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in the Black Sea Region

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1. INTRODUCTION

The main objective of the BS-ERA.NET – “Networking on Science and Technology in the Black Sea Region” – is to develop and strengthen the coordination of public research programmes conducted at national and regional level. The project aims at establishing a Black Sea Research Programme (BSRP), which will be a functional tool in implementing concrete cooperation activities at the regional scope, and furthermore, it will also serve as a basis for targeted EU-BS collaboration. A ‘Joint Call’ within the project is foreseen and accepted as the main framework of the BSRP, yet the Programme is being planned as a more complex tool with additional support measures and a long-lasting structure.

Within the project, there has been a continuous and systematic collection and exchange of information between the partners which fulfilled one of the ambitious goals of the project at the first place. Yet such information is also useful to accomplish one of the most important operational goals of the project, namely to provide input for the BSRP but especially the ‘Joint Call’. This information may support the decisions regarding the Joint Call, i.e. what to fund, which thematic areas to support. The information available stems from different sources, main one being the ‘Fact Sheets’, a template prepared to collect information regarding the programmes of the BS-ERA.NET partners open to international cooperation and relevant for the BS region. The ‘Fact Sheets’ contained several questions on several aspects of the programmes, from objectives to thematic priorities, from evaluation procedures to funding expenses. A complementary source was the information gathered through the two Questionnaires prepared in the first Work Package (*Systematic Information Exchange on National and Multilateral initiatives in the Black Sea Region*). The first questionnaire (Questionnaire A) was directed to partners of the BS-ERA.NET, and the second questionnaire (Questionnaire B) addressed governmental and non-governmental programme owners in both EU Member States/Associated Countries and countries of the Former Soviet Union located in the BS region, having detailed questions about the programmes of the project members and their expectations about a Joint Call; and about the activities of the programme

owners in the EU/BS region targeting Black Sea Cooperation and their perspective on the Joint Call, respectively. The analyses of these two questionnaires were publicized under Task 1.2.

As the WP1 focuses on the mapping exercises in the region, Work Package 2 (*Definition and preparation of common strategic activities between coordinated RTDI programmes in the BSR*) focuses on the content of the BSRP. To this aim, the first two tasks are especially crucial, as they will provide insight for the nature of the Joint Call based on the information collected in and out of this project.

This report presents mutual complementarities of the programmes in the region, especially of the BS-ERA.NET partners, with the aim of drawing conclusions for the design of the Joint Call. The report also looks at the common domains of interest (which is defined as 'common thematic areas of mutual interest' in this document) shared by the partners, not only in their programmes but also illustrated in their responses to former questionnaires. Yet, the report also briefly looks at the previous work done in other regional organizations/projects. Other relevant information may be useful, although there are quite amount of information, there is a certain need to pull the relevant ones together and present in one document. It is believed that, in the end, the outcome of this report shall serve as a solid basis for developing efficient and satisfying conditions for future cooperation, especially the Joint Call of the BS-ERA.NET. The report looks at the other programmes other than the project partners' programmes, because, first, there are some important regional initiatives, i.e. BSEC funds, that may provide valuable input for the analysis, and second, there are some partners that have an active role in the project but are not programme owners, hence ignoring programmes submitted by their counterparts in those countries will automatically mean excluding some countries from this study, i.e. Italy. Therefore, to sustain the generality of the report and produce more meaningful observations, the study is not limited to only the project partners.

2. METHODS

The aim of this report is to assess the complementarities between the programmes. The criteria to be examined were accepted in the Executive Board Meeting in Athens (18-19 October 2009) and further approved in the Steering Board Meeting in Bucharest (9 December 2009). Fact sheets are the main tools in gathering the relevant information about the programmes and the questionnaires served as complementary sources during the process. The second tier of the report focuses on the common domains of interest between the partners and the above-mentioned data was also used for that analysis as well. As the report was built to have an insight regarding the themes of the joint call, other regional reports also served as points of reference.

3. COMPARISON OF THE PROGRAMMES OF THE BS-ERA.NET PARTNERS AND COUNTRIES

3.1 Types of organizations

As this report takes the Fact Sheets as the basis of its focus, there are a variety of the programme owners that are outside of the project consortium, but still, they are crucial to form a comprehensive understanding of the regional activities. The current section examines the programmes submitted by programme owners in the ***countries of the BS-ERA.NET partners***, but also in each section when appropriate, there are specific references only to the project partners' programmes.

