop achieved consensus on 2002-2003 workplan aiming at consolidating shared standards, starting contributions to FIRMS, developing additional case studies and, for newcomer institutions, starting inventories.

IV.2.6 Developments since the FIGIS-FIRMS workshop (July 2002 – January 2003)

49. According to the recommendations of the workshop, the following outputs were achieved:
 - ✓ improvement of FIGIS Metadata definitions, updating of the training tools aimed at assisting users to start-up with FIGIS Metadata standards, XML technical guidelines and a review of 'XML tools' state of the art, and launching of the FIMES web-site hosting this information;
 - ✓ revision of the topic trees and proposal for a new conceptual model taking into account the Management unit concept; this proposal is open for debate.
 - ✓ setting-up of an electronic forum in order to debate the proposal and achieve a final agreement on standards for the stocks, management systems, management units and fisheries concepts. This agreement should allow FIRMS partners to start their contributions;
 - ✓ deployment of the reference table management system on the internet, which targets the dissemination of international classifications;
 - ✓ finalisation and deployment on the internet of the current version of the Stocks and Resources module; this module corresponds to the FIMES DTD v3, and allows partners willing to test the technology to start contributing on a test basis;
 - ✓ cleaning-up and rationalisation of the current inventory of stocks and resources contained in this module, in order to publish it on the internet: this on-going process requires partners' involvement for the validation of the data content they own. This process started with Tuna resources, and resources for FAO areas 34, 37, 51, 47, 27 and 21, and Tuna resources are currently being finalized and published on the web.

IV.2.7 Plans for 2003 – 2004

50. During 2003, a major effort will be devoted to the further development of the stocks, resources and fisheries inventory. From the current inventory base, and for each major FAO area, the inventory will be expanded either with partners willing to collaborate, or through hiring the services of consultants. In order to implement the aforementioned workplan, FIGIS will provide support to partners willing to start contributions to the FIRMS data base, and coordination of the inventory, through the service of a part-time staff, and the additional resources will be provided by the

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Marine Resource Service for what concerns the FAO regional fishery commissions. Sponsors will be sought for other fishing areas.

51. The modules handling the FIRMS concepts will also be revised according to the standards agreed through the discussion group, and completed so as to facilitate their maintenance.
52. The objectives of the construction of the FIRMS partnership then consists of getting partners with stock units under their monitoring mandate to report on stocks features, status or trends using FIGIS, thus enriching the data base. FIGIS will support partners for their test contributions, including inventories and reports on status and trends.
53. Furthermore, it is proposed to organise in co-operation with interested institutions an expert consultation focussing on the needs for information relevant to small scale fisheries, and the related information module design.

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IV.3 Progress status on the work plan agreed during FIGIS-FIRMS methodological workshop

Project Title: Beyond case studies – beginning the process of contributing to FIRMS				
Objective: Starting effective contributions				
		Deadline as established during workshop		level of achievement
Output 1	Finalised FIGIS stock-resource module version 3, including all ongoing case studies, and published over the Web as a prototype.	15 th October 2002	Prerequisite: Partners authorisation to publish on the web	
Tasks:	1.1 FIGIS team ends the on-going development work	end July 2002	FIGIS team	100%
	1.2 partners review the results	end August 2002	IATTC - NMFS - ICES - ICCAT - SPC – GFCM	30%
Output 2	List of standard classifications disseminated over the web - through the Coordinating Working Party on Fishery Statistics home page entry point	1 st October		
Tasks:	2.1 Development of the Coordinating Working Party on Fishery Statistics home page, including a connection to the FIGIS reference table management system	1 st October	FIDI - FIGIS team	50%
	2.2 Help developed for the retrieval of specific classifications	1 st October	FIGIS team	10%
Output 3	Standardised lists of terms, and revised tree	1 st January 2003		
Tasks:	3.1 Two Email discussion lists established, for conceptual and technical aspects	12 th July	FIGIS team IATTC - NMFS - ICES - ICCAT - SPC – GFCM	100%
	3.2 Lists of fields requiring standardisation hence submission of terms by partners elaborated and distributed	12 th July	IATTC - NMFS - ICES - ICCAT - SPC	75%
	3.3 Preliminary revised version of the tree	31 st July	FIGIS team	100%
	3.4 Submission of list of terms and related definitions by partners	1 st September	IATTC - NMFS - ICES - ICCAT – SPC	0%
	3.5 Harmonisation work from confrontation of terms supplied - activity developing with results being discussed in parallel on the mail	1 st January 2003	FIGIS team	0%
	3.6 Final version of the tree dispatched for comments	30 th November	FIGIS team	0%
	3.7 Feedback from partners interested on proposed standard lists of terms and revised tree (DTD)	October - November - December	IATTC - NMFS - ICES - ICCAT - SPC	0%
Output 4	Tools prepared at the level of partner institutions		Prerequisite: decisions made as to which XML editor software are going to be purchased	
	4.1 Prepare and dispatch documentation on a variety of XML editing tools, particularly their compatibility with possible systems. This may include survey of partners capabilities	31 st July	FIGIS team	100%
	4.2 Prepare a decision at institution's level	12 th July	IATTC - NMFS - ICES - ICCAT – SPC	?
Output 5	Partners having understood XML technology, and implied skills and processes			
	5.1 Updated training guidelines elaborated and dispatched to interested partners	15 th September	FIGIS team	100%
	5.2 Version 3 case studies sent to interested partners, together with hands-on training guidelines	15 th September	FIGIS team Prerequisite: version 3 consolidated	0%
	5.3 Partners self training		IATTC	? %

