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Criteria Matrix for the Evaluation of National Research Programs

Deliverable 5.2

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1 Introduction

1.1 Marine Fisheries Research Programs

Generally speaking, research in individual countries is organized in national research programs. The national marine fisheries research programs of the MariFish partners define the objectives of marine fisheries and aquaculture research. Examples for research objectives are: sound fisheries management based on scientific evidence, support of the local fishing communities and industry and/or working towards a more effective common fisheries policy (CFP), only to name a few. Usually these national research programs are divided into sub-categories that set out the priority guidelines to be followed. The priority setting process – in which these priority guidelines are formulated – is often largely influenced by the national policy makers, i.e. the respective ministries. National fisheries research programs usually run for a fixed period of time before new programs are drafted and subsequently adopted. Next to setting out the research strategies the national research programs specify the research budgets and allocate funds to the responsible national fisheries research organizations performing the actual research.

On a more practical level the national fisheries research organizations develop and implement research projects that operate along the lines of the set research priorities filling the national fisheries research programs with life.

1.2 Scope of the study

The objective of work package 5 (WP 5) of the ERA-Net project MariFish is to analyze the national funded research programs and identify where there are areas of common interest, gaps and possible duplications. Thereby the MariFish proposal highlights that the analysis focuses on the ‘package’ or program level and not the project level. Furthermore it is not the intention to evaluate the content (scientific quality & output) of national research programs but to perform a process evaluation, focusing on those criteria that provide information about the feasibility of national research programs against the final aim of MariFish to establish a joint research program with joint calls.

The outcome will be a number of tables to display the current status. Colors will indicate if the current status encourages or impedes funding and implementation of a joint research program in the future. Further information will be in descriptive form. On the basis of this information an evaluation report will be written with concrete recommendations and conclusions. The matrix and the structured approach will further stimulate MariFish partners and induce awareness building.

The work is divided into three steps. In the first step a criteria matrix is developed to compare the content of national research programs. In the next step a categorized inventory of the national research programs is created with the help of a web-based database. Finally the national research programs will be evaluated using the criteria matrix, to identify key areas, major gaps or obstacles for the future collaboration and coordination. The necessary information is based on questionnaires and personal visits, which will reveal the degree of overlap and already existing coordination on regional and international scale. This information will be further complemented through visits of national agencies and direct interviews if necessary. The collected information will

be entered into a web-based interactive database for further verification and updating by the individual MariFish partners.

The present report deals with the development of a criteria matrix to compare the national marine fisheries research programs or equivalent national research programs with a marine fisheries component. This involved the establishment of personal contact with the co-leader of WP 5, the Sea Fisheries Institute in Gdynia (MIR). During the visit the evaluation criteria were discussed to agree on common criteria and to adjust the further procedure. In the following sections, we introduce the collaborative developed evaluation criteria.

2 Evaluation Criteria

2.1 Definition of National Research Programs

In preparation for this work the question arose what constitutes a research program and what not. The background was that some countries have national research programs in place while other countries have not. Moreover the terminology varies from country to country. Some countries have national research programs; some research strategies and other countries call them thematic actions. While in some countries these national research programs are tailored to marine fisheries research other countries have broad national research and development programs that cover a wide range of topics with only a few sections dealing with marine fisheries at all. Nevertheless some countries have no national research program or something equivalent in place. In these cases individual research projects are set up in close collaboration with national policy makers in order to fulfill policy needs. As a result, some MariFish partners equate research projects with research programs. However, according to the MariFish proposal the analysis is to be carried out at the program and not the project level. Therefore a simple working definition was adopted. According to this national research programs are made up of a number of research projects and follow overarching objectives, thus operate at an abstract and aggregated level. In order to further specify what to subsume under a research program and what not, a recent definition by the European Commission's Directorate-General for Research (DG Research) was adopted. Thereby research programs carried out at national or regional level should have all of the following characteristics:

1. Be strategically planned, i.e. be composed of a number of research projects focused on a defined subject area or set of problems, scheduled to run for a set period of time and have coordinated management;
2. carried out at national or regional level and
3. financed or managed directly by national or regional public bodies, or by structures (e.g. agencies) closely related to or mandated by public authorities.

2.2 Choosing the Evaluation Criteria

The selection process of evaluation criteria was based on the individual usefulness and added value for the analysis of national funded marine fisheries research programs. Therefore the exemplary list provided by the MariFish proposal was worked through and key criteria accepted, rejected or added if necessary. The following diagram gives an overview of the key criteria that constitute a national research program and their intended use in the evaluation process (Figure 1).

Noticeable is that some of the collected criteria will be for information only and not evaluated. This applies for 'human resources' and 'infrastructure' associated with national research programs as well as pursued 'goals'. Furthermore the criterion 'collaboration' is already sufficiently treated in WP 3 reports. And last but not least the MariFish proposal suggests to differentiate the types of research institutes involved in the research. It was decided to exclude this criterion from the analysis, since there is no added value of this information. The reason behind this decision is twofold. Firstly the information about who receives research funds is not relevant. Secondly the heterogeneity of national funders of marine fisheries research hinders detecting correlations between funders and recipients. Furthermore, because not all major national funders of marine fisheries research are partners in MariFish not all recipients are listed either.

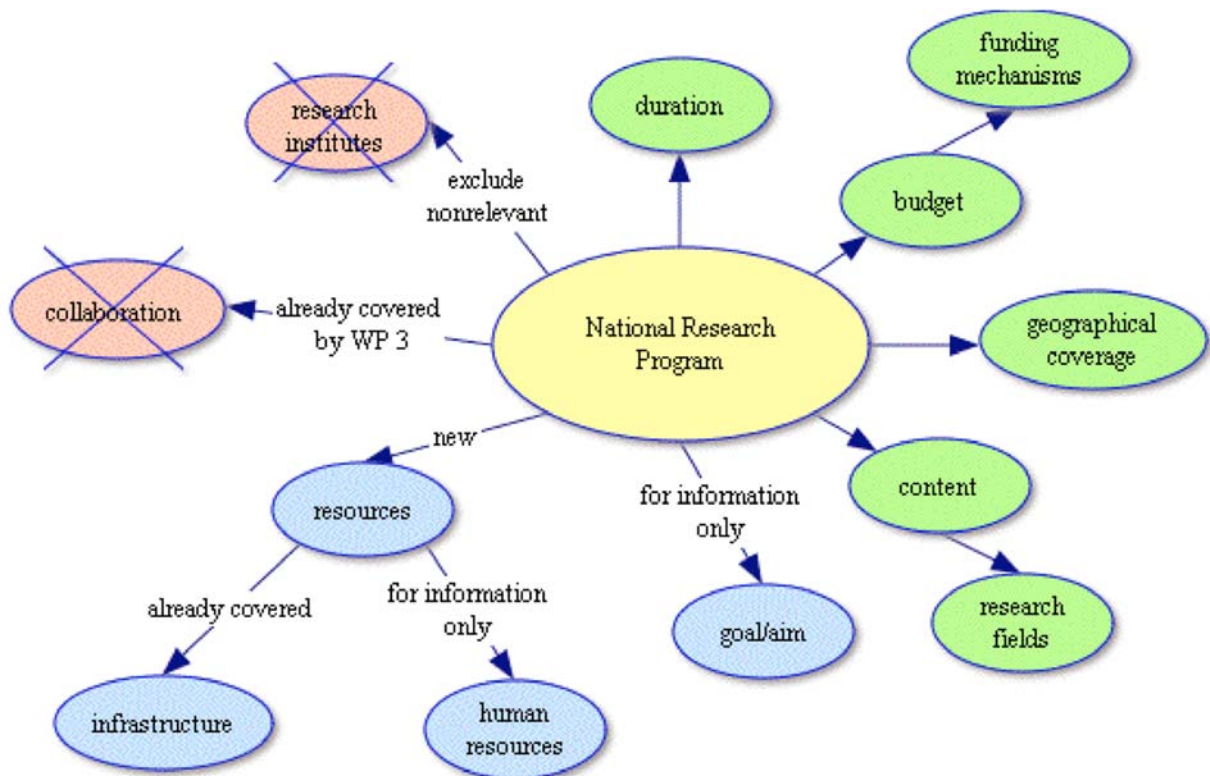


Figure 1 Selected criteria for the analysis of national research programs.

The following list provides a description and rationale of the selected evaluation criteria and their importance for the analysis of national marine fisheries research programs or equivalent national research programs with a marine fisheries component. The question arises how we will “measure” and evaluate the criteria? First of all the criteria will be measured against the final aim of MariFish to create a joint research program. The inquiry will be carried out using a fixed set of questions. The final measurement will be done using a traffic light system for the actual evaluation. Thereby the following colors stand for:

- Red ● = impeding
 Green ● = supporting
 Blue ● = indifferent

It should be noted that analog to the traffic light – that may change color from red (stop) to green (go) – the evaluation of individual national research programs and their criteria does not confront MariFish partners with a fixed situation but points out future potentials and improvements.

1 Duration

Duration covers the start and end dates of a national research program. This criterion is easy to detect and very useful to check if national research programs are encouraging or restraining future collaboration. Long durations or short durations only allow conclusions, if viewed in combination with funding mechanisms. For example, competitive funds allow more flexibility despite a long duration of the national research program. Therefore it will be considered to combine duration and funding mechanisms to a new criterion ‘flexibility’. In general, long-term research programs are critical in order to achieve compliance because they are less flexible, yet they might offer long-term commitment. In addition, different start dates also act as an impediment for future collaboration. On the other hand, short-term research programs are seen as advantage, although they might allow little commitment for long-term collaboration.

No	Questions	Answer	Evaluation
1.1	Does a national research program exist?	yes	continue with question 1.2
		no	continue with question 2
1.2	Is the research program long-term (> 4 years)?	yes	
		no	
1.3	Is the research program short-term (2-3 years)?	yes	
		no	
1.4	Is the research program annually scheduled?	yes	
		no	
1.5	Is it possible to make minor changes in the program while running?	yes	
		no	
		Never tried	
1.6	Comments:		

2 Funding mechanisms & Budget

This is a useful criterion for evaluation, in particular concerning the joint funding of transnational research activities. But how stable are research budgets if political change happens, e.g. political changes in the ministry? In this respect national funders such as research councils are less susceptible than the responsible ministries itself. In general, fixed/allocated funds are seen as an impediment for the establishment of a jointly financed research program, whereas competitive funds are seen as supportive. However, competitive funds that are only available to national applicants (as is mostly the case for MariFish partners) in conjunction with the inability to fund research abroad must be viewed critical.

No	Questions	Answer	Evaluation
2.1	Are competitive funds part of your funding mechanisms (budget)?	yes	Green
		no	Red
2.2	Is the partner able to fund non-national applicants?	yes	Green
		no	Red
		never tried	Blue
2.3	Is the partner at arm's-length from short-term political interference (Ministry-no/Research Council-yes)?	yes	Green
		no	Red
		never happened	Blue
2.4	Is the partner able to allocate funds to an international research program?	yes	Green
		no	Red
		never tried	Blue
2.5	Is there a threat that the budget might decrease over the next 5 years?	yes	Red
		no	Green
		perhaps	Blue
2.6	Is the allocated budget sufficient?	yes	Green
		no	Red
2.7	Comments:		

3 Geographical coverage

Geographical overlap of sea areas – where different countries are engaging in research activities – may make future collaboration easier. This criterion is relatively easy to detect and to depict. Geographical coverage may be linked with content, i.e. if there is no geographical overlap there might be common interests in research fields. In general, a broad geographical coverage is seen as supporting future collaborative research. Yet, a lack of geographical coverage not necessarily acts as an impediment for future collaborative research, if there are overlapping research fields (content). As a result it will be considered to combine geographical overlap and content to a new criterion ‚overlap’.

No	Questions	Answer	Evaluation
3.1	Is the partner researching in sea areas of general interest to the partners? ¹	yes	Green
		no	Red
		don't know	Blue
3.2	Are there sea areas – important to the fishery of the country – where the partner is not researching in?	yes	Green
		no	Red
		don't know	Blue
3.3	Comments:		

4 Content²

Despite the fact that the MariFish proposal states to stay at the program level, during the first analysis it became clear that, it is not sufficient to compare national research programs without going into detail. This also owes to the fact that several countries have no national research program in place but operate research projects. In general, broad research foci are seen as advantage for developing a common research theme, whereas narrow research foci are seen more as disadvantage. Depending on the overlap of narrow research foci with the mean this may be no disadvantage at all. The mean are one or more research fields where the majority of MariFish partners are interested in.

No	Questions	Answer	Evaluation
4.1	Does the research program have a broad research focus covering 7 or more research areas?	yes	Green
		no	Red
4.2	Are research fields overlapping with the mean?	yes	Green
		no	Red
		partly	Blue
4.3	Comments:		

¹ This question will be treated in close collaboration with WP 6 „Analysis of special research topics and regional sea areas that warrant special program coordination“.

² In a next step, the work of WP 5 will be expanded. This will include the identification of research programs on a more detailed level leading towards but not necessarily going down to project level. Subsequently keywords will be associated with the collected information. These keywords will be sorted to form ‘research clusters’ at the lowest aggregated and feasible level. This analysis will help developing a joint research program at the end of MariFish. The objective is to focus on “Hot Spots” within the MariFish partner countries, i.e. research areas that are covered by most partners and are important for fisheries management, as will be identified by WP 6. For example the information that a majority of countries engage in ‘ecosystem studies’ does not answer the question, which aspects are covered, thus requiring the expansion of the evaluation on a finer scale.

5 Goal/aim

This very qualitative criterion only allows getting a general idea of MariFish partner differences. It may be expected that national research program goals differ depending on if research councils or ministries formulate them. Divergent goals will not be discussed on individual country basis but on the basis of reaching a joint MariFish research program in the future. As a result these details will be for information only.

No	Questions	Answer
5.1	Is the research program 'blue sky' basic research oriented?	yes
		no
		balanced
5.2	Comments:	

Resources

Resources refer to human and infrastructure resources financed by MariFish partners. However, this criterion will not be evaluated but will be for information purpose only. The criterion 'human resources' allows answering the question if there are sufficient human resources on national level to carry out the research. Infrastructure resources will not be covered explicitly, because lots of information is already available (EurOceans, MarinERA, BONUS).