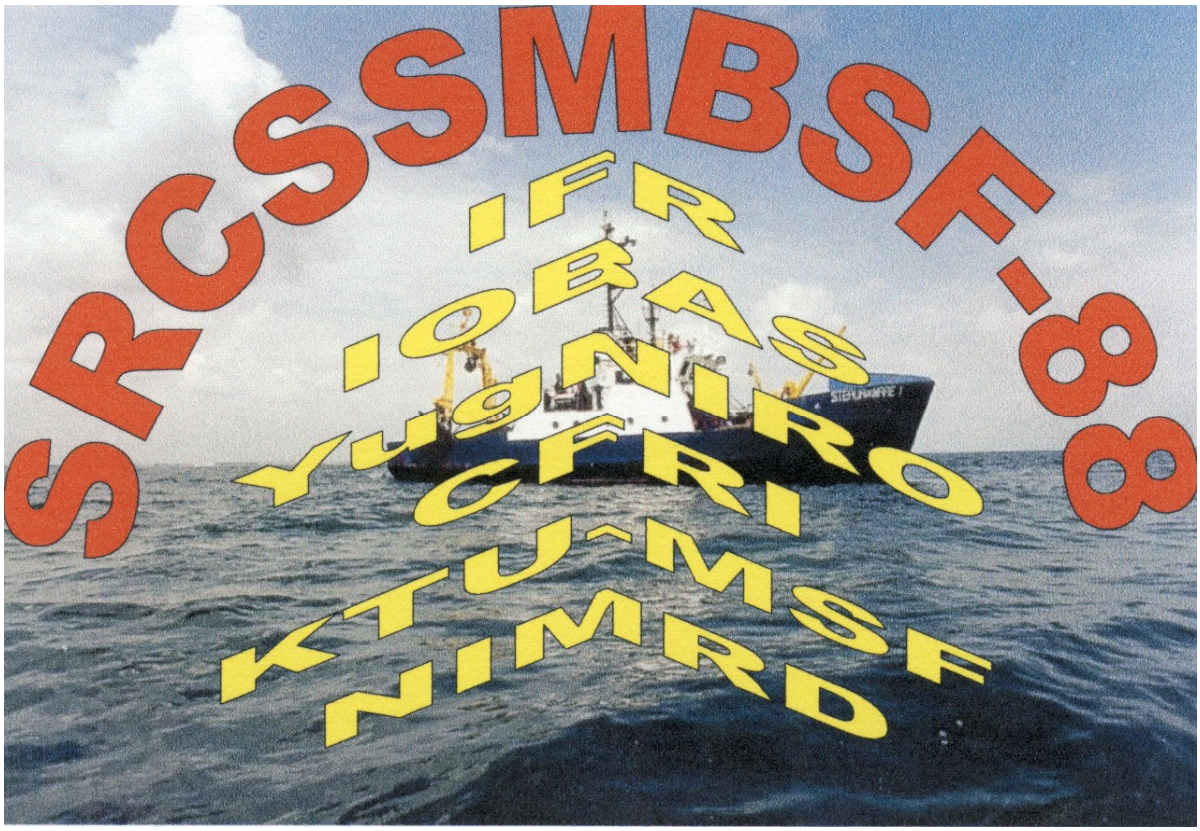
`

The International Workshop, Field Application and Training



REPORT

Field and Laboratory Evaluation of the Fish Stocks

PROJECT:

STRENGTHENING THE REGIONAL CAPACITY TO SUPPORT THE SUSTAINABLE MANAGEMENT OF THE BLACK SEA FISHERIES (SRCSSMBSF) - 88

AUGUST 2012

The Working visit and training of specialists in Romania took place at NIMRD "Grigore Antipa" headquarters, Constanta, ROMANIA in the period 23 – 26 August 2012, being a part of the **GROUP OF ACTIVITIES GA 1 – "**Exchange of good practices in the fields of methods and tools to assess the present state of fish stocks by scientific surveys, holistic models"

Responsible for this activity was the applicant: National Institute for Marine Research and Development " Grigore Antipa", Constanta, Romania (NIMRD).

Aim and purpose : Aim and purpose of this group of activities is to collate information on methods currently used for assessing fisheries stocks in the Black Sea by scientific surveys, comparing them with holistic methods used in other regions and for different aquatic systems, where possible filling gaps, providing improvements and developing a set of best-practice guidelines for stock assessment using adequate tools for assessing the condition of stocks in the Black Sea.
The stock assessment by scientific surveys is required at all stages of the development of a fishery, but the need for accuracy and precision is different. A practical advantage of survey-based assessments is that advice can be provided quickly after the completion of surveys, thus solving the timeliness issue which frustrates managers. More generally, they can be used alongside existing methods of fish stock assessment, to cross-check the results and/or to bring in more biological knowledge and make conclusions more robust.

Within the **holistic models**, the following methods are to be standardized at regional level:
- Methods of swept area (bottom trawl survey, egg and larval survey, juvenile survey);
- Hydroacoustic methods.

Activity 1.3 Working visits and trainings of specialists from Black Sea riparian countries in utilization of equipments and techniques for stock assessment by scientific surveys

1.3.2 Working visits and trainings of specialists in Romania, at NIMRD: two days survey on the sea with vessel Steaua de Mare using swept area method to establish the juvenile abundance and indices of sprat abundance. Also, will be taken samples with Bongo net for eggs and larvae abundance; two days workshop at NIMRD headquarter regarding: data and necessary standard equipments; standardization of methods for data collection, establishment the survey periodicity.

Expected outputs
Working visits and trainings of specialists, two scientists from each partner country at NIMRD, Romania: two days survey on the sea with vessel Steaua de Mare; two days workshop at NIMRD headquarter

At this meeting have participated: Project coordinator: NIMRD – RO; Financial manager: NIMRD – RO; Scientific coordinator: NIMRD – RO; Scientific responsible: IOBAS – BG, YugNIRO – UA, KTU-MSF – TR; Scientists from NIMRD, IFR, YugNIRO– UA, CFRI-TR, KTU-MSF – TR, iper total was attended by 17 participants, representing project partners (9), included NIMRD specialists (8).

In accordance with the agenda (see the Annex), project manager, Dr. Simon Nicolaev addressed a word of welcome participants, stressing the importance of the project at national / regional level. Was highlighted the role of this meeting in standardization at regional level and in conformity with the international practice of the methods and tools for sampling, processing, analyzing and interpreting the data and information as well as the fish stock assessment, in view of obtaining the competitive and comparable data.

After presentation of the participants, have been approved the final form of the agenda.

The period of meeting was devided in twoo parts:

- two days survey on the sea with research vessel "Steaua de Mare" using swept area method to establish:

- the indices of abundance for sprat Pelagic trawl;
- the juvenile abundance (juvenile pelagic trawl);
- sampling of eggs and larvae with Bongo net;
- sampling of bottom fish with demersal trawl

- two days workshop at NIMRD headquarter, regarding:

- laboratory's data analyses and processing;
- data and fishing equipments used in the Black Sea area;
- standard sampling equipments used in the Black Sea area;
- standardization of methods for data collection, processing and establishment the survey periodicity.

➢ **Saturday 25th August (Day 3)**

The training started with lectures following the training program. In the morning session, the following lectures were presented:

The first presentation regarding the data and fishing equipments used in the Black Sea area, was presented by Eugen Anton (NIMRD senior researcher, expert in fishing tools) and George Tiganov (scientist assistant), NIMRD "G.Antipa" Constanta and caused lots of discussion, based on questions, explanations and clarification. The main aspects discussed were referred to the following aspects.

Questions:

- the demersal fish, net's kinds and frame (metal), amount, surface; in Turkey juvenile mesh size is 1mm (Ertug Duzgunes);
- the collecting kind for the ichthioplankton, mentioning that there is not demersal trawl for this age (Ahmet Sahin).

Answers:

- juvenile collection is related to the period of fish reproduction, depending on species (ex: winter or summer spawning, anchovy and horse mackerel juveniles being fished in – aug-sept) – Gh.Radu;
- each partner country sent the summary of methods for field data collection, including ichtyoplankton and juveniles - Gh.Radu;
- the kind of equipment used for data collection is in attention of GFCM, similar on the Mediterranean and Black Sea – Simion Nicolaev;
- In the same subject it was added that Romania and Bulgaria have had common survey expeditions, starting with 2010 - Gh.Radu;
- it is a variant of pelagic trawl which could be used for demersal fish - Gh.Radu, using a specifical foot rope, towed on the bottom - Simion Nicolaev;
- the results of fishing could be seen on both cases, based on net sound registering – Orhan AK.

The second presentation, presented by Eugen Anton and George Tiganov, was focused on impact of fishing gears on bottom fauna, fishing for gobies, flatfish (turbot, places), mullets, kind of sea-floors, hand-line, beach seine, other marine living resources. Have been presented systems of water filtration fishing, demersal trawling, including slides and movies.

The questions addressed to authors, had more precisely questions regarding fish species (Orhan Ak), the long-line kind of fishing (like in Turkey) and fishing bait, traps (Ertug Duzgunes), plastic containers (Bongo, long-lines, etc.)

The answer of these was done, by:

- Gh.Radu, regarding covered or uncovered power-nets;
- Ertug Duzgunes, regarding Turkish system of dragging (advantages, disvantages) and collecting in macrophytes area; fishery operations in Turkey (Orhan Ak);
- The Turkish delegation added a movie presentation regarding their national experience, mainly concerning the fishing operation on the commercial vessel platform (including equipment: nets, ropes, plastic basins, handling operations, etc., for different Black Sea species: anchovy, sprat, and bonito).

In conclusion, discussions emphasized after these presentations, are:

- the necessity of the habitats studies (Ertug Duzgunes); traditional and new, modern equipment; necessity of fishermen mentality changing; conflict of interest aspects; clarification of the small stages fishing, fish processing etc.;
- the interference and impact of the climate change, of the pollution affecting in different way the sea waters and bottom (Gh.Radu), the siltation of the Turkish area (Ertug Duzgunes);
- the size and the behavior of the nets rhombic mesh during the fishing (Simion Nicolaev) and the resistance to the water of the nets material (Ertug Duzgunes);
- some discussion have been dedicated to the marine mammals and the consequences of their fishing, using the fishing tools; in Turkey not being condition and tools limits, restrictions, penalties for cetaceans and seals (Ertug Duzgunes); the estimation of this kind of fishing impact was evaluated in mathematical way (Simion Nicolaev);
- similarities and differences are emphasized between the Romanian and Turkish coasts fishing (based on questions and answers).

➢ **Sunday 26th August (Day 4),**

The second day started with the scientifically course on processing and interpretation of sampling data presented by Volodea Maximov (NIMRD senior researcher, expert in demersal fish) and Madalina Cristea (scientist assistant).

The course gave the possibility to be developed debates about spawning and juvenile stages rearing and nutrition processes in the Black Sea, according with evaluation of the stock recruitment, mentioning:

- the intensity of spawning, evaluation of total spawning areas, by different methods;
- explanations on the usual methodologies, advantages and disadvantages, necessity for more precise and independent methods, necessity of calibration (K.Mihaylov);
- experience gained in Bulgaria (K.Mihaylov), common expeditions Romania-Bulgaria, methodologies proved by Ukraine (V.Shlyakhov) since 2010, Turkey experience (Ertug Duzgunes); practical discussion on the methods of Amstrong (evaluation on surrounding area; old method) and Parker's (respectively, estimation by extrapolation, done by starting from particular to general, for an enlarged area, during the pick of period; which is cheaper); methods establishment by the design of three survey, adapted to the each year;
- passing the discussion to the commercial fish species, example regarding the biology and the etiology of the reproduction (specifically period, annually to daily frequency, interval of spawning, development of the breeders gonad, eggs, larvae, main parameters

evaluated, including the gonosomatic index, ratio, etc.) were started/focused, concerning anchovy, horse mackerel, (Gh.Radu, Orhan Ak, Ertug Duzgunes),

- the fishing tools characteristics, standardized traditional methods in historical evolution, stressing each stages since "80 (V.Maximov),
- the proposal for the present evaluation, improvement and standardization of the methods, pressing for the newest and cheaper ones (Ertug Duzgunes); in this aim have been stressed the opinions about:
    - Guideline elaboration regarding the ichtioplankton based on documentations and experience (Ertug Duzgunes), as EU, American's, Black Sea basin;
    - the GFCM rules implementing (G.Radu)
    - collection methods, data processing and process explaining developing (L.Alexandrov)

The next presentation was done by the Turkish delegation and consists in presentation and movie. Discussion were focused on the commercial values and aspects, regarding all important species. It was added also the situation of the brackish and freshwater species on coastal areas. It was mentioned the Danube Strategy which is important for all Black Sea countries coast.

The workshop was closed by the project manager Dr. Simion NICOLAEV who thanked for whole teams participation and contribution, underlined how fruitful was the opportunity done on this project's event to meet again, to share experience, to prove the field and laboratory expertise and to improve the methods. The added discussion and explanation have been extremely important to decide future plans, collaboration and meetings. It was emphasized the main important objectives and project follow-ups:

- the importance of the project and the contract for all Black Sea fishery friends and colleagues;
- the creation of a future professional network;
- the new (operative, eligible and suitable) vessel contracted by NIMRD under the Ministry of Agriculture and Rural development support, which could be put at the all Black Sea countries use, in common expeditions;
- to keep close on GFCM and their recommendations;
- to participate to all meetings (planned for future) regarding the field of marine fishing and fishery.

Project manager,

Dr. Simion Nicolaev

Scientific responsible,

Dr. Gheorghe RADU