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	5.4 Rome, or on-site, training		FIGIS trainer - partner's scientist, editor and/or webmaster	0%
	5.5 Online editing tool beta version testing by partners	September to November 2002	Prerequisite: on-line editing tool alpha version tested	0%
	5.6 XML document upload and on-line publishing workflow testing by partners	November to January 2003	Prerequisite: alpha version tested by FIGIS team	0%
Output 6	FIGIS software evaluated by partners, for possible installation on their system		Prerequisite: version 3 consolidated	
	6.1 Adequate Documenting of FIGIS software version 3	31 st October 2002	FIGIS team	50%
	6.2 Software Package sent to interested partners	31 st October 2002	FIGIS team	0%
Output 7	Contributions started by partners		Prerequisite: Partnership agreement established, standard DTD agreed	
	7.1 Rome, or on-site, training	During 2003	FIGIS trainer - partner's scientist, editor and/or webmaster	0%

Annex B: draft Partnership agreement - comments of editorial nature which FAO opposed with counter arguments

Page 1

[comment 1] Tissa Amaratunga : replace with “noting”; Taconet : “noting” would fit if “that” was representing “the Parties”, whereas I think in this sentence “that” is representing “a framework”

Page 2

[comment 2] Tissa Amaratunga : you want to delete this . Taconet : I am not sure why ?

page2

[comment 3] Tissa Amaratunga : would like this footnote out; Taconet : I think it is important to bookmark that the scope mentioned thereafter provides our reference as to what FIRMS is about

page 3

[comment 4] Tissa Amaratunga : delete this, as FSC not a legal entity; Taconet : effectively, FSC is only a Steering Committee without legal powers (e.g. there are no "Binding" capabilities), but the text doesn't state that FSC is a legal entity, it only tells that wherever decisions of the FSC would result in the need to tackle legal issues, then the FIRMS secretariat acting under the FAO aegis would be in charge of handling this aspect.

page 3

[comment 5] Tissa Amaratunga : would replace “policy” by “rules of procedures/terms of reference”; I am not sure why the term “policy” would not fit

page 3

[comment 8] Tissa Amaratunga : delete “where required”; Taconet : I do not agree, “where required should remain, as the general principle is that FIRMS is a distributed system under the control of the partner. So the secretariat should receive and process information only for those Parties who cannot undertake this processing, ie most of the time for developing country institutions

page 3

[comment 9] Tissa Amaratunga : delete “where required”, and “control”; Taconet : I do not agree, “where required should remain, as the general principle is that FIRMS is a distributed system under the control of the partner. So the secretariat (or rather FAO in its role of partner”) should collate, control and process information on the status and trends of fisheries where this information is not collated by any of the partners. In fact, the agreement should probably better distinguish the role of FAO in its capacity of secretariat of FIRMS, and FAO in its capacity of one of the FIRMS partners

page 3

[comment 10] Tissa Amaratunga : meaning of “to provide the FIRMS” ? ; Taconet : same type of answer as above : FAO, in its capacity of FIRMS partner having the mandate to report at global level, has to provide FIRMS with global level information on ...

[additional comment] there is no mention of the “maintenance of standards” role of the FIRMS secretariat

page 3

[comment 11] Tissa Amaratunga : this should be a bullet + delete “or”, + delete “including responsibilities, inter alia”; Taconet : I think it should remain as a general introductory statement, and not appear as a first bullet; deleting “or” has to be discussed : the initial idea was to leave some flexibility and allow a partner to contribute positively to FIRMS even beyond its mandate, if it owns useful information.

page 4

[comment 14] Tissa Amaratunga : this is not in mandates of many RFBs. Best reword but not as a responsibility. Taconet : well, the sentence indicates the limit of this responsibility with “where this is compatible with their mandate”. There are RFBs having this mandate, and RFBs are not the only Parties going to join the partnership, so we should leave it there as a responsibility for those.

page 4

[comment 15] Hans Lassen : recall that FAO is obliged to identify the source and owner of the information ; Tissa Amaratunga : add “ensuring citations of responsible Party” at the end of the sentence. Taconet : well, I am

**Annex B: draft Partnership agreement - comments of editorial nature which FAO
opposed with counter arguments**

not sure we should repeat it again, as this will be the first item of information management policy. If we were to add it, it could come like this "... this purpose, ensuring that the source and owner are clearly identified"

page 4

[comment 16] Hans Lassen : I am at loss what is meant here ? ; Taconet : as every database enforcing some standards, syntheses are made possible by querying the system, or specific views presenting specific points can be prepared

page 5

[comment 20] Tissa Amaratunga : the Agreement shall define the timeframe, not FSC ? Taconet : effectively, it is not clear whether we are talking about the detailed arrangements between FAO and one partner, or about the partnership agreement framework which should be under the mandate of FSC

**Annex C: draft Partnership agreement - comments raising fundamental questions
of system governance and cost nature**

I System governance and its rules of procedures:

– the agreement should probably better distinguish the role of FAO in its capacity of secretariat of FIRMS, and FAO in its capacity of one of the FIRMS partners	Ref. par.5 bullets 7 and 9
– “to ensure that cooperation is maintained in the identification of information that will complement each party’s information sources and prevent duplication”: this should be a FIRMS FSC responsibility	Ref. par.6 bullet 3
– “to attend meetings of the FSC, when appropriate”: when is it appropriate, when is it not?	Ref. par.6 bullet 4
– which use to be made of information submitted by a party which then withdraws from the partnership ?	Ref. par.17

II Costs :

II.1 comments by partners

– the FIRMS secretariat shall co-ordinate and administer financial inputs to the development of FIRMS: what does “co-ordinate financial inputs” means ? furthermore, clear guidelines are requested on the aspect of administrating financial inputs.	Ref. par.5 bullet 3
– this section has to be very clearly defined	Ref. par.13
- there are budgetary constraints within RFBs for outside projects of this nature. Accordingly, it is important to clearly understand what commitments are needed. “additional FIRMS services” is rather open ended and I should prefer to be more specific. We need to define who shall agree to such costs. Would it be an idea to establish a annual budget that the FIRMS secretariat shall operate within ?	Ref. par.14

II.2 Additional inputs from FAO:

There are five or six areas in which FIRMS partners need to invest through various collaborative or specific negotiated arrangements depending on funds and expected outputs :

Expense type	Incumbent institution	Fund type
i) Technical maintenance and fixes (bugs, day	FIRMS secretariat	- FAO Reg.Progr.

**Annex C: draft Partnership agreement - comments raising fundamental questions
of system governance and cost nature**

to day stuff)	(FAO)	- Partner agencies (testing - in man kind)
ii) Maintenance of FIGIS-FIRMS standards	FIRMS secretariat (FAO)	- FAO Reg.Progr. - Partner agencies (evaluation - in staff time)
iii) Systems development - contribution to new functionality, generic and specific;	FIRMS secretariat (FAO)	- FAO Reg.Progr. - FAO Trust funds - Contractual services established by partner agency with FAO
iv) Data Owner-side / Development phase (inventory - training in editorial work)	Partner agency	- Partner agency RP - Extra-budgetary contribution
v) Data Owner-side / routine editorial work	Partner agency	- Partner agency RP
vi) Customisation and development of look and feel of specific partners working system layout.	Partner agency	- Contractual services established by partner agency with FAO - FAO Trust funds

II.3 Estimation of costs to a Regional Fishery Body like ICCAT for the participation to FIRMS

Being a member of the Steering Committee would involve about one week of travel annually for one staff member.

Editing work: Preparing the Executive Summary reports for 12 stocks assessed every year for publishing in FIRMS would take some initial training period (only once, about one week), plus about two weeks of editing time every year. Inclusion of any other items in a partnership agreement would augment the time spent on this by ICCAT staff.

**Annex D: Questions raised by FAO on the rules of procedures
of the FIRMS Steering Committee**

<ul style="list-style-type: none"> - Voting: shall we distinguish classes of decisions requiring different voting procedures – some by consensus, some by majority : <ul style="list-style-type: none"> ✓ decisions concerning standards, ✓ decisions concerning use of budget contributed by the partners ✓ decisions concerning agreement on new partners, or ejection of existing partners - at which level do we define the institutional Party. There may be different programmes contributing to FIRMS under the said “institutional party” (e.g. FAO has SIDP, and Regional review of world fisheries programme, ...) - weight of votes : for those decisions by majority, would votes weight be proportional to the number of programmes contributing information on behalf of the Institutional party 	Ref Annex 2 Par.8
<ul style="list-style-type: none"> - how are newcomer institutions evaluated? would rules of procedures impose an evaluation through a pre-agreement phase, and leave it up to the FIRMS secretariat to establish pre-agreement with institutions falling within the criteria set up by the FSC. The FIGIS-FIRMS workshop noted that “Before providing a case study to FIRMS, a preliminary evaluation is required of the interest and eligibility of an institution to become a partner in FIRMS. The first step would be to make an inventory of fishery/stock/resource for which the organisation could provide information” 	Ref Annex 2 Par.14
<p>should we add to the rules of procedures an item entitled “management of financial inputs”</p>	

Annex E: Draft list of items for a FIGIS-FIRMS Information management policy

<p>The FIGIS system recognises that it is, and is structured to work as, a distributed system with many different partners, each holding data in different databases (or otherwise). The FIGIS group, therefore, will have little control over how FIGIS database content is manipulated. Data in the FIGIS system will need to be loaded and maintained by professionals belonging to many different organisations</p>	Workshop report ⁸
<p>✓ “the information that has been agreed to be made available through FIGIS shall be disseminated ensuring source and citations of responsible Party together with information on the nature, origins and quality of the information”</p>	Partnership agreement comments ⁹
<p>FIGIS is a tool for disseminating information provided by the partners. Accordingly, the information management policy will need to match the policies of partners regarding their publications and the dissemination of data and documents. The information management policy would also need to consider the following elements.</p> <ul style="list-style-type: none"> • Encourage partners to submit the best scientific information. • Maintain objectivity and transparency: ensure that information submitted by partners is not inadvertently modified during compilation and collation within FIGIS, and that the submission and use of this information is clearly documented and traceable. • Encourage participation and cooperation: encourage participation by partners and facilitate submission of information. • Maintain timeliness and flexibility: ensure that the information submitted is made available in a timely manner, and synchronised with information published by partners. • Ensure that information remains under the full responsibility and control of data owners. • Identify priorities for developments. • Consider presentation of alternate views: identify alternate or conflicting views and information within FIGIS and develop mechanisms for addressing and/or harmonizing such views. • Consider maintenance of history, update cycles and recovery of historical data: identify the requirements for archiving information and providing access to historic information. • Use a single, master copy of information submitted by partners. • Use quality indicators in metadata. • Provide guidance on the types of information needed. • Consider using built-in relationships to facilitate searches on related objects. • Assign permission to users and provide restricted/secure area for staging data validation and integrity checking, and resolution of conflicts. • Provide guidance on the types of information that may be extracted by automated routines so as to avoid ‘inappropriate’ use of information such as comparisons of analyses of status and trends or management advice, which may be separated from associated interpretative text. • Identify which languages may be used by partners to submit information, as well as those languages used by FIGIS in reporting information (including consideration of languages other than those of the information submitted). 	Workshop annex ¹⁰

⁸ Additional elements captured from the FIGIS-FIRMS report

⁹ Additional element captured from the comments made on the draft partnership agreement

Annex E: Draft list of items for a FIGIS-FIRMS Information management policy

<ul style="list-style-type: none"> ✓ Language management: within the FIGIS system each partner may need to maintain control over the language(s) to be used for dissemination of the portion of the information for which they are responsible. In FIGIS, all controlled vocabulary, including metadata, might be available in three languages (English, French, Spanish). 	Workshop report
<ul style="list-style-type: none"> • Provide guidance on layout aspects such as the use of visual identities, logos and identity of partners, output formats and the attribution of information. • [Establish and] maintain standards 	Workshop annex
<p>IT standards:</p> <ul style="list-style-type: none"> ✓ within FIGIS, XML is the core format for data and information input, output and exchange; ✓ in line with the general FAO policy, FIGIS avoids the use of proprietary software wherever possible ✓ FIGIS must establish metadata and controlled vocabularies (thesauri) standards and, as a guiding principle, should use existing standards wherever possible and, when extensions cannot be avoided, build such extensions on existing standards ✓ Standards for FIGIS shall be made available through the CWP web page. Standards, guidelines and codes for standardization between data suppliers and FIGIS should be undertaken before data suppliers start feeding the FIGIS system ✓ Exchange protocols of spatial information are part of the FIGIS-FIRMS standards: when presenting geo-referenced data, an individual data provider should use the appropriate geographical system¹¹. Local organisations should make sure that the detailed maps that they might develop for their own use conform to existing map systems 	Workshop report
<ul style="list-style-type: none"> • Ensure enforcement of quality assurance (QA), recognising the existence of two types of QA: <ol style="list-style-type: none"> 1) QA of information submitted by partners: Partners are responsible for the information submitted and the QA associated with that information. Therefore, the veracity of this QA will depend on the needs of partners and their level of responsibility. Where appropriate, information submitted by partners may include a general description of their QA protocols. 	Workshop annex
<p>the internal quality assurance schemes of the partners should be transparent and information on them should be available to all users, though it need not be fully documented in FIGIS</p>	Workshop report
<ol style="list-style-type: none"> 2) Minimum QA required for the sound operation of FIGIS (to be further developed by the FSC) should include, inter alia, the following key issues. <ul style="list-style-type: none"> - Identification of which fields are mandatory. - Provision of training and support to partners in filling out fact sheets to ensure standardization in data provided. - Development of quality assurance indicators (both qualitative and quantitative, 	Workshop annex

¹⁰ Section extracted from the FIGIS-FIRMS July 2002 methodological workshop / Annex 7

¹¹ note: this is likely to be a local standard

Annex E: Draft list of items for a FIGIS-FIRMS Information management policy

such as “risks indicators”) - Indicators of reliability and timeliness. - General guidelines for peer review. - Issues about discrepancies between sources, and related validation processes.	
- Security mechanisms to keep identified inconsistencies in the contributions of partners under confidential private access until they are resolved - Thesaurus: contextual definitions need to be associated with the term	Workshop report

Additional comment from FAO: Links between FIGIS and FIRMS: how much will FIRMS be bound by what’s happening elsewhere in the FIGIS system

Annex F: Standards management – extracts from the FIGIS-FIRMS methodological workshop

The meeting noted that efforts would be well spent in attempting to achieve harmonization where concepts are different. Resolving such conflicts could be a long process and should take place under the auspices of the FSC

Metadata: issues that need further work

- how to review, evaluate, and cope with possible differences in the use of Metadata standards between partner institutions, i.e. what is a reasonable approach to this?
- set up a technical discussion group (forum) and the submission of individual partner terminologies and definitions.

On software tools necessary to ensure the maintenance of FIRMS information: the distributed nature of the FIGIS system implies that FIGIS will not be able to set standards in a vacuum. The realities of existing standards of partners (and their system sites) will always need to be recognized. The final standards will therefore be a major topic for resolution by the FIGIS-FIRMS Steering Committee.

Need for a Metadata standards baseline before the system can be implemented. Then the maintenance of standards (introduction of new extensions, or modifications of codes) requires rights and responsibilities to be defined, so the question of who owns the FIGIS-FIRMS standards is fundamental. Is it the FSC, the FIGIS-FIRMS partners, or FAO? The FSC could play a similar role to CWP, but dealing also with non-statistical issues. FIGIS-FIRMS could draw on the experience with maintaining standards gained through the ASFA partnership, where a board meeting discuss all aspects of maintaining thesauri and database maintenance.

Non-spatial thesauri: a salient point that needs being discussed and resolved by the FSC is the mechanism to allow regional or national standards to be fitted into FIGIS-FIRMS:

- Option one would be that partners should make requests to the Coordinating Working Party on Fishery Statistics (CWP) for the addition of the appropriate terms that they feel are needed, although this might be a lengthy process;
- A second more flexible option would consist of a recognition by the FSC that there are regional standard classification systems that can be certified and established as standard encoding schemes to link to. This certification scheme would impose some constraints, such as stability, and the ability to maintain relationships between a regional thesaurus and an international thesaurus.