

Applying EU policy instruments for building networks for innovation, technology and entrepreneurship development in BiH

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Abstract

The Lisbon strategy for growth and jobs is simple and broad EU policy framework that considers knowledge and innovation as the beating heart of European growth, which will allow businesses to create more and better jobs. Other EU policies, like cohesion and regional policy, technology and innovation policy, support Growth and jobs strategy. Lisbon strategy has also identified main tools to achieve its targets: networks for innovation, technology and entrepreneurship development. EU policy instrument - funds and programs, finance projects conditionally, to ensure that growth and jobs target is met down to the level of Strategy implementation. Bosnia and Herzegovina doesn't have simple and broad framework strategy and sectoral (industry, services) and cross-sectoral strategies (regional development, technology and innovation) deriving from it, and most importantly BiH doesn't have policy instruments to ensure implementation of policies. Down to project level, BiH has not developed capacities to develop projects for building innovation and technology networks, that would support entrepreneurship development as well. EU policy instrument IPA, will support BiH in pre-accession preparations introducing policies, rules and procedures that are similar to those in EU. So, BiH has clear guidelines for policies and it really needs growth and jobs strategy, and IPA funds, but also other EU funds, are opportunities for projects, primarily projects that would build new or rebuild pre-war networks for technology and innovation development, boosting entrepreneurship development in BiH.

Key words: *growth, jobs, technology, innovation, networks*

APPLYING EU POLICY INSTRUMENTS FOR BUILDING NETWORKS FOR INNOVATION, TECHNOLOGY AND ENTREPRENEURSHIP DEVELOPMENT IN BOSNIA AND HERZEGOVINA

1. INTRODUCTION

At policy level, the EU renewed Lisbon strategy to create policy framework which has limited set of policy priorities, but is necessarily broad at the same time. The strategy is simple: promote jobs and boost growth. All other policies are derived from the Lisbon strategy for growth and jobs and are refocused to reflect growth and jobs target. Implementation of the Strategy is also new and unique multi-level governance model. Member states have developed their National reform programs turning the EU priorities into their national priorities. Renewed Lisbon strategy has also identified main tools to achieve its targets: networks for innovation, technology and entrepreneurship development. EU policy instruments underpin Lisbon strategy, to follow this major shift in EU policy, so that Funds (Structural funds, cohesion funds and other funds) and programs (FP7, CIP and others) finance projects that have same growth and jobs target. For Member states and other eligible countries the process of programming is very important, since the funds and programs are allocated on the basis of programmed priority areas. This is top-down prospective or supply side.

On demand side, bottom-up prospective, thousands of projects are prepared and implemented, financed and co-financed by many different funds and programs in the EU. Policy framework and policy instruments are guiding these projects towards targets defined in policy documents by using principle of conditionality. These projects, their quality, impact and results shape development of sectors or sub-sectors, local and regional development. Projects for building networks for innovation, technology and entrepreneurship are among key targets of EU policy instruments, leading them towards achieving overall target: growth and jobs.

At policy level, BiH doesn't have simple and broad framework (roof) strategy and sectoral and cross-sectoral strategies deriving from it, and most importantly BiH doesn't have policy instruments to ensure implementation of policies. Instead, BiH has very long list of priorities and targets, many separate sectoral strategies and policies. Innovation and technology development, through networking that would in return foster entrepreneurship development, is not on the list of priorities. This means that BiH needs major shift at policy level.

At projects level (on demand side), for BiH project based approach is new. Individuals, enterprises, organisations and institutions have started to prepare project proposals only recently. Learning process will take time.

The new Instrument for pre-accession assistance – IPA is operational. It is very important for BiH to get access to funds, to practice rules and procedures that are very similar to other EU funds and programs, but also to understand multi-annual programming process and the need for development of quality policy documents. In addition to IPA, other EU funds are also open for projects from BiH and financial institutions (EBRD, EFSE, and

others) are looking for good projects. Project approach could also be used in promotion of domestic and foreign investments.

The first part of this paper is providing an overview of new EU policy approach and targets, which are followed by insight into major EU policy instruments. The second part is comparative overview of BiH policies, IPA funds implementation in BiH and recommendations for decision making bodies in BiH.

2. INNOVATION AND TECHNOLOGY NETWORKS

Networks as interactions, collaboration and flow or exchange of information and knowledge between institutions, enterprises, organizations and individuals, are strongly associated with term *New economy* or *Knowledge economy*. The term knowledge economy means that emphasis is on sectors of education, research, technological development, innovation and entrepreneurship. The definition itself indicate requirement for cross-sectoral and interdisciplinary (horizontal), and multilevel (vertical) networking for knowledge production and diffusion. Networks are given various names: clusters, value chains, production networks, R&D collaborative networks, and in wider sense industrial districts, industrial regions/area, knowledge based regions etc. They can be national, regional or international, sectoral or cross-sectoral, naturally formed or externally initiated, but they always emerge because of competition, be it in new products or services, technologies, innovations, prices, R&D spending.