The list of the organizations whose programmes are assessed is given below and the BS-ERA.NET Partners are especially recognized in this list. It is interesting that most of the programme owners are governmental (11), within which there are 4 ministries, where others are international organizations (3), research institutions (2) and private foundations (2). Taking into consideration that there are 17 partners in the project consortium, almost half of the partners (9) are covered in this report. Plus, other organizations who might want to join the BS-ERA.NET Call are also covered through the fact sheets submitted by them. The aim of the document is to examine the programmes to find complementarities which will then, hopefully, enlighten the process of the nature of the Joint Call within the project. The number of programmes examined through the report is 55 in total, which excludes the programmes towards Russia.

Funding agency/ Administering agency that implement the programmes submitted in the Fact Sheets	Country	Full Name	Project Partner	Type
MESB	Bulgaria	Ministry of Education and Science	✱	Governmental Organization
CNRS	France	Centre national de la recherche scientifique	✱	Research Institution
GNSF	Georgia	Georgia National Science Foundation	✱	Governmental Organization
Projekträger AiF	Germany	German Federation of Industrial Research Associations		Private Foundation
DFG	Germany	Deutsche Forschungsgemeinschaft		Research Institution
Alexander von Humboldt Foundation	Germany			Private Foundation
DLR	Germany	The International Bureau of the Federal Ministry of Education and Research at the German Aerospace Centre	✱	Governmental Organization
GSRT	Greece	General Secretariat for Research and Technology	✱	Governmental Organization
CEI		Central European Initiative		International Organization
Ministry of Foreign Affairs	Italy	Ministry of Foreign Affairs of Italy		Governmental Organization
Ministry of Economy and Trade	Moldova	Ministry of Economy and Trade of the Republic of Moldova		Governmental Organization
ASM	Moldova	Academy of Sciences of Moldova	✱	Governmental Organization
ANCS	Romania	The National Authority for Scientific Research	✱	Governmental Organization
CNMP	Romania	The National Centre for Programme Management	✱	Governmental Organization
Ministry of Regional Development and Housing	Romania	Ministry of Regional Development and Housing of Romania		Governmental Organization
TUBITAK	Turkey	The Scientific and Technological Research Council of Turkey	✱	Governmental Organization
BSEC		Black Sea Economic Cooperation		International Organization
NATO		North Atlantic Treaty Organization		International Organization

3.2 Programme Objectives

The aims or objectives of the programmes denote a number of varieties but the general motivation behind the establishment of the programmes is to strengthen cooperation in S&T relations. Most of the programmes covered in the Fact Sheets are bilateral cooperation programmes. Out of the 55 programmes analyzed in this report;

- *10 of them are open to all countries:* These programmes allow research stakeholders to cooperate with any partner across the world. The fellowship programmes open to all countries are also included in this number.
- *34 of them are bilateral cooperation programmes:* The majority of the programmes are bilateral cooperation programmes between two countries. The aims of the programmes vary, which is explained further below.
- *11 of them are regional/multilateral cooperation programmes:* There are regional initiatives, like BSEC or CEI, but apart from them, there are also some programmes owned by one country aiming cooperation with certain numbers of other countries or a specific region.

