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l'alimentation  
et  
l'agriculture

Organización  
de las  
Naciones  
Unidas  
para la  
Agricultura  
y la  
Alimentación

## 8<sup>th</sup> SIPAM Annual Meeting

Split, Croatia, 21–23 June 2005

– MEETING REPORT –

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## OPENING OF THE SESSION

1. The Eighth Annual Meeting of the Network on Information System for the Promotion of Aquaculture in the Mediterranean (SIPAM) of the General Fisheries Commission for the Mediterranean (GFCM) Committee on Aquaculture (CAQ) was held in Split, Croatia from 21 to 23 June 2005. The Meeting was attended by the National Coordinators of eleven countries and Officers from the SIPAM Regional Centre as well as the FAO and the GFCM Secretariats. The lists of participants and documents made available at the meeting are attached as Appendix B and C to this report.

2. The Meeting was opened by Prof Yvan Katavić, Vice Minister, Ministry of Agriculture, Forestry and Water Management, Croatia, who warmly welcomed participants on behalf of the Croatian Government. Prof Katavić briefly reminded participants on the background and major trends concerning SIPAM since its inception under the MEDRAP project in 1995, including as a transversal instrument to serve the three other CAQ networks (TECAM, SELAM and EAM<sup>1</sup>) and as a planning tool for its Member countries and a provider of strategic information for the aquaculture industry. He commended the Government of Tunisia for the support provided through the Regional Centre over the last decade, which was instrumental in solving the many difficulties encountered to maintain the dynamic of the Network. Prof Katavić noted the important changes that occurred recently within the GFCM, especially the adoption of the autonomous budget and the priority identified for the strengthening of SIPAM. He then highlighted some of the challenges facing SIPAM in fulfilling its tasks within the overall GFCM Information System. He stressed the importance of this meeting, in particular, addressing the need to acquire better credibility and enhance the performance for all potential users. The full statement of Prof Katavić is attached as Appendix D.

3. Prof Ivona Marasović, Director of the Institute of Oceanography and Fisheries (IOF), Split, welcomed the participants and emphasized the importance of aquaculture development in Croatia, in view of its marine orientation and in light of the importance of fishery and coastal tourism. Mr Miro Kučić, Chair of the Fisheries Association and member of the Croatian Chamber of Economy stressed the need to strengthen collaboration between scientists and producers, including the proper development and maintenance of tools such as SIPAM, in order to promote the building of a robust aquaculture statistical system in Croatia.

4. In his introductory remarks, Mr Alain Bonzon, Executive Secretary of GFCM, thanked the Government of Croatia, and especially the IOF, for hosting this meeting. He referred to the immediate expectations of the Commission on future SIPAM development, especially the need to demonstrate its cost-effectiveness to serve as the GFCM statistical and information system for aquaculture. He remarked that the outputs of this meeting were expected to mark a milestone with SIPAM endowed with renewed means, *modus operandi* and capacity to address sectorial challenges in the future. Mr Hadj Ali, SIPAM Regional Centre Coordinator expressed gratitude to the organizers and highlighted the importance of

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<sup>1</sup> TECAM: Technology and Aquaculture in the Mediterranean; SELAM: Socio-Economic and Legal Aspects of Aquaculture in the Mediterranean; EAM: Environmental Aspects of Aquaculture Management.

significant events since the 7th SIPAM Annual Meeting<sup>2</sup>, including the external evaluation of SIPAM and the consideration given to it by the 4th session of CAQ<sup>3</sup> and the two sessions of GFCM<sup>4</sup> which followed. He further reminded participants of some of current weaknesses with SIPAM that must be addressed to meet the request of the Commission.

## **ADOPTION OF THE AGENDA AND MEETING ARRANGEMENTS**

5. The Agenda was adopted with minor changes and is attached as Appendix A of this report. Mr Hadj Ali and Mr Alessandro Lovatelli were requested and agreed to co-chair the meeting. A committee composed of Ms Melita Peharda Uljević, Mr Alan Lowther and Mr Valerio Crespi produced the draft report of the Meeting with the contributions and assistance of others.

## **SIPAM PAST AND FUTURE**

6. A brief presentation of the GFCM recommendations relevant to SIPAM, the new role of SIPAM in the GFCM-Committee on Aquaculture (CAQ) and the results of the SIPAM external evaluation<sup>5</sup> was delivered by the Secretariat. The purpose of this presentation was to inform all the participants concerning the role of SIPAM within the framework of the renewed GFCM and the mandate of the National Coordinators as approved by the Commission (ToRs attached as Appendix E).

## **PRESENTATIONS BY THE NATIONAL COORDINATORS**

7. The SIPAM National Coordinators presented brief country reports focussing on issues of importance at the national level and highlighting constraints faced by the sector. The constraints presented were discussed within the context of the functionality of the SIPAM Network.

8. The importance of timely and reliable aquaculture statistics and information was recognized for the development of the aquaculture sector. The role of SIPAM in this regard was fully acknowledged. The efficient collection and submission of such data remained a major constraint faced by SIPAM participating countries. Some participants stressed that the isolation of many SIPAM National Coordinators in performing their expected duties without a clear and official mandate and means remains an issue of great concern despite the agreement reached by the Commission at its Twenty-ninth session.

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<sup>2</sup> Seventh SIPAM Annual Meeting. Casablanca, Morocco, 19–20 September 2003.

<sup>3</sup> Fourth Session of the Committee on Aquaculture. Alexandria, Egypt, 7–9 June 2004.