National innovation system is basically innovation network. "Innovation system is the network of organisations, individuals and institutions which determine and shape the generation, diffusion and use of technology and other knowledge, which, in turn, explain the pattern, pace and rate of innovation and the economic success of innovation." (Vinnova). This network of organizations, individuals and institutions encompass various sectors in the economy, since innovation system cannot be seen as isolated and standalone. Therefore, building of innovation system by creating networks is supporting development of related sectors, making actors in the network to upgrade and efficiently participate in the innovation process and eventually turn the knowledge into economic success

3. EU POLICY LEVEL FOR INNOVATION AND TECHNOLOGY

3.1. The Lisbon Strategy for growth and jobs as strategic framework - the EU policy shift

The Lisbon Strategy¹ was adopted in March 2000 and aims to make the EU the most dynamic and competitive economy by 2010. Impact assessment done in 2005, showed that Lisbon strategy's targets didn't seem to be approached as planned. This strategy was renewed in 2005, after the Report on implementation of Lisbon Strategy that concluded

¹ http://ec.europa.eu/growthandjobs/european-dimension/index_en.htm#

that pace of strategy implementation was not satisfactory (Kok Report). The renewed Lisbon Strategy is also called Partnership for growth and jobs.

The most important conclusion of the Kok report is that “the promotion of growth and employment in Europe is the next great European project”. The Commission proposes to refocus the Lisbon agenda on actions that promote growth and jobs in a manner that is fully consistent with the objective of sustainable development².

The new Lisbon agenda is necessarily broad, but a limited set of policy priorities is very much focused. The strategy is simple: promote jobs and boost growth.

In order to become a dynamic economy and achieve targets of growth and jobs EU decided to ensure that:

- Europe is a more attractive place to invest and work
- Knowledge and innovation are the beating heart of European growth
- The policies are shaped to allow businesses to create more and better jobs

The governance of the Lisbon Strategy needed radical improvement to make it more effective and more easily understood. To clarify what needs to be done and who is responsible the Commission adopted Integrated Guidelines for growth and jobs³ and Lisbon Action Programme. Under Integrated Guidelines for growth and jobs, Commission also adopted Broad Economic Policy and Employment Guidelines. These cover macro-economic policies, employment and structural reforms. At the same time, Member States undertake reforms at national level based on National Reform Programs, presented in 2006, on the policy guidelines ("Integrated Guidelines for growth and jobs") agreed collectively by all Member States in 2008, and Member States are expected to adopt National Action Programmes for growth and jobs. The Commission has also worked with Member States to ensure that their National Strategic Framework documents planning use of the funds for 2007-13 reflect the growth and jobs priorities. Each year, Member States produce reports on the implementation of their National Reform Programs. The Commission assists monitors and assesses this national level reform process.

Lisbon strategy for growth and jobs marked major shift in EU policy. All other policies, strategies and programs in any sector, any member state or any region, had to be refocused and reoriented towards these new primary targets: growth and jobs.

3.2. Cohesion and regional policies for implementation of new Lisbon strategy - Regions as networks

The European Union’s cohesion policy, built into the Treaties since 1986, has the objective of reducing the gap in levels of development in the different regions, in order to strengthen economic and social cohesion. In accordance with the integrated Guidelines

² Communication to the Spring European Council, Working together for growth and jobs, A new start for the Lisbon Strategy, Brussels, 02.02.2005, COM (2005) 24

³ Integrated Guidelines for Growth and Jobs, including a Commission Recommendation on the broad guidelines for the economic policies of the Member states and the Community, and a Proposal for a Council Decision on guidelines for the employment policies of the Member States, COM(2005) 141 final

for growth and jobs of the renewed Lisbon agenda, the programmes supported by cohesion policy should seek to target on the Lisbon priorities⁴.

European Commission reaffirms⁵ that innovation is most effectively addressed at regional level, as physical proximity fosters the partnerships between actors in both public and private sectors. The formation of regional clusters is often the key to the successful promotion of research, technological development and innovation. The capacity of regional decision makers and entrepreneurs to turn knowledge, skills and competencies into sustainable competitive advantage is crucial to regions' economic performance.

In 2006 the European Commission adopted a new initiative for the 2007-2013 programming period under the Territorial Cooperation objective called "Regions for Economic Change". It introduces new ways to revitalize regional and urban networks and to help them work closely with the Commission, to have innovative ideas tested and rapidly disseminated into the Convergence, Regional Competitiveness and Employment, and European Territorial cooperation programs. Financing for the networks projects linked to the initiative is possible under INTERREG IVC, the 2007-2013 interregional cooperation programme, and URBACT II, the 2007-2013 cooperation program on urban issues.

Discovering Europe's economic geography has since 1988 marked a radical turn for EU, national and regional policies alike. Identifying the regions in most need, defining priorities, involving local institutions and imposing common management, control and evaluation standards – all these elements have not only created tangible results but also a unique system of multi-level governance.

The EU has achieved impressive economic and social convergence since 1988. At national level, Greece, Spain, Ireland and Portugal – the largest beneficiaries of Cohesion Policy in recent years – have experienced significant growth. Between 1995 and 2005, Greece reduced the gap with the rest of the EU- 27, moving from 74 % to reach 88 % of the EU's average gross domestic product per head. By the same year, Spain had moved from 91 % to 102 %, and Ireland reached 145 % of the Union's average starting from 102 %. We can expect similar results in the new Member States, where Cohesion Policy has just begun to take effect, underpinning the high growth rates. At the level of the regions, relatively strong economic growth of those with a low GDP per head has meant that EU regions have been converging. Between 1995 and 2004, the number of regions with a GDP per head below 75 % of the EU average fell from 78 to 70 and the number of those below 50 % of the EU average declined from 39 to 32.⁶

⁴ Community strategic guidelines on economic, social and territorial cohesion, 2007-2013

⁵ Communication From The Commission, Competitive European Regions Through Research And Innovation: A contribution to more growth and more and better jobs, Brussels, 16.8.2007 COM(2007) 474 final

⁶ EU Regional Policy History, http://ec.europa.eu/regional_policy/index_en.html

3.3. Technology and innovation policies - Innovation and technology networks as a vehicle, not as final aim

Knowledge and innovation are at the centre of the Community's efforts to promote faster growth and more jobs. R&D or knowledge and innovation are recognized as key tool to achieve growth and jobs, not a final objective by themselves.