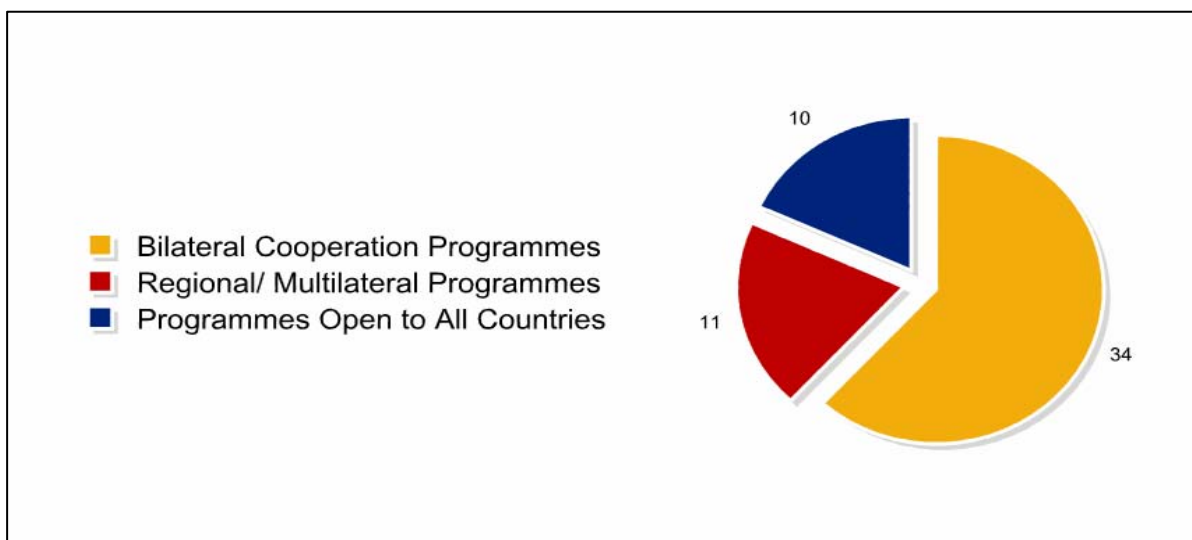


Figure 1. Programme Types in the EU/BS Region that are subject to this report.

Whether it is a bilateral or a multilateral programme, all the programmes aim enhancing cooperation in S&T affairs. Nevertheless, while some programmes limit their objectives to solely strengthen/enhance bilateral/multilateral S&T cooperation, there are quite a lot which does that with a specific target, such as:

- Support market oriented research, enhance industrial cooperation
- Support applied science,

- Support mobility (exchange of researchers, fellowships etc.)
- Establish links between research and industry
- Support cooperation in certain thematic areas... etc.

There are 10 programmes that aim enhancing industrial cooperation or market-oriented research (applied science), included specifically in the programme objectives. The regional initiatives like BSEC funds are especially founded to serve this purpose. While some of the programmes make general specifications (i.e. basic/applied science) in their objectives, the majority of the programmes with a thematic focus specifically give prioritized thematic areas in their objectives. The programmes may also define the thematic nature of cooperation but leave the determination of specific areas to later stages. Last but not the least, a significant number of the programmes in the region possess a bottom-up approach, namely they are open to all thematic fields. The thematic priorities of the programmes are examined in detail in section 3.4 of this report.

The regional programmes, namely CEI, BSEC, JOP, mainly aim at developing regional cooperation, and especially the latter two focuses on sustainable regional development. As already mentioned above, BSEC gives utmost importance to economic impact of the research undertaken in the projects.

It is also important that 8 of the programmes underline the participation of young researchers in their objectives although the aims are not limited to it.

3.3 Beneficiaries

The programmes of focus may be directed to three different segments of research world: private sector, universities/research institutions and public authorities. While most of the programmes are open to researchers and scientists from universities and research institutions, the number of the programmes available for the private sector is also noteworthy. Programmes that are open to both private sector and universities and research institutions are quite a lot in the region. In fact, the majority of the programmes that target companies/firms are also open to universities and research institutions. There are especially some countries that step

forward in this area with observable emphasis on promoting private sector participation in the programmes, i.e. Germany, Georgia and Turkey.

The programmes of some countries (i.e. France) differ depending on the programme owner. To illustrate the programme may be open to only to certain researchers (researchers working under the auspices of the programme owner, i.e. programmes of CNRS), whereas other programmes are open to all researchers in the country (as in the programme of the Ministry of Foreign Affairs of France). The fellowships in the region denote an inclination towards supporting young researchers. Apart from that, there are also some programmes where the inclusion of young researchers is counted as an additional factor to accept the projects (i.e. Turkey).

Interestingly, from the multilateral programmes, JOP specifically prioritizes public authorities to participate in the programme. On the other hand, one of the most important tools in the region which shows a certain amount of collective action like BSEC HDF and PDF, welcomes both public and private participation in the programmes. To conclude, there are certain number of programmes (17) that accepts private sector participation, yet most of the programmes directly refer to universities and research institutions. The main feature that attracts attention at this point is the variety of programmes that offer the programme opportunities to both public and private sector which may promote public private collaboration in the region.

3.4 Thematic Priorities

Within the programmes, many of them have no prioritized thematic areas and open to all research fields. Within the thematically prioritized programmes, there are a few areas that come up front, but still, it is not easy to reach to clear cut distinction between certain thematic areas. The distribution of the thematic areas within the programmes, as taken from the Deliverable 1.2, "Portfolio Analysis of Research Programmes Targeting the BSR", is given below.

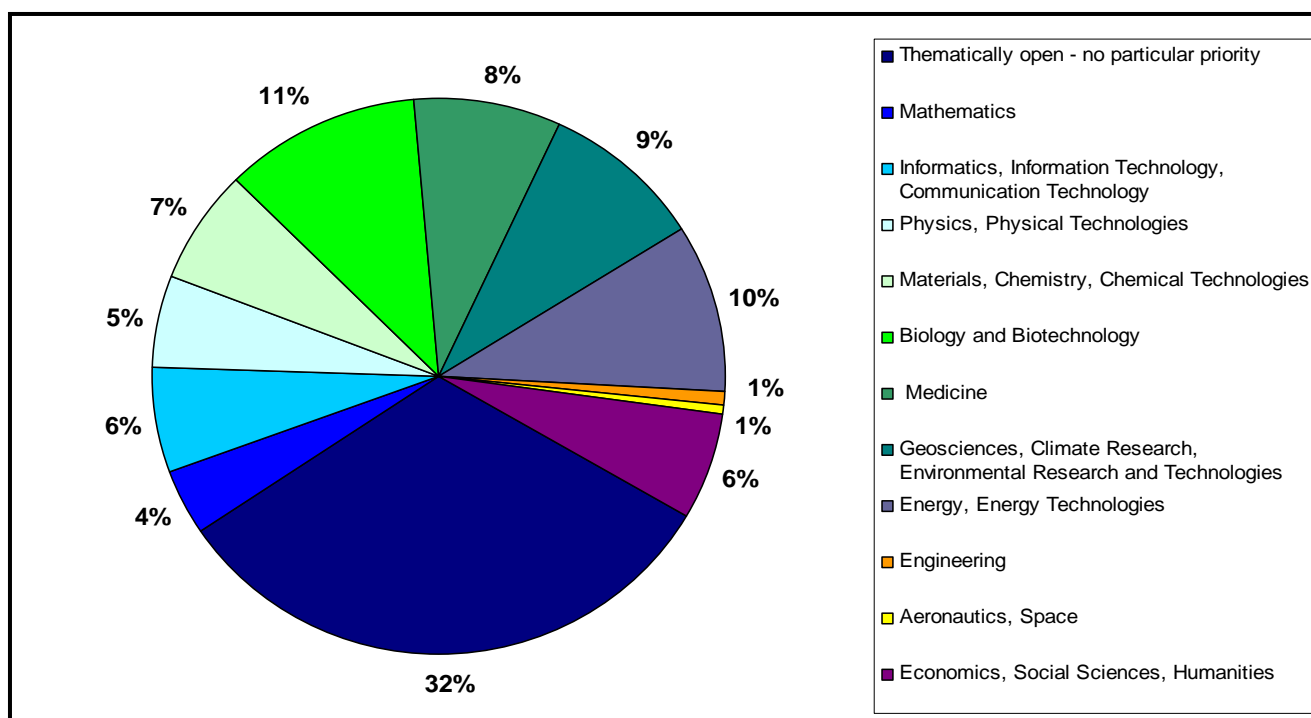


Figure 2. Thematic priorities in the programmes in the EU/BS region (Taken from D1.2, Portfolio Analysis).

To restate the facts drawn within the graphic, the distribution among the themes gives us little clue about a general trend toward one theme because; first, the top themes are very close to each other, and second, the programmes are distributed within many programme owners, and the number of project partners' programmes are equally distributed between thematic and non-thematic making it difficult to draw up conclusions for a tendency even for the project consortium.

3.5 Funding instruments

This section is designed to search for general trends in the programmes about the funding instruments. In other words, a comparison is made between the programmes on what is funded in their schemes, i.e. mobility, equipment.

In line with the analysis in the first questionnaire applied to all project partners where mobility was one of the most prioritized expenses chosen to be funded under the BS Joint Call, travel costs are the most common expense funded in the programmes, without any exception other than two fellowships offered by the Alexander von Humboldt Foundation. Although the personnel costs are the second

common type of expense following mobility, we witness differentiation between the programmes depending on the partners' regulations. To illustrate, CNRS does not provide personnel costs in its programmes with Armenia, Azerbaijan and Georgia, however Georgian National Science Foundation (GNSF) provides salaries for Georgian researchers with its own initiative. Another example may be given from TUBITAK, where one bilateral programme can be applied via two different ways, where in one, researchers can only demand mobility costs, and in the other they can also apply for research expenses including consumables and equipment. Therefore, it would be not wrong to conclude that although mostly the same expenses are covered in the programmes, there is a certain level of variation between the programmes of some of the project partners. This may be a positive aspect denoting the level of adaptability and flexibility of the partners with regard to the development of a Joint Call. Furthermore, it also shows that there is a certain level of understanding shared by the partners in the development of programmes regarding the type of expenses to be funded.

An interesting observation stems from the fact that although the workshop/conference support was one of the most desired types of expense to be covered in the JC, there is a variety between the programme owners regarding this issue. Joint databases and access to infrastructure are also ranked top in the questionnaire A, yet there is almost no support for such activities in the region, either in bilateral programmes or regional programmes within BSEC or CEI. These points can be taken into consideration in the process of the formation of the JC and BSRP.

3.6 International Cooperation Options

The aim of this section is to develop an understanding of the opportunities that the programmes may provide for further international cooperation. In other words, do the programmes offer additional opportunities to enhance participation from other countries?_As some of the programmes are already regional initiatives or developed from a multilateral aspect, and some are programmes open to all countries, they constitute an opportunity to benefit at a multilateral level. Looking at the other programmes, from those who have provided relevant information on this subject,

more than %90 of the programmes allow for multilateral cooperation if the third parties accept to cover their own costs. Hence, there is only a little portion of the programmes that declares the programme is limited only to the programme partners. This high ratio in accepting the third parties is important that may prove useful in the future for joining into the JC of the BS-ERA.NET.

3.7 Evaluation Procedures

As a general rule, all bilateral programmes in the region have two-stage evaluation procedures. Evaluation is first done by the individual programme owners that are part of the cooperation, then, a joint evaluation is made between the partners which enables the organizations to finalize the list of successful projects. Hence, a project has to be labeled as successful by both sides to be funded. In some cases, even that may not be enough as the projects are ranked and only the top ones are funded.

Projects are expected to have a benefit for the international cooperation, whether the programme is bilateral or regional/multilateral. Scientific quality is the number one criteria in all the programmes based on project funding; then follows the qualifications of the applicants (this is the number one criteria in the fellowships). The programmes that support market oriented research or applied research possess criteria about the commercialization of the research results as well.

Although the programmes which place the participation of young researchers as an important aspect in their **objectives** are limited, the number of programmes that promote the participation of young researchers (or in other words development of human resources) and define this as **a criteria in the evaluation process** of the projects are a lot. Within the 44 programmes that are based on project funding (excluding fellowship and only mobility programmes), 14 programmes put this issue as a crucial aspect of the selection procedure and 10 programmes refer to it as a non-compulsory but a desirable aspect. Interestingly, none of the regional programmes (funds of BSEC, CEI and JOP) includes involvement of young researchers in their evaluation criteria. This can be expected at the BSEC funds as

the aim of these funds is to create an economic impact. The same is true for the majority of the programmes that aim industrial cooperation.

4. COMMON DOMAINS OF INTEREST IN THE PROGRAMMES OF THE BS-ERA.NET PARTNERS AND COUNTRIES

There are continuous studies undertaken in various platforms in the Black Sea Region to determine thematic priorities of common interest. Such studies are held not only in international organizations (i.e. BSEC), but they are also the focus of projects implemented in FP6 and FP7. Although it is hard to conclude that clear cut regional priorities are well defined at the international level, it is not a secret that there are certain areas that signify developed and less-developed areas in the region. The question lies if such a complementarity coincided at the practical level. In other words, do the programmes in the BS region carry similar priority areas in parallel with the conclusions drawn in other policy documents?

The reply to that question is not simple to give. There are two main reasons for this. First and foremost, most of the programmes gathered through the fact sheets are thematically open to all fields. This, in turn can be seen from two opposing perspectives, either it can be referred to as a useful information where strict divisions between the partners can not be observed which in turn may ease the process of selecting themes for the Joint Call; or it can further complicate the process as with no clear inclination towards any field, the process of determining possible fields may last longer than planned. Both of these points share a certain amount of truth; hence it may be good to compare the results of the analysis of the fact sheets with other documents and studies within the project.

To remind the results of the thematic priorities observed in the programmes, the top seven were:

1. Biotechnology, Biology
2. Energy
3. Geosciences, Environment, Climate Research

4. Medicine
5. Materials, Chemistry, Chemical Technologies
6. ICT
7. Economics, Social Sciences and Humanities

An important tool to find out if any thematic priority might step up in the region in front of others might be to examine the previous studies undertaken at different levels. Three dimensions are crucial to cover in this aspect. First are the political documents, showing political will to support certain areas of mutual interest. BSEC Economic Agenda and Evaluation of the BSEC Action Plan are two important documents in this aspect. Second dimension is the views of the project partners and programme owners in the region. This is partially covered in this report by looking at the programmes in the region. Other useful instruments might be the questionnaires of the project. Finally, third is any document that may give clues about the views of the research community. Due to the time limitations of the project, interactions with researchers (i.e. workshops) have been neglected. Hence, a useful idea might be to benefit from the already published documents by the research stakeholders. Two important studies are Black Sea Universities Network's (BSUN) report on identifying thematic priorities in the region and findings of the BS-ResPot project that aimed collaboration of Academies of Science in the region.

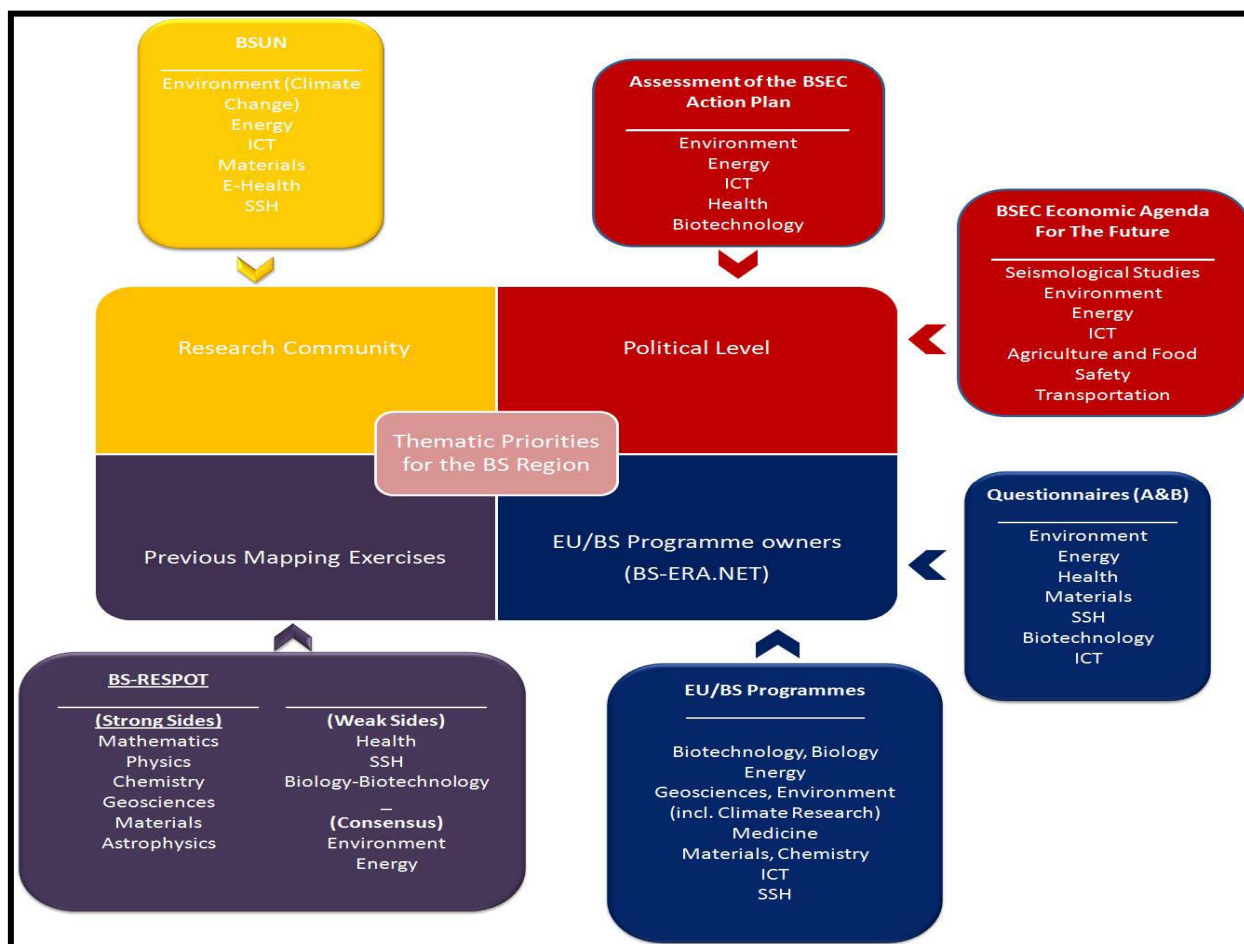


Figure 3. Thematic Priorities Identified By Different Sources in the Black Sea Region.

It can be seen that certain thematic areas (*i.e. Environment, Energy, ICT etc.*) draw the attention in many platforms and this information in turn can be used in the JC process. The detailed assessments regarding determination of priority fields will be done in another report (*Task 3.3 - Definition of the priority fields for a Joint Call*).

5. CONCLUSIONS

The programmes studied in this report do not constitute an exhaustive list. The majority of the programmes that are applicable to the region are evaluated, and nevertheless, the information gathered is limited to the information provided by the programme owners. The success or failures of the programmes are neglected and it is not the concern of this study at first place. The report aims to conclude complementarities between the programmes which may enlighten the process of the Joint Call. The strong side of this study is that it is very recent and covers most of the programmes in the region. The weakness may stem from the bias that the POs may have in the information gathering process. The success of the programmes is not measured, which gives each and every programme the same weight in the analysis process.

Although it is hard to conclude clear patterns that are shared by all the programmes, there are some lessons that can be drawn out of this study.

- There is a clear dominance of bilateral programmes in the region. It would be not wrong to come to a conclusion that there is a well established and stable cooperation that is built up on bilateral relations. This aspect turns out to be one of the strong points in S&T cooperation in the region.
- Multilateral programmes in the region, especially the funds of BSEC, fall short of the expectations by budget and by efficiency. Still, they signify the political and economical commitment of the states in the BS region. Promotion of making these funds available to both public and private sector is important in promoting regional cooperation at all levels.
- There is a growing economic potential in the region. There are many programmes that are devoted to supporting applied science or have an industrial purpose. Cooperation between universities/research institutions and industry may result in more-than-expected results. Apart from that, support for applied science may be an issue to consider in the JC process.

- Most of the programmes promote inclusion of young researchers in the project teams. Still, the regional initiatives have a deficiency in this area. For the JC and the BSRP, a scheme that would promote development of human resources would surely prove useful, as it will back up what has been done at the bilateral level and carry it on a multilateral level.
- The costs covered through the programmes vary but almost all of them support travel costs. The close ranking following travel costs like personnel, equipment and consumables costs can be interpreted as the programmes do not only promote mobility but also supports research expenses of the scientific teams.
- Common domains of interest are hard to find in the region. The lack of clear cut policies to define the thematic priorities in the region is one cause. There are programmes which have thematic priorities but they do not give enough clues to draw general conclusions about tendencies towards certain thematic priorities. In the existence of other studies in the region, the choice is up to the policy makers to define the priorities of the Call. Within this framework, it may be good to keep in mind that there are some fields that come up within almost every study or report undertaken until now, which in turn may be a useful aspect to lower down the choices for policy makers.
- The interest from the region shown to the Framework Programmes and the existence of many regional initiatives denotes the high interest for multilateral cooperation in BSR. It is also a fact that there are strong established links in the region (throughout the various programmes examined in this report), which enhances the expectations for the participation in the Joint Call of the BS-ERA.NET.
- The decisions regarding the JC and the BSRP can focus on a) the missing points in the region (i.e. weak thematic areas in the region; developing schemes for access to infrastructure, establishment of joint databases, etc.); or, b) carrying on already established strong sides to a multilateral level. The question lies at whether doing the undone or developing the existing, or both.



- All in all, the programmes in the region lack coordination and a multilateral dimension. Still, with the increasing interest in cooperation and progress in S&T affairs, BSRP and the JC carry the potential to lead the way for more coordinated and targeted action in the region.