<sup>4</sup> General Fisheries Commission for the Mediterranean. Extraordinary Session. St Julians, Malta, 19–23 July 2004; General Fisheries Commission for the Mediterranean. Twenty-ninth Session. Rome, Italy, 21–25 February 2005.

<sup>5</sup> Report of the ad hoc Meeting of Experts on the External Evaluation of the Committee on Aquaculture and its Networks (Rome, Italy, 29–30 March 2004).

9. Several countries noted problems resulting from inadequate, unreliable or non-existent national systems for aquaculture data. Furthermore, it was noted that a regional system necessarily depends upon the strength of the national systems.

10. National Coordinators from some southern Mediterranean countries highlighted the importance of SIPAM for providing updated and relevant information on aquaculture, which is important for developing and promoting the sector at the national level.

11. The National Coordinator of Algeria stated that the past institutional instability of the fishery sector has hindered the development of aquaculture. However, the government has, under the strategic framework for the development of the sector, undertaken a series of actions and measures which allowed the elaboration of instruments to facilitate the development of aquaculture. The National Plan of Fishery and Aquaculture 2003-2007 constitutes one of these instruments. Moreover, the National Coordinator highlighted the potential role of SIPAM as a tool for promoting the development of a responsible industry.

12. The Representative from France reported problems with their data collection for aquaculture. Data are collected from different sources/institutions and currently there is insufficient time and resources available to properly compile and analyze the data. He informed the Meeting that, by the use of limited funds made available France was able to complete the SIPAM databases and the National Aquaculture Sector Overview (NASO). In addition, France stressed the importance for SIPAM to provide relevant, regional analysis and synthesis in order to add value to the existing data stored into the system.

13. The Representative also delivered a power point presentation which illustrated the use of SIPAM to forecast aquaculture trend at national level.

14. Lebanon reported that more comprehensive and accurate production aquaculture statistics are needed. Additionally, information on farming technologies and practices, and laws and regulations related to aquaculture should be enhanced.

15. Morocco acknowledged that the promotion of aquaculture is a key point and that SIPAM should play an important role in this. The National Coordinator reported that many conflicts still exist between stakeholders and managers in the aquaculture sector. In this context he stressed that national law and regulations should be enhanced.

16. The National Coordinator of Turkey reported that Turkey had problems related to data coverage due to the large number of farms (1 273 marine farms exist in the country) and the extensive coastal area. The main problem currently faced was the lack of time and funds to carry out the work requested by the Network and institutional support.

17. In Egypt, aquaculture represents more than 50 percent of national fisheries production. The National Coordinator highlighted the problems they have in data collection and in filling in some SIPAM databases for which data are not available in the country.

18. The main constraint reported by Spain was related to incompatibilities between the national aquaculture database system and SIPAM. This problem has caused some delays in the submission of data to the SIPAM Regional Centre, especially for the selected directories.

19. Cyprus reported no problems regarding data collection due to the small number of facilities currently operating. The government has adopted a policy of gradual, cautious development of the sector, recognizing the importance of tourism and environmental quality. Current aquaculture research is focusing on the cultivation of new species lower on the food chain. However, as of now there is little interest from the marketing point of view.

20. The National Coordinator for Italy stressed that, in light of the increasing demand for reliable data and information, further development of SIPAM should take a “holistic” approach and should strive to provide the data and information needed to support management decisions.

21. Croatia stated that additional value and outputs constitute a key point for SIPAM. However, it is fundamental that the main producer countries are responsible for entering their data in the system on a more regular basis. The National Coordinator reiterated concerns about the reliability of the available information on aquaculture, noting that official production statistics do not match with export/customs declarations.

## **PROPOSAL FOR THE FUTURE DEVELOPMENT AND LOCATION OF SIPAM**

22. FAO consultant, Mr Salvatore Coppola, and the former designer of the present SIPAM, presented the document “The future of SIPAM, its role in the framework of the new GFCM structure – Part 2: The implementation process”. The presentation outlined the key events leading to the present situation where, despite national and regional efforts that have been made, the results have been far from satisfactory. The diagnosis of the situation revealed that the following two complications were the most relevant deficiencies that contributed to the deterioration of SIPAM:

- The system was conceived 15 years ago and limited actions have been taken to modernize it. In other words, the SIPAM group was not able to discriminate between the “function” of SIPAM and the “functionalities” of the system. The potential of SIPAM was acknowledged but no appropriate modifications were introduced to meet new requirements and to utilize the innovative possibilities that the industry standards currently offer. It was acknowledged that most, but not all, were referable to lack of financial resources.
- The second most serious problem highlighted was a typical mistake in developing an information system – once it is completed, it is believed that the job is achieved and it can be used and exploited without securing constant and appropriate resources to ensure appropriate data processing and information dissemination.

23. A project proposal describing the possible ways of revitalizing SIPAM in order to meet new requirements that are expected both from the GFCM and from the private sector was delivered. The following actions were identified as priority ones:

- The conceptual and system-development tasks will be under the full responsibility of the Mediterranean Fishery Statistics and Information System (MedFisis) project. Its staff will re-design, supervise and implement the new information system. The databases, the portal and its potentialities will be reshaped according to new required functionality. The System Designer, with external support to be identified, will undertake the work. MedFisis will employ the services of a team composed of a web designer, a database developer and other expertise, as required.
- An Information and Communications Expert will be recruited and based in Rome (FAO/GFCM) and will work under the direct supervision of MedFisis, in close collaboration with the GFCM Secretariat and the SIPAM Regional Office, and in consultation with SIPAM Member country experts who expressed an interest to actively contribute in this new development phase of the Network. Should this role continue in the future, he/she will report directly to the GFCM Aquaculture Expert and no longer to the MedFisis Project. The Information and Communication Expert vacancy announcement is attached as Appendix F.
- The SIPAM Regional Centre will also participate in the development of the new system. The new organisational strategy calls for more direct involvement by the data manager in tasks other than those that have been undertaken. The SIPAM Regional Centre will interact with the development team by supporting communication tasks, testing operations, assisting the data migration from the present format to the new one, and other tasks as necessary.
- Full participation from the SIPAM countries is expected. Some National Coordinators and experts will be asked to directly participate in the development of this new project. They will provide fresh data, links and ideas, will simulate situations, comment and advice on results and co-operate in the whole data-information process from a user/family member perspectives. They will collaborate under the leadership and advice of the Information and Communications Expert.

24. Some priority tasks to be undertaken with a matter of urgency were presented and discussed:

- The nature of future SIPAM annual meetings will change. The National Coordinators will be invited to devise on how to exploit SIPAM efficiently, how to propose and undertake studies and how to effectively mobilise resources in support of the Network. Annual meetings should also be open to other potential users and participants who could provide not only ideas and contributions in information, but also financial and infrastructure support.
- SIPAM must assume its role as an information system for the promotion of aquaculture in the Mediterranean and as an information tool in support of the other GFCM aquaculture networks (TECAM, SELAM and EAM).

25. The new role of the National Coordinators was also emphasised. The role should evolve from that of national data manager into that of a member of an editorial board of a virtual magazine with responsibility for the content and quality of the site. It was also

recommended that, within the national structure, the relationship between the SIPAM National Coordinator and the CAQ representative should be clarified and strengthened.

26. The expected programme of work of the Information and Communication Expert, of the SIPAM Regional Centre and the development work by a web developer (or a team) were introduced.

27. The national co-ordinators agreed in principle on the proposed review and issues were raised as summarized below:

- SIPAM must become an operational databank, which may be smaller in terms of number of databases, but must be reliable and complete. The most important and essential databases were identified to be production statistics, experts, production centres, R&D programmes, research institutions, national reports (or NASOs) and should be regularly updated by all SIPAM Member countries. Priority for marine aquaculture species against inland species was acknowledged.
- Access to SIPAM must be easy and user-friendly in order to facilitate consultation by non-specialists, notably decision-makers. An easy-to-use, web-based interface should be developed.
- National Coordinators are the key persons for the quality and the quantity of data. Some of them, notably Turkey, Egypt, Italy, called for higher institutional support to secure the data collection.
- The restructuring of the design of SIPAM is a complex task and maybe it could be possible to avoid it if the system moves to a simple web-type structure.
- The key goal of SIPAM remains the contribution to sustainable development of the sector, including the coordination of the other networks as initially planned.

28. It was finally agreed that the following actions will be taken:

- An action from the GFCM Secretariat to the SIPAM Member countries should be initiated to promote the establishment of the new functions of National Coordinators, and to seek clear recognition and full support from concerned GFCM Members.
- SIPAM will be re-developed around modern web-based system that would allow remote data entry within a controlled environment. This would allow the National Coordinator to give authorization to selected entities in the country to enter or manage the data (institutions, private sector organizations, ministries, etc.). It was agreed that national reports and production statistics would remain the direct responsibility of the National Coordinators.
- The strategy outlined under the next agenda item regarding the harmonization of the production statistics will be implemented.
- The role of the National Coordinators will be changed to be more concentrated on managerial aspects of the system and on the development of (with the assistance of the information expert and the Regional Centre) tools and strategies to promote SIPAM at the national level and its use as a tool for planning and monitoring.

- Concerning the financing (or better self-financing) of SIPAM, management will develop a strategy to raise funds for the support of the Network. Institutional support would be given priority as opposed to charging users for access to the parts of the system.
- Within a couple of weeks, the Regional Coordinator, the GFCM Secretariat and the MedFisis Experts will meet in Rome to prepare a programme of work and the associated budget. A summary of the project implementation is provided in Appendix G.

## **FAO AND SIPAM AQUACULTURE PRODUCTION STATISTICS**

29. Mr Alan Lowther (FAO Fishery Statistician for Aquaculture) introduced agenda item 6 concerning the harmonization of aquaculture production statistics between FAO-FIDI (Fishery Data, Information and Statistics Unit) and SIPAM. It was noted that both SIPAM and FIDI provide aquaculture production statistics and that both are FAO products. However, there are discrepancies in the data between the two programmes that should be addressed in order to avoid misunderstandings and misinterpretations of the data.

30. In many cases, there are different providers of the national data, whether different offices or different people within the same office. Participants were provided with a list of the data providers for each programme (i.e. SIPAM and FIDI). It was agreed that improved communication and coordination at the national level was required to achieve the goal of producing a single, harmonized dataset of the highest quality for use by both systems. Additionally this harmonization has the potential to reduce reporting burden for the offices involved.

31. The data collected by FAO-FIDI were explained to the participants with relevant examples. Also, examples of the data discrepancies between the two systems were presented. It was noted that for prime mariculture species (e.g. seabass and seabream) the differences, while important, were not too large. However, larger differences existed for inland species and issues remained on the assignment of production to particular marine areas and the availability of such data. It was suggested that SIPAM/GFCM needs to decide what should be the scope of the statistics presented and this decision should be consistently applied by all contributing countries.

32. The following strategy for harmonization of the statistics was proposed and agreed:

- STEP 1: Improve coordination among national organizations providing data. Although this is primarily an issue for the countries, the Secretariat offered to help facilitate this communication, as necessary.
- STEP 2: Produce a single dataset of aquaculture production statistics to send to FAO, to be shared by FIDI and SIPAM. The details of the mechanism will be developed.
- STEP 3: Modify the SIPAM data structure as necessary to allow the harmonization with FIDI data.

- STEP 4: Allow a mechanism so that SIPAM can maintain greater detail (and potentially more than annual updating) in the data.
- STEP 5: Proceed with the harmonization of the current year and future data as the first priority and in order to develop the mechanisms for this work. Then, work to harmonize the past data.

## **PRESENTATION OF NATIONAL AQUACULTURE SECTOR OVERVIEW**

33. The meeting was informed by the Secretariat on the developments of the National Aquaculture Sector Overviews (NASOs) and the Prospective Analysis of Future Aquaculture Development (PAFADs). The latter was recommended by the Committee on Fisheries Sub-Committee of Aquaculture (COFI-SCA) and will be an important component of the global overview of the aquaculture sector to be presented at the next COFI-SCA session (India, September 2006). This activity is funded through the FAO Regular Programme.

34. The SIPAM Member countries supported the initiative and agreed to elaborate and provide the NASOs in replacement of the SIPAM National Report. Those National Coordinators approached by the Secretariat would submit by 31 July 2005 information on the national aquaculture sector according to the Terms of Reference prepared for this activity. This information then will be reviewed by an expert to be identified by FAO and subsequently discussed in a regional workshop and thereafter placed in SIPAM on a routine basis.

## **SIPAM SUPPORT IN THE ORGANIZATION OF GFCM-CAQ REQUESTED OUTPUTS**

35. With regard this agenda item, the following points relative to outputs to be produced by SIPAM were discussed:

- The need for more information and analysis concerning demand and marketing of aquaculture products is expanding. A market study of seabream, seabass and other species of importance for the region will be produced. Special emphasis will be given to the demand and marketing aspects in the southern Mediterranean countries who need this information for the development of their aquaculture sectors.
- A new section of the SIPAM site, including information on the main cultured species produced in the Mediterranean, will be developed. Users will have the possibility to have a clear and updated picture of the status and trends of any species produced in the region.
- A special section focusing on “Sustainable Bluefin Tuna Farming in the Mediterranean” will be implemented to allow users to be kept aware of the status and trends of this important practice.
- Possible interactions between AAPQIS and SIPAM will be defined and established.
- Mediterranean NASOs will be produced and updated regularly.

## **FUTURE OBJECTIVES AND FUNDING OF SIPAM NETWORK**

36. The meeting agreed that restructuring SIPAM-on-the-Web to facilitate the collection and submission of data and information was of priority, along with the recruitment of the Information and Communication Expert. Furthermore, the National Coordinators invited the Commission to continue support the Network as long as it would deliver the requested outputs. Once again the enabling role of the National Coordinators was re-emphasised.

## **ANY OTHER MATTERS**

37. No other issues were raised.

## **NEXT SIPAM ANNUAL MEETING**

38. The National Coordinators from Cyprus and Lebanon both offered to host the next SIPAM Annual Meeting in one of their countries, in September 2006. The exact venue and date of the Ninth SIPAM Annual Meeting will be agreed upon in due course.

## APPENDIX A

### AGENDA

1. Opening of the meeting
2. Adoption of the Agenda and meeting arrangements
3. SIPAM past and future
4. Presentations of the National Coordinators
5. Proposal for the future development and location of SIPAM
  - Presentation of the project proposal for the development of a new internet-based SIPAM portal following the GFCM-MedFisis (Mediterranean Fishery Statistics and Information System) design
6. FAO and SIPAM aquaculture production statistics
  - Harmonization of statistics
7. Presentation of National Aquaculture Sector Overview
8. SIPAM support in the organization of GFCM-CAQ requested outputs
9. Future objectives and funding of SIPAM Network
10. Any other matters
11. Next SIPAM Annual Meeting

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**APPENDIX C****LIST OF DOCUMENTS**

- Report of the Seventh SIPAM Annual Meeting. Casablanca, Morocco, 19–20 September 2003.
- Conclusions and recommendations of the External Evaluation of the Committee on Aquaculture and its Networks. Document GFCM:CAQ/IV/2004/4 presented the Fourth Session of the GFCM Committee on Aquaculture. Alexandria, Egypt, 7–9 June 2004.
- Report of the Twenty-ninth session of the General Fisheries Commission for the Mediterranean. Rome, Italy, 21–25 February 2005.
- Report on the Special SIPAM Coordinating Meeting on “The future of SIPAM – Its role in the framework of the new GFCM structure”. Document GFCM/XXIX/2005/Dma.8 made available at the Twenty-ninth Session of the General Fisheries Commission for the Mediterranean. Rome, Italy, 21–25 February 2005.
- The future of SIPAM - Its role in the framework of the new GFCM structure; Part 2 – The implementation process. Draft document for discussion.

**APPENDIX D****OPENING REMARKS**

by

Prof Ivan KATAVIĆ

Ministry of Agriculture, Forestry and Water Management

Zagreb, Republic of Croatia

Dear colleagues, dear friends joined in the work of the SIPAM network, Ladies and Gentleman!

At the beginning of our meeting here in Split, I would first of all like to wish you all a warm welcome on behalf of the Government of Republic of Croatia and the Ministry of Agriculture, Forestry and Water Management. I hope your stay in Split is going to be a pleasant one, and I hope you shall keep the feeling for long after your stay as well. Those of you who have been here before might meet old friends and see familiar places, and those of you who are here for the first time will hopefully make new friends and come back again.

Taking into consideration the shortness of time and the amount of work in front, I would now like to briefly stress some of the important points which have been reached so far as well as those which could be faced in the future.

When the FAO-executed Mediterranean Regional Aquaculture Project (MEDRAP II) came to its end in 1995, one of its results were the networks created - TECAM, SELAM and EAM. It became obvious that an information system for the Mediterranean aquaculture development was a necessity, and SIPAM was born. Its main role was to support and link the activities of other networks in an efficient manner. The approach selected for SIPAM has been to develop national information systems with a similar structure, which could communicate through a regional centre. These information systems were supposed to serve as a tool to the countries for planning purposes and to provide information and other services to the aquaculture industry.

During the 10 years of its development, SIPAM has managed to grow throughout the Mediterranean, now joining 15 countries around the basin, as well as Portugal. This surely can be called a success. Tunisian Government should be commended and thanked for its efforts for maintaining the Regional Centre over the years. Much has been done, but we have to ask ourselves whether we have managed to reach our goals.

Looking back today, I can say that personally, I was of the opinion that if any of the four networks formed was going to survive it was going to be SIPAM. And it did. But the

question now is will it continue surviving, or will it move to a different level of achieving the usefulness it was planned to have.

With the changes of GFCM, and entering into force of the autonomous budget and new rules, SIPAM has been clearly identified as one of the Commission's priorities. The plans for its future are good, but we still need to address many difficult issues before we can say with certainty that we have a clear goal and the plan of action.

The reasons why SIPAM has not managed to truly meet the needs of the countries, and has not managed to gain the support of both the users and the national authorities and coordinators have to be acknowledged and realized before we move to the second level. One thing is certain - without a fully functional national statistical and informational data-base, no regional database can be operational. And the functioning of national networks - we have to admit it - has not been exactly perfect. The approach in most countries was voluntary, people participating and maintaining the database were enthusiasts who sacrificed their time and efforts to help the network live. This should, by all means, be avoided in the future. Without the institutional support and a true framework, SIPAM can not move on, but will remain locked at the present level of efficiency. National coordinators and personnel, as well as the databases require institutional support, both in terms of technology and equipment as well as in terms of human capacity. I believe that this is an issue that needs to be tackled in all the countries participating in the network. This question was raised at the last meeting of the GFCM, stressing its importance.

When talking about the future, we should consider other questions as well. As most of you recall, CAQ recommended integrating SIPAM in the overall GFCM information system and the SIPAM Special *ad hoc* Coordinating Meeting, held in December 2004, suggested a preliminary mechanism for such development. It was said that the SIPAM network and its databases remain an extremely valuable tool to assist the development and management of regional aquaculture, but has yet to fulfil its potential and achieve credibility in the light of the present unsatisfactory level of national commitment and financial support. Staffing, location, technical requirements and available funds have already been an issue of discussion, and perhaps will be more so in the future.

We should also ask ourselves what we have really done to meet the needs of the users. To what purpose does a database serve, if there are no users interested in its contents? Aquaculture industry is a rising one, and I am sure that the production figures will continue to rise, as well as the prices. But how many producers around the Mediterranean are aware of this tool and how many of them use it and - worse of all - how many of those actually consider the data reliable? These are important questions, and I see opportunities for future development. A lot will depend on commitment of the GFCM, FAO and the Members. Perhaps we here at this meeting can suggest steps forward, discuss the possibilities and then return to our Governments and truly elaborate and support the importance of the continuity of SIPAM activities. I sincerely hope this is going to be our goal for the next couple of days, and I am looking forward to the discussions and results.

Thank you

Extracts from the SIPAM External Evaluation Report:

- Ask GFCM to provide the utmost support for SIPAM because it is a significant asset that will enhance the future development and management of responsible aquaculture management in the Mediterranean; this implies strong commitment by member countries and the provision of financial support on a regional and national basis.
- However, if a much higher level of national support cannot be urgently agreed, suggest that GFCM should terminate SIPAM activities as soon as possible rather than continue an activity which shows promise but fails to deliver. This action should be regarded as a last resort.
- Request GFCM to express its sincere thanks to the Tunisian Government for its substantial support for SIPAM to date but, noting that Tunisia can not host and support the SIPAM Regional Centre *ad infinitum* and that different skills are now necessary to bring SIPAM into the “age of information” and that care needs to be taken not to duplicate efforts and waste valuable staff and financial resources, should re-locate the Regional Centre within the GFCM Secretariat. However, given that the GFCM new structure and autonomous budget are still under discussion, the Regional Centre should remain in Tunisia during the interim period until its relocation will be properly addressed. In the meantime the Regional Centre requires the services of an information officer to strengthen the collection and analysis of regional aquaculture information and data.
- Request GFCM, in addition to providing financial support from its own autonomous budget, to authorise the SIPAM Regional Centre to solicit private funding for its activities.
- Prepare and agree on written terms of reference for the Regional and National Coordinators and establish an up-to-date and clear operational structure for SIPAM.
- Abolish the SIPAM Coordination Committee and ask the SIPAM Regional Centre to assume its functions.
- Through GFCM, ask member countries to nominate National Coordinators that are committed to the objectives of SIPAM.
- Through GFCM, ask each member country to set up an efficient national SIPAM network and provide their National Coordinators with an adequate budget that covers both national duties and travel to regional SIPAM meetings.
- Ask the SIPAM Regional Centre to assist SIPAM National Coordinators in developing clear terms of reference and operational guidelines for the National Networks.
- Ask National Coordinators to supply information on a more frequent basis and seek national government support to do so.
- Reduce the frequency of the meetings of SIPAM National Coordinators so that they become biennial events.

- Ask the SIPAM Regional Centre to concentrate on completing and refining information from fully cooperating members rather than trying to add further member countries.

**APPENDIX E****TERMS OF REFERENCE OF THE SIPAM NATIONAL COORDINATOR**

Recognizing each government's commitment to SIPAM within the *aegis* of the General Fisheries Commission for the Mediterranean (GFCM), and the full support of his/her supervisors, the duties of SIPAM National Coordinator shall include (but not be confined to):

- The National Coordinator is representing his/her country in SIPAM.
- In close collaboration with the SIPAM Regional Centre and in coordination with other CAQ Networks Focal Points, be responsible for all SIPAM activities in his/her country.
- Elaborate through national workshops or other means such as sub-offices, projects and initiatives on aquaculture to be submitted to the SIPAM Network.
- In conjunction with the SIPAM Regional Centre, prepare annual national SIPAM work programmes in coordination with other national aquaculture bodies.
- Prepare and submit annual draft budgets for all national SIPAM activities, including essential national and international travel, for government funding.
- Be responsible for the regular and timely transmission of data and information to the SIPAM Regional Centre also required for the updating of the SIPAM web pages.
- Attend regional SIPAM meetings.
- Assist the SIPAM Regional Centre in identifying and soliciting potential non-governmental and private sources of funding to support the SIPAM Network and activities.
- Fully publicize the existence and value of the information contained in the SIPAM website to the private sector and within his/her government, as well as in relevant institutions such as universities and provide guidance in the use of the SIPAM website.
- On a continuing basis, suggest ways in which SIPAM can be improved.
- Conduct continuous internal evaluation of the efficacy of information dispersal by SIPAM on a national level in order to improve future services.
- Assist in the promotion and success of SIPAM in any other way as shall be requested, from time to time, by the SIPAM Regional Coordinator and by the GFCM Secretariat.

**APPENDIX F****INFORMATION AND COMMUNICATION EXPERT VACANCY ANNOUNCEMENT**

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**Terms of Reference (TORs)**  
**of the**  
**SIPAM Information and Communication Consultant**

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The Information and Communication Consultant will provide, in collaboration with the SIPAM Regional Centre team and under the overall supervision of the GFCM Secretariat, coordination and management support on the implementation of SIPAM activities and data flow strategies. SIPAM has been conceived with the aim of contributing to the sustainable development of aquaculture through improving the flow of aquaculture information among the participating countries in the Mediterranean and the Black Sea.

**In particular,**

The Information and Communication Expert will be responsible for the assessment and exchange of aquaculture related data and information among all SIPAM participants and networking with national governmental institutions, scientific and non-governmental organisations, regional and specialised agencies, and any other stakeholders including the private sector, for the effective implementation of the Network activities as approved by the CAQ-GFCM Committee. The SIPAM Information and Communication Expert will be required to:

- Design, propose and eventually implement communication/information strategies for the SIPAM Network;
- Liaise with all SIPAM National Coordinators to implement and ensure an efficient data and information flow in SIPAM;
- Encourage the SIPAM National Coordinators to provide data and news on a regular basis;
- Search, analyse and manage information and data from external sources and that provided by the SIPAM National Coordinators;

- Compile and edit a regular information news and other promotional material on SIPAM activities, and ensure its targeted distribution;
- Plan, identify and produce in collaboration with SIPAM Regional Centre and the GFCM Secretariat, the editorial inputs to the SIPAM portal and ensure their timely publication in the relevant website pages;
- Prepare and distribute news releases and technical reports, as appropriate, to highlight ongoing national and regional aquaculture activities;
- Participate when possible in sector events (e.g. meetings, conferences, workshops, fairs) and deliver presentations to promote the role of SIPAM;
- Contribute with relevant technical reports for the SIPAM annual meetings and for the CAQ biannual session;
- Actively participate in relevant working groups, virtual and non, engaged in information collection, analysis and dissemination;
- Any other duties as may be assigned.

### **Qualifications**

- University degree or equivalent in marine and aquaculture sciences with at least 5 years of practical experience in information and communication.
- Excellent and proven communication skills with government officials, scientific organizations and other stakeholders engaged in the Mediterranean aquaculture sector.
- Good computer skills including databases and web design and maintenance tools.
- Fluency in written and spoken English and French. Knowledge of one or more of the other languages used in the participating countries is desirable.
- Excellent team working skills.

This consultancy, open to male and female candidates from GFCM Member countries, is for 11 months and is based in Rome, FAO/GFCM HQs.

Applications will be accepted until the 25<sup>th</sup> August 2005.

**For further information and applications, please contact:**

MedFiSis Programme Coordinator

Food and Agriculture Organization of the United Nations

Viale delle Terme di Caracalla, 00100 Rome, Italy

**Tel:** +39-06-57055402

**Fax:** +39-06-57053020

**Email:** piero.mannini@fao.org

**APPENDIX G****SIPAM PROJECT IMPLEMENTATION WORK PLAN****SIPAM Review Plan Outline (Preliminary)**

The objective of this note is to introduce an overview of the work to be undertaken to review SIPAM-on-the-Web with the aim of providing a timely and easy access tool for the assessment and exchange of aquaculture-related data and information between all SIPAM participants and networking facilities with national governmental institutions, scientific and non-governmental organisations, regional and specialised agencies, and any other stakeholders including the private sector, for the effective implementation of the Network activities as approved by the GFCM-CAQ Committee. The task will mainly focus on the SIPAM re-coding/web designing aspect with appropriate implementation of information technologies and database management and related server resources management according to organisational needs and standards.

The re-development task should start on 1 September 2005 and should be completed within a year (June 2006). It is expected that the whole Development Team will be in place and duly recognized by end August 2005.

**SIPAM hosting solutions**

The possibility of SIPAM being hosted in the FAO environment with the authorization to hold direct control of the space allocated and the configuration of the server partition will be explored as a first step. An alternative to the “FAO solution” would be to acquire or rent a web site to accommodate the development and host the new SIPAM2005 including FTP functions, data lodging and transfer, SQL (or MSSQL) and Windows environment, E-Mail management, controlled and conditional access, forum management, etc.

Once this issue is cleared, the handover of the present version of SIPAM will take place. The Regional Centre will assume the responsibility to manage the present version and all the data submission and communications functions will continue as in the past, with a number of improvements to facilitate data submission, regional aggregation and quality control. Running and managing the present version and re-viewing it will be done in parallel.

**Development strategy**

As mentioned during the 8<sup>th</sup> SIPAM Annual Meeting, the SIPAM System Design will be reviewed to meet new and challenging requirements. To start, it will be posted into a new web site. It will have a mirror site where SIPAM2005 will also be hosted for testing the operational part as well as the performances in different situations. The mirror site will act, alternatively, as a central system or remote system.

It is expected, and hoped, that the mirror site will be placed in Split (Croatia) whose capacity in handling web sites has been fully proved, and appreciated, before and during the 8<sup>th</sup> SIPAM Annual

Meeting. A contract will be issued in the name of Dr Vlado Dadic who will act as manager of the mirror site, in his personal capacity.

For practical and strategic reasons, Croatia will be asked to be a partner in this exercise. As a second partner it is proposed that Greece be made part of this group. This will, hopefully, have a twofold reaction: bring Greece back into the SIPAM and update their databases. From a practical perspective, Italy and Tunisia are also requested to take part.

National Coordinators will require to make an extra effort to complete all database contents in the nearest future. This will enable the new system to be resumed with the maximum of efficiency. National Coordinators from non-EU countries should be granted an incentive of 500 US\$ each to cope with some support they may need. They will work under and in direct contact with the SIPAM Data Manager (Tunis) and the new Information and Communication Expert. It must be stressed that all “priority” databases should be completed at that stage. To avoid any misunderstanding the following databases need to be completed in their whole: production statistics, directory of suppliers, production centres, experts, research institutions, research and development projects, associated bibliography and fish health.

Minimum financial resources will also be secured to enable the regional centre staff to fully participate in the development phase and some financial resources should also be granted by the GFCM to MedFisis/SIPAM to enable the System Designer to visit remote participants.

### **Development Timeframe**

As far as the whole timeframe is concerned and from the development point of view it is planned and expected that:

The first 2 months will be totally devoted to studying and familiarising with the System Web Architecture, analysis of new data and functionality requirement, setting up the workbook. The following 6 months will be devoted to the development of the new SIPAM focussing on rewriting/coding all databases and associated queries and reporting. In parallel with this development, the Information and Communication Expert will start re-vitalising the human network, including proposing and developing an information strategy with adequate standards and commitments. The migration of the databanks from the present SIPAM into the new system will require some time and will be done in the background while the system is tested and refined.

The remaining 3 months are supposed to be devoted to running SIPAM for finalization. During the whole development phase, the Information and Communication Expert will undertake his/her duties according to the detailed terms of reference and with strong collaboration and interaction with the National Coordinators and all others involved.

**Human Resources Inputs**

The Team will be made up of the following persons/profiles:

- MedFisis Programme Coordinator (Mr Piero Mannini)
- System designer and development leader (Senior Adviser FIRM/MedFisis)
- Web application developer (under recruitment)
- Information and Communication Expert (under recruitment)
- SIPAM mirror-site manager (Dr Vlado Dadic - Croatia) will be approached/recruited
- FIRI-NASO (Mr Valerio Crespi, FIRI Information Officer)
- SIPAM Regional Centre staff
- National Coordinators of Greece, Croatia, Tunisia and Italy (this group could eventually be modified)

This “stable” team will be supported by associated members who will be involved according to needs and priorities for specific issues and tasks; it is expected that the following persons will be associated:

- Figis (Mr Marc Taconet to decide)
- GFCM-CAQ Technical Secretary (Mr Alessandro Lovatelli)
- GFCM Executive Secretary (Mr Alain Bonzon)
- Statistics (Mr Alan Lowther FIDI)
- Other experts, if and when needed

**Budget Estimates**

The expected budget summary (in US\$) based on the above is the following:

Experts:

a.	Information/Communication Expert	30 000
b.	Web Development & Database management	26 500
c.	Present SIPAM handover consultant	500
d.	Mirror Site manager	3 000
e.	Hosting facilities	2 000
f.	Support to Regional Centre staff for on-the-job training	15 000
g.	Travel of SIPAM System Designer/Alternate	2 000
h.	Support to National Coordinators (for data entry)	5 000
i.	Other support to National Coordinators (to be eventually decided)	5 000
j.	Transfer to MedFisis	8.000
<b>TOTAL</b>		<b>97 000</b>

Approximate monthly financial requirements:

<b>Timeframe</b>	<b>Expenditure Components</b>	<b>Amount (US \$)</b>	<b>Monthly totals (US \$)</b>
September 2005	a , b, c, e,	5135 – 500 – 2000	7 635
October 2005	a , b, j, g	5135 – 1000 – 1000	7 135
November 2005	a , b, j,	5135 – 1000	6 135
December 2005	a , b, j,	5135 – 1000	6 135
January 2006	a , b, j, h	5135 – 1000 – 5000	11 135
February 2006	a , b, j, f	5135 – 1000 – 5000	11 135
March 2006	a , b, j	5135 – 1000	6 135
April 2006	a , b, j, f	5135 – 1000 – 5000	11 135
May 2006	a , b, j, g	5135 – 1000 – 1000	7 135
June 2006	a , b,	5135	5 135
July 2006	a , b, f	5135 – 5000	10 135
August 2006	d	3000	3 000

### **TERMS OF REFERENCE OF THE SIPAM WEB DEVELOPER CONSULTANT**

SIPAM must provide timely and easy access and use for the assessment and exchange of aquaculture-related data and information among all SIPAM participants and networking facilities with national governmental institutions, scientific and non-governmental organisations, regional and specialised agencies, and any other stakeholders including the private sector, for the effective implementation of the Network activities as approved by the GFCM-CAQ Committee.

The incumbent will be responsible for the SIPAM re-coding/web designing aspect with appropriate implementation of information technologies and database management for SIPAM and related server resources management according to organisational IT standards.

In particular the SIPAM Web Developer Consultant will be required to:

Work under the general supervision of the MedFisis Programme Coordinator, and the direct supervision of the SIPAM System Designer, undertake development, and enhancement of applications and packages for the implementation and maintenance of the SIPAM Portal in accordance with FAO/GFCM framework methodology, technical standards and guidelines provided. The incumbent will work in full synergy with the SIPAM Information and

Communication Expert and interact with the development teams of other contributory parties.

Specifically:

Assess the present status of the prototype, perform analysis of the functions and of the requirements. Propose structural and graphical review of the SIPAM web site, keeping or replacing, as required, the actual technological solution with a more suitable one for this application;

Replace the existing DBMS solution in MS-ACCESS with dynamic and multiuse data access into a SQL Server environment. Submit report indicating cost/benefits and constraints. From the DB architectural point of view, SIPAM2005 must be able to provide the users remote data entry in a controlled environment and a query system to support a so-called global search facility into all related databases and produce formatted reports;

Evaluate, with the SIPAM development team, suitability of software, hardware and networked resources solutions to fulfill SIPAM and the FAO-GFCM development requirements and be responsible for their configuration and performances;

Design and develop system changes, or prepare technical programming specifications for system maintenance to be executed by third parties (i.e. SIPAM Regional Centre or others) and take a leading role in the finalisation of the SIPAM Home Page development and verification;

Assist in maintaining and updating the system and in disseminating the information it contains, provide technical backstopping to country focal points of SIPAM and other authorised contributors in the data submission and validation process;

Contribute to the development of specialised and integrated databases and applications and assist, if requested, in data analyses aimed at preparation of thematic reports issued from these analyses;

Write, jointly with the other staff of the team, the users guide necessary to access and use the SIPAM web site also by providing on the job training to other counterparts and perform other related duties as requested;

The incumbent must be ready to work in collaboration with other the FAO-FI staff, FIGIS, the SIPAM Regional Centre and some others towards the physical construction of the web site;

It is understood that the software produced under this contract will be the property of the Food and Agriculture Organization of the United Nations (FAO) and FAO will have the freedom to eventually modify, distribute, and use it according to its mandate without limitation.

## **Qualifications**

- University Degree in Computer Science or related field.
- Working knowledge of English, French or Spanish.
- Minimum three years of relevant experience in computer support operations with particular emphasis on microcomputer support operations in LAN and WAN environment and good knowledge of FTP and TCP protocols.
- Good experience with the DBMS configuration and SQL programming language for the management.
- Relevant experience with Microsoft SQL Server installation and configuration for timely and multi easy access and tools included (SQLServerAgent and MSDTC, Store Procedure, Analysis and Enterprise Manager).
- Relevant experience with the data migration from DB Access to Microsoft SQL Server, in particular good knowledge of Data Transformation Services tools and installation and configuration of driver ODBC and OLEDB.
- Experience with systems development and with the computing environments used by FAO (e.g. Windows Server, Unix/Linux, Oracle DBMS and Applications, SQL, Java/JSP, web development tools, and others).
- Experience with IIS and web services, in particular good knowledge of Microsoft ASP technology, VBScript and HTML, for management and development of web applications.
- Experience with systems development and with the computing environments used by FAO (e.g. Windows Server, Unix/Linux, Oracle DBMS and Applications, SQL, and Java/JSP web development tools).
- Oral and written communication skills, including ability to write clear and concise reports and proposals. Good knowledge of MS Office is needed.
- Experience with tools used for the analysis and project development of the software, in particular good knowledge of the object oriented methodology and the UML language for the software project development.
- Solid working knowledge of micro-computing, networking and associated hardware and software.
- Experience in IT security administration and technical training in Microsoft software.

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The consultancy is for a period of 11 months and based in Rome, FAO HQs.

Expected entry on duty: 1<sup>st</sup> September 2005 or nearest.

Amount: US\$ 26 500 to be paid in monthly instalments.