The common policy priorities⁷ of research, innovation and cohesion policies in the Lisbon context have networking mechanism built in these priorities:

- To build a European Research Area (ERA) by contributing to increased R&D capacity by promoting European excellence, and by reducing structural disparities;
- To improve performance in R&D and innovation, therefore contributing to economic growth and job creation, by underpinning the development of innovating clusters, enhancing human capital, supporting technology transfer activities especially from universities and research centres to SMEs and between SMEs, and helping public R&D and knowledge institutions to connect with the local business community, for example through networking activities;
- To strengthen competitiveness of European businesses and regions, in particular by fostering entrepreneurship and supporting SMEs, including through a business support network;
- To strengthen the economic and social cohesion of the enlarged European Union;
- To promote national, regional and interregional innovation strategies;
- To promote innovation and innovative clusters.

The integrated guidelines for action in the field of R&D are also strongly encouraging networking among businesses and between businesses and public research/tertiary education institutions, for example, by supporting the creation of regional and trans-regional clusters of excellence. Similarly, the guidelines for action under the heading “Facilitate innovation and promote entrepreneurship” are underlining the need for networking, for example by establishing poles of excellence, bringing together high technology SMEs around research and technological institutions, or by developing and creating regional clusters around large companies, at the same time promoting entrepreneurship and facilitating the creation and development of new firms.

Commission’s “Broad-based innovation strategy for the EU” is presented in its Communication called Putting knowledge into practice⁸. Innovation strategy also refers to the Lisbon Strategy for Growth and Jobs, which “sets a comprehensive array of policies and reforms designed to make Europe's regulatory and economic framework more innovation friendly.” Innovation strategy once again puts emphasis on education as a pre-condition stating that without education as a core policy, innovation will remain

⁷ European Commission, Communication, Competitive European Regions through Research and Innovation: A contribution to more growth and more and better jobs, Brussels, 16.8.2007 COM(2007) 474 final

⁸ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Putting knowledge into practice: A broad-based innovation strategy for the EU

unsupported. The Commission has identified the key competences necessary for living and working in a modern innovation-oriented society. These include entrepreneurial skills in the wider sense, as well as literacy, scientific and mathematical competence, languages, learning to-learn skills and social and cultural competences. They also include digital literacy. Lack of appropriate skills, in particular in the field of science, engineering and ICT has been identified as a major challenge in Innovation strategy. Other innovation related areas are also mentioned in the Strategy: IPR, regulatory impact assessment, removal of barriers in internal market, standardization, clusters, business support services, knowledge transfers.

Also, the Commission's Communication "More Research and Innovation" of October 2005⁹ sets out a programme of 19 fields of action for both the Community and the Member States, again based on the Integrated Guidelines of the renewed Lisbon Strategy for Growth and Jobs. The Communication "Delivering on the Modernisation Agenda for Universities"¹⁰ identified a number of important steps that could enable European universities to improve their performance, including by contributing more and more efficiently to the innovation process.

3.3.1. Clusters - networking for innovation, technology and entrepreneurship development – a tool for implementation of Lisbon strategy

According to professor Örjan Sölvell from the European Cluster Observatory¹¹, Europe needs to shift focus from R&D to Innovation and Clusters.

Recognizing the importance of clusters, most popular specific network, EU has launched Cluster mapping initiative to get information about clusters - their number, regions, industries, level of technology intensity. The European Cluster Observatory has identified around 2 000 statistically significant clusters defined as regional agglomerations of co-located industries and services, suggesting that 38% of the European workforce is employed by companies in such clusters, i.e. highly agglomerated sectors. Cluster policies are gaining momentum. Member states are producing national reports on cluster policies.

EU Innovation strategy outlines a policy framework for better complementarities and synergies between the different policy levels with a view to supporting the development of more world-class clusters¹² in the EU.

⁹ Implementing the Community Lisbon Programme: Communication from the Commission to the Council, the European Parliament, The European Economic And Social Committee And The Committee Of The Regions More Research and Innovation - Investing for Growth and Employment: A Common Approach

¹⁰ Communication from the Commission to the Council and the European Parliament (May 2006), Delivering on the modernisation agenda for universities: education, research and innovation

¹¹ European Cluster Observatory, <http://www.clusterobservatory.eu/>

¹² A cluster can be broadly defined as a group of firms, related economic actors, and institutions that are located near each other and have reached a sufficient scale to develop specialised expertise, services, resources, suppliers and skills.

Cluster policies are designed and implemented at local, regional and national level, depending on their scope and ambition. The role of the Community is to facilitate and add to such efforts, notably by improving the framework conditions, promoting research and education excellence and entrepreneurship, fostering better linkages between industry (especially SMEs) and research, and encouraging mutual policy learning and cluster cooperation across the EU.

Being part of a cluster is an important competitive strength for business. Clusters help to close the gap between business, research and resources, thereby bringing knowledge faster to the market. That is why cluster policy has become an important element of Member States' innovation policies as reflected in the National Reform Programmes for new Lisbon strategy implementation, and also why cluster policies are supported by Community instruments. European regional policy programmes for 2007-2013 promotes an approach based on regional innovative clusters. It is at the level of the region that many businesses, especially SMEs, interact with one another and with centres of learning and technology. This makes proximity a key factor in the innovation process and increases the effectiveness of innovation policy if tailored to regional and local needs.

There is also initiative on the EU level - to build networks of clusters.

“Networking and cluster initiatives continue to emerge while various tools (*e.g.* tax credits) are being used at the same time to promote collaboration between industry and research. With globalisation, support for clusters is also evolving with a view to creating world-class “nodes” to link to global innovation value chains rather than geographically bound clusters. Linkages and co-operation between regions both within and across countries are becoming more important.”¹³ (OECD)

4. EU POLICY INSTRUMENTS

4.1. Structural and Cohesion Funds

Majority of the EU effort to reduce disparities in the EU at the territorial level is through cohesion policy. This takes the form of a conditional grant, with the conditions attached to the transfers at the level of aims and at the level of the implementation system. These conditions have resulted in the development of a shared management system, between the European, national, regional and local levels: in short, a system of multi-level governance. The Structural Funds are increasingly emphasizing the role of research and innovation as a crucial factor for regional development. With the Lisbon strategy and the strategic guidelines on cohesion this emphasis has been reinforced.

The highest concentration ever of resources on the poorest Member States and regions, the inclusion of all regions, and a shift in priorities set to boost growth, jobs and innovation, these are in a nutshell the major changes of EU Cohesion Policy during the current period. The European Council agreed in December 2005 on the budget for the

¹³ OECD Science, Technology and Industry Outlook 2008: Highlights

period 2007-2013 period and allocated €347 billion on Structural and Cohesion Funds of which 81.5% are planned to be spent in the "Convergence" regions. Based on simplified procedures, nearly all of the 436 programmes covering all EU regions and Member States were agreed before the end of 2007. The radical shift in their priorities means that a quarter of resources is now earmarked for research and innovation and about 30% on environmental infrastructure and measures combating climate change.

The number of financial instruments for cohesion is reduced from six to three: two Structural Funds (ERDF –European Regional Development Fund, ESF-European Social Fund)) and the Cohesion Fund. The specific aid of the former EAGGF (the European Agriculture and Guidance and Guarantee Fund) and FIFG (the Financial Instrument for Fisheries Guidance) now come under the new European Agricultural Fund for Rural Development (EAFRD) and the European Fisheries Fund (EFF)¹⁴.

The three main funds are:

1. European Regional Development Fund (ERDF): for strengthening competitiveness through helping regions to anticipate and promote economic change through innovation and the promotion of the knowledge society, entrepreneurship, and protection of the environment.
2. Cohesion Fund: for the least-developed Member States and regions, i.e. Member States whose GNI (Gross National Income) is lower than 90% of the EU average can benefit from the Cohesion Fund.
3. European Social Fund (ESF): strengthening competitiveness and employment by helping Member States and regions to adapt the workforce, their enterprises and entrepreneurs

These three funds contribute to three objectives: Convergence, Regional Competitiveness and Employment, and European Territorial Cooperation:

- **Convergence:** aims at speeding up the convergence of the least-developed Member States and regions defined by GDP per capital of less than 75 % of the EU average;
- **Regional Competitiveness and Employment:** covers all other EU regions with the aim of strengthening regions' competitiveness and attractiveness as well as employment; and
- **European Territorial Cooperation:** based on the Interreg initiative, support is available for cross-border, transnational and interregional cooperation as well as for networks.

In the period 2007-2013, cohesion policy will benefit from 35.7% of the total EU budget or 347.41 billion euros, 0.38 % of the total GDP of the EU, of which for regions under Objective 1 - 81.5 %. Main beneficiary countries: Poland (€67.3 billion), Spain (€35.2 billion), Italy (€28.8 billion), Czech Republic (€26.7 billion), Germany (€26.3 billion), Hungary (€25.3 billion), Portugal (€21.5 billion), and Greece (€20.4 billion).

¹⁴ EU Regional Policy, Structural funds, http://ec.europa.eu/regional_policy/funds/2007/index_en.htm

The new Member States, which represent around 21% of the population of the EU-27, will receive just over 52% of the total over the period. However, in line with the new growth and jobs agenda and in the context of globalisation, cohesion policy is putting increasing emphasis on improving the competitive position of regions in the world economy. Thus, resources are focused on all the regions coping with structural adjustment and on investment with a particular emphasis on the cluster of activities around research, innovation, and the information society and business development.

Competition based on cost factors alone is not a viable option, and regions need to modernise and diversify their economic structure into high added-value sectors by creating the conditions for businesses, and particular SMEs, to adopt and adapt innovative products and processes, to establish cooperation networks with other enterprises and with research institutes, to access risk capital, and to internationalise their activities.¹⁵

4.1.1. Operation of Funds

The Structural Funds budget and the rules¹⁶ for its use are decided by the Council and the European Parliament on the basis of a proposal from the European Commission. The Commission makes a proposal after having consulted closely with Member States over the Community strategic guidelines on cohesion. The guidelines guarantee that Member States adjust their programming in line with the priorities of the Union to encourage innovation and entrepreneurship, foster the growth of a knowledge-based economy and create more and better jobs. Each Member State prepares a National Strategic Reference Framework (NSRF), coherent with the Strategic Guidelines, over the course of an ongoing dialogue with the Commission. The Commission validates certain parts of the NSRF that require a decision, as well as each operational program (OP). The OPs present the priorities of the Member State (and/or regions) as well as the way in which it will lead its programming. After the Commission has taken a decision on the operational programs, the Member States and its regions then have the task of implementing the programs, i.e. selecting the thousands of projects, and to monitor and assess them. All this work takes place through what are known as management authorities in each country and/or each region. The Commission then commits the expenditure (to allow the Member State to start the programs). The final stages are: the Commission pays the certified expenditure per Member State, monitors each operational program alongside the Member State and Strategic reports are submitted by the Commission and by the Member States throughout the 2007-2013 programming period.

So, it is clear that although the Structural Funds are part of the Community budget, the way they are spent is based on a system of shared responsibility between the European Commission and Member State authorities:

¹⁵ EU Fourth Report on economic and social cohesion „Growing Regions, growing Europe“

¹⁶ EU Regional Policy, Structural Funds Regulations 2007-2013

- the Commission negotiates and approves the development programmes proposed by the Member States, and allocates resources.
- the Member States and their regions manage the programmes, implement them by selecting projects, control and assess them.
- the Commission is involved in programme monitoring, commits and pays out approved expenditure and verifies the control systems.

For each operational programme, the Member State appoints:

- a managing authority (a national, regional or local public authority or public/private body to manage the operational programme);
- a certification body (a national, regional or local public authority or body to certify the statement of expenditure and the payment applications before their transmission to the Commission);
- an auditing body (a national, regional or local public authority or body for each operational programme to oversee the efficient running of the management and monitoring system).

4.1.2. Co-financing rules - Lisbon "targeting"

The funds must target the priorities of the European Union¹⁷ regarding the promotion of competitiveness and job creation (Lisbon strategy). The Commission and the Member States oversee that 60% of the expenditure of all Member States for Convergence and 75% of the expenditure for Competitiveness and Employment target these priorities.

There are ceilings for the co-financing rates. Maximum rate of co-financing for each objective:

- Convergence: between 75% and 85%
- Competitiveness and Employment: between 50% and 85%
- European Territorial Cooperation: between 75% and 85%
- Cohesion Fund: 85%

For the period 2007-2013, the total budget available for European cohesion policy amounts to EUR 347 billion. Euros will be complemented by national public and private co-financing of some EUR 160 billion. In other words, with the leverage of national public and private resources, cohesion policy programs will mobilize annually more than EUR 70 billion between 2007 and 2013.

4.1.3. Strategic approach

Each Member State presents a "national strategic reference framework", which is a reference instrument for preparing the programming of the Funds. This ensures that assistance from the Funds is consistent with the strategic guidelines. The national

¹⁷EU Regional policy, Funds management
http://ec.europa.eu/regional_policy/policy/manage/index_en.htm

strategic reference framework covers 2007-2013. It must be sent to the Commission after the strategic guidelines are adopted. The objectives of the Funds will be pursued according to multiannual programming.

From 2007, each Member State will include in the annual implementation report on its national reform program a section on the contribution of the operational programs co-financed by the Funds towards the implementation of the national reform program. From 2008, the Commission will include in its Annual Report to the Spring European Council a section summarizing the reports of the Member States on the implementation of the national reform programs.

4.1.4. Operational programs

The Member States' operational programs cover the period from 1 January 2007 to 31 December 2013. Operational programs deal with only one of the three objectives and receive financing from a single Fund. The Commission appraises each program proposed to determine whether it contributes to the objectives and priorities of:

- the national strategic reference framework;
- the Community strategic guidelines on cohesion.

4.1.5. Financial management

In terms of financial management¹⁸, the Community budget commitments for operational programs will be made annually for each Fund and objective for 2007-2013. The first budget commitment will be made before the adoption by the Commission of the decision approving Member States' operational programs. Each subsequent commitment will be made by the Commission, as a general rule by 30 April each year, on the basis of the decision to grant a contribution from the Funds.

4.1.6. Management, monitoring and inspections

Member States will be responsible for the management and control of operational programs. They will ensure that the management and control systems are set up in accordance with the provisions of this Regulation. They will also prevent, detect and correct irregularities and recover amounts unduly paid.

The documents and activities connected to the Funds are evaluated in order to improve the quality, effectiveness and coherence of their assistance. These evaluations are the responsibility of the Member State or of the Commission according to their contribution, respecting the principle of proportionality. They are carried out by independent assessors and their results are made public.

¹⁸ EU Regional policy, Funds management
http://ec.europa.eu/regional_policy/policy/manage/index_en.htm

4.1.7. Structural Funds and Cohesion Fund - innovation and research targeting

The EU investment for innovation and research in 2007-2013 will be around €86 billion, which corresponds to almost 25% of the total new envelope for the 27 Member States. Of this amount:

€50 billion are allocated to R&D and innovation

€8.3 billion to entrepreneurship

€13.2 billion to innovative information and communication technologies

€14.5 billion to human capital

The resources are distributed among the Member State by a fixed key. The Commission proceeds by giving indicative annual sums per Member State. From the operational programs of the Member States and regions, it is clear that substantial national and regional budgets will be mobilized in addition to the Community financing, triggering important private sector investments in innovation.

4.2. Programs for research and innovation

In addition to Structural Funds EU has two main programs that support research and innovation:

7th Framework Programme for Research, Technological Development¹⁹

EC FP7 with a total budget of over € 50 billion for the period 2007-2013 is the EU instrument specifically targeted at supporting research and development. It provides funding to co-finance research, technological development and demonstration projects based on competitive calls and independent peer review of project proposals. Support is available for collaborative and individual research projects as well as for the development of research skills and capacity.

Competitiveness and Innovation Framework Programme (CIP)²⁰

The Competitiveness and Innovation Framework Programme aims to foster the competitiveness of European enterprises and has a total budget of over € 3.6 billion for the period 2007-2013. Specific CIP programmes promote innovation (including eco-innovation); foster business support services in the regions and better access to finance, with small and medium-sized enterprises (SMEs) as the main target; encourage a better take-up and use of information and communications technologies (ICT); help to develop the information society and promote the increased use of renewable energies and energy efficiency.

The implementation of funding instruments for research and innovation usually involves different administrative levels and authorities. The responsibility for the implementation

¹⁹ EU Seventh Framework Programme (FP7), <http://cordis.europa.eu/fp7/>

²⁰ Competitiveness and Innovation Framework Programme (CIP), <http://ec.europa.eu/cip/>

of the Structural Funds often lies with regional authorities, while participation in the programming and monitoring for FP7 and the CIP lies with the national/central/federal authorities. In addition to this multi-level governance structure, the responsibilities are often spread over different departments: for the Structural Funds and the CIP it is often the economics/enterprise/industry administrations that are in charge, while for FP7 it is normally the research/science administrations. The Commission therefore strongly encourages Member States to improve the arrangements for cross-departmental and vertically coordinated preparation and use of Community instruments to support research, innovation and cohesion at the national and regional levels.

The basic principle of funding in FP7 is co-financing. The exception is the Marie Curie Actions which provide 100% funding for researcher costs. The standard reimbursement rate for research and technological development activities is 50% of the eligible costs. Certain legal entities can receive up to 75% of the eligible costs (non-profit public bodies, SMEs, research organizations, higher education establishments). For demonstration activities, the reimbursement rate may reach 50% of the eligible costs. For other activities (consortium management, networking, training, coordination, dissemination etc.), the reimbursement rate can be up to 100% of the eligible costs. The 100% rate applies also to frontier research actions under the European Research Council as well as to all actions of the People program.

The basic principle of funding in CIP funding schemes is also co-financing.

5. INNOVATION AND TECHNOLOGY - PROJECT LEVEL IN EU

Hundreds of thousands of projects have been implemented over the years throughout the EU with the support of Structural Funds and the Cohesion Policy. We saw that after the Commission has taken a decision on the operational programs, the Member States and its regions then have the task of implementing the programs, i.e. selecting the thousands of projects, and to monitor and assess them.

For illustration, here are just few examples of projects²¹ financed from ERDF in support to innovation and technology networks.

²¹ A wealth of information exists on the projects and to showcase some examples, Inforegio has recently updated its database of projects which can be accessed at http://ec.europa.eu/regional_policy/projects/stories/index_en.cfm

- Poland, Fostering academic innovation: The 'Technoinkubator' of the Krakow Technology Park, Total Cost: € 4,000,000; EU contribution: € 3,000,000
- Finland, BTN - The Bioenergy Technology Transfer Network, Total Cost: € 1,310,000; EU contribution: € 895,000
- Italy, The biotech network weaves Piedmont's future, Total Cost: € 52,936,910 (inclusive of all periods); EU contribution: € 38,923,000
- Italy, Laboratories of the future: Regional Programme for Industrial Research, Innovation and Technology Transfer, Total Cost: € 384,000,000; EU contribution: € 23,500,000

6. BOSNIA AND HERZEGOVINA POLICY LEVEL FOR INNOVATION AND TECHNOLOGY DEVELOPMENT

Reforms are being implemented in virtually all sectors in BiH, making list of priorities very long one. The first post-war National development strategy (PRSP) clearly illustrates that. This Strategy expired in 2008 and the new National development plan is being drafted. Many other sectoral strategies are adopted or in process of preparation. Development of these strategies is initiated or supported by donors community. Many action programs, laws and institutions are in place. But, reforms, strategies, policies and laws that are made after best practice in EU, are not producing expected results in terms of economic development. This is because BiH doesn't have simple and broad framework strategy and sectoral and cross-sectoral strategies deriving from it, and most importantly BiH doesn't have policy instruments to ensure implementation of policies.

A few decades ago the EU and its member states found the model to support harmonized development of its regions and Member states – cohesion and regional policies with funds to support these policies. Developments after that brought the EU to technology, innovation and research as vehicle to achieve cohesion. Finally, the EU policies evolved towards Lisbon strategy for growth and jobs as a roof strategy, transforming all other strategies and policies into building blocks towards target: growth and jobs. The most important pillar was identified: innovation and technology, not as the ultimate goal, but as a means to achieve growth and jobs. Sector by sector approach was replaced by cross-sectoral approach by networking. Networks for innovation and technology are gaining increasing role in raising competitiveness of enterprises, industries, regions, states and the EU. Networks as linkages between individuals, organizations, enterprises, institutions are also stimulating entrepreneurship by creating social capital and therefore conducive environment for starting and growing businesses. Again, funds were allocated to support this policy shift. As for BiH, many lessons could be draw from this experience.

Complex administrative structure of BiH - two entities and one district, one entity further broken into cantons, 142 municipalities, and weak state level institutions – accompanied

by complicated political situation, contributes a lot to a general perception that economic development in BiH is big challenge.

The EU has complex administrative structure – 27 member states with their own administrative structures and political positions, with large number of economic regions²², and EU level with complex administrative structure. EU was looking for the best model to share management and responsibilities and after many years EU introduced a unique system of multi-level governance and is still improving it. So, 27 countries are harmonizing policies - laws and strategies, transform their national priorities to meet EU priorities, working together to achieve common goals.

EU level strategy for growth and jobs is simple and has clear focus and vision, it was adopted and widely accepted throughout the EU. Implementation rules are also simplified while reporting and monitoring are done according to prescribed procedures and channels. In BiH, politics is involved in all sectors, strategies, laws - in everything. Political consensus takes a lot of time and political fights at all administrative levels. At the same time, economy of BiH is in very difficult situation and not in the focus of BiH political bodies. So, it is obvious that BiH needs Growth and jobs strategy and turn its resources into instruments for implementation of the Growth and jobs strategy.

EU has cohesion and regional policy, adjusted to follow Growth and jobs strategy. This policy is addressing disparities in development of regions and member states, including cross-border cooperation. Here we have another group of guiding principles – leads for BiH. Having in mind post-war disparities in development in many parts of BiH territory, it can be said that BiH needs cohesion and regional policy to achieve balanced development of its regions and local communities. Internally, it means cross-entity, cross-cantonal and cross-regional cooperation and externally, cross-border cooperation – but again these policies should not be final objective by themselves, just means to reach strategic objective: growth and jobs.

EU has innovation and technology in the heart of all strategies, policies and programs as key tool for reaching growth and jobs targets. Networks are model used to produce and disseminate knowledge. Bosnia and Herzegovina doesn't have R&D strategy, or technology and innovation strategy. Laws and institutions in these areas are also missing. Strategy, law and institution would provide guidelines and framework for development of technologies and innovation, but it wouldn't still build the innovation system. The innovation system is about networks, sectoral, cross-sectoral, inter-institutional, enterprise-university collaboration - networks of enterprises, institutions and individuals. Ultimately, network by network, the whole economy becomes a system.

EU programs and funds are project based. This approach has many advantages: ensures implementation of national and EU level strategies, introduces co-financing models, secures transparency and control, enables access to finance for regional/national/international projects, stimulates cross-regional and cross-border

²² Number of regions according to NUTS classification: 97 – NUTS 1 level, 271- NUTS 2 level and 1.303 – NUTS 3 level, Source: Eurostat

networking and knowledge sharing, and mobilizes enterprises, R&D institutions, local and regional communities to work together on turning their ideas in good projects for funding or for investing. It also prevents corruption and reduces grey economy since project stakeholders follow precise and transparent rules and procedures and have to prove that they are legitimate subjects.

BiH should use similar policy instruments as EU for at least two reasons: a) to develop capacity for future usage of EU funds b) to apply the same models at national level for deploying national resources. EU integration process is already introducing project based programs in BiH by granting access to some of its programs and funds. But like other transition countries, BiH is facing similar problems when it comes to absorption capacity for EU funds. Absorption capacity means capacity to develop projects that can receive funding from many different funds and financial institutions. At the same time, Decentralized implementation system (DIS) is currently being introduced in BiH, as process of transferring financial assistance management from EC to national managing authorities. But, this process from supply side needs to be matched with capacity to prepare projects on demand side.

7. EU POLICY INSTRUMENT FOR BiH - IPA

As of 2007, the European Union assistance is channelled through a new financial instrument: Instrument for Pre-accession Assistance - IPA. IPA is designed with five components to provide for targeted and effective assistance for each country according to its needs and evolution. These five components are: transition assistance and institution building; cross-border cooperation; regional development; human resources development; and rural development. Bosnia and Herzegovina is currently eligible for assistance to transition assistance and institution building and cross-border cooperation. Once the country has obtained the status of a candidate country the access to the other three components will be in principle opened to it.

The European Commission has allocated 440 M€ to Bosnia and Herzegovina under its IPA programme for the period 2007-2011. The main objective of the Instrument for Pre-Accession Assistance is to help BiH face the challenges of European integration, implement the reforms needed to fulfil EU requirements and progress in the Stabilization and Association Process, and lay the foundations for fulfilling the Copenhagen criteria for EU membership.

The establishment of the IPA²³ has envisaged a new framework for programming and delivery of the EC assistance. IPA strongly encourages the ownership of the programming and implementation of the assistance by the IPA beneficiary countries. At the same time, for the implementation of the assistance the decentralised management,

²³ Commission Regulation (EC) No 718/2007 of 12 June 2007 - implementing Council Regulation (EC) No 1085/2006 establishing an instrument for pre-accession assistance (IPA)

whereby the Commission confers the management of certain actions on the beneficiary country, is practically set as a rule. Exceptions can be made for the Transition Assistance and Institutional Building Component and Cross-Border Cooperation Component, but decentralised management being the aim.

Implementation of the decentralised management - Decentralised Implementation System (DIS) - involves the transfer of the responsibility for managing the Community assistance from the Commission to the beneficiary country, meaning:

- Public procurement/tendering, contracting, budgeting and disbursement of the Community funds is carried out by an institution established by the beneficiary country for the purpose, and
- Request and management of funds from the Commission and financial reporting is carried out by an institution established by the beneficiary country for the purpose.

The purpose of going from centralised to a decentralised implementation system is gradually to prepare BiH to take over all responsibilities for managing the EU Community assistance from the Commission when entering the European Union. By implementing part of the Commission responsibilities on management of pre-accession funds BiH is given the opportunity to practise and develop the internal procedures and structures necessary.

As in accordance with IPA Implementing Rules, the Beneficiary Country is required to designate a number of bodies and authorities to manage the Community assistance under the DIS:

- a national IPA co-ordinator (NIPAC),
- a strategic co-ordinator for the regional development component and the human resources development component,
- a competent accrediting officer (CAO),
- a national authorising officer (NAO),
- a national fund (NF),
- an operating structure by IPA component or programme (OS),
- an audit authority (AA).

Implementation – introduction of DIS system in BiH is slowly progressing, and EC Delegation to BiH is still managing the assistance (centralized system). Any country applying for membership has to have DIS system completely implemented in order to become member state and start getting funds from EU Funds and programs.

General framework for implementation of IPA instrument is similar to other EU instruments. Multi-annual indicative planning documents which is implemented through multi-annual or, depending on the component, annual programs, operational programs that comprise of project or group of projects, framework agreement in order to set out and agree on the rules for cooperation concerning EC financial assistance, annual or multi-annual financial agreements.

Implementation of IPA and all procedures, rules and requirements for tendering and contracting as well as programming, implementation and monitoring is given in documents: Practical Guide to Contract procedures for EC external actions (PRAG) and Project Cycle Management Guidelines (PCM) for EC external development assistance.

7.1. Implementation of IPA instrument in BiH

Following the IPA Regulation, BiH has signed the following documents:

- MIPD for period 2007-2009 (Commission Decision C(2007) 2255 of 01/06/2007 on a Multi-annual Indicative Planning Document (MIPD) 2007-2009 for Bosnia and Herzegovina
- Framework agreement between BiH and Commission of the European Communities on the rules for cooperation to implement EC financial assistance to BiH under the Instrument for Pre-Accession Assistance (IPA)
- The IPA 2007 Financing Agreements between Bosnia and Herzegovina and the European Commission
- MIPD for period 2009-2011 (Commission Decision C(2009)5114 of 01/07/2009 on a Multi-annual Indicative Planning Document (MIPD) 2009-2011 for Bosnia and Herzegovina
- National Programs for IPA 2007 and IPA 2008

The needs assessment led to a number of priorities which are reflected in the Multi Annual Indicative Program (MIPD) 2007-2009 for Bosnia and Herzegovina²⁴.

The number of projects derives directly from the priorities set in the European Partnership which designates more than 150 actions that should be supported by IPA. It also reflects the country needs as formulated by the beneficiary. The preparation of the IPA 2007 program has been largely driven by the beneficiary country, and associated a large number of actors (all State ministries and State institutions) It lead to a high level of 'ownership' and sustainability across government.

The main strategic thinking has been to promote administrative capacity building, to address a major pre-requisite for the implementation of the stabilization and association agreement, and at the same time a main shortcoming in BiH which has still a nascent state administration.

Implementation of BiH National program for IPA 2007, containing 46 projects has just started, after many months of delays. The National program stipulates²⁵ that the priority axes of EU IPA 2007 assistance to Bosnia and Herzegovina result from the needs assessment to bridge the gaps between the actual situation in reform areas and the progress expected in the framework of the European partnership and the Stabilization and Association process.

The priorities are in line with Bosnia and Herzegovina's own sectoral reform and development agenda, as well as its main strategies: Mid-Term Development Strategy

²⁴ EC Delegation to BiH, www.europa.ba

²⁵ EC Delegation to BiH, www.europa.ba

(MTDS) and EU Integration Strategy. The main strategic objective of the pre-accession assistance to Bosnia and Herzegovina is to support the country in the transition from a potential candidate country to a candidate country and through to membership of the European Union.

The whole IPA programming process, multi-annual planning document, annual National programs, and list of projects in these annual National programs, indicate that all IPA documents are based on inputs provided by BiH authorities from BiH strategies (general and sectoral). BiH National program for IPA 2007 is analyzed above as example. BiH doesn't have national growth and jobs strategy, innovation and technology strategy, cohesion and regional policy, funds and programs to support these policies. National program for IPA 2008 is also adopted, and preparation of program for IPA 2009 is in final phase. There is still some space to set new priorities and policies that would be incorporated into programming process for IPA 2010 and 2011²⁶.

8. PROJECT LEVEL IN BIH

Project approach in BiH is implemented by donors. NGOs, local and regional development agencies, business associations, universities/faculties have designed and implemented projects funded by donors. Generally, projects were aim to themselves, since objectives were set by donors - to meet donors' strategies. It is not that these strategies are not good, they are simple not BiH strategies.

Institutions and organisations from BiH prepared projects and got funding from FP5 and FP6, and several projects are being funded from FP7.²⁷ Also projects for TEMPUS program are being funded. But, impact assessment and mapping of created networks is not performed.

As for BiH government(s), project based funding is not a practice. Decision on funding is done within ministries and state aid is delivered on ad-hock basis and on basis of simple letter asking for funds. Grant schemes for supporting SMEs very often remained unspent, so recent practice is that grants has to be given out – development of innovation, technology, clusters, and networks, are simply not content of the funding requests (which are not project proposals).²⁸

IPA funds will include grant schemes to initiate preparations of projects, but capacities for identification and design of projects that should be focused on building of networks for innovation, technology and entrepreneurship, are very weak.

²⁶ Multi-annual Indicative Planning Document (MIPD) for period 2009-2011 was signed in July 2009.

²⁷ BiH is eligible for FP7 grants (Cooperation), since it signed Memorandum of understanding with EC

²⁸ See for example list of beneficiaries of grants - FBIH Ministry of entrepreneurship, development and crafts website, www.fmpro.gov.ba

There are opportunities to change this situation in BiH. For example, the Delegation of the European Commission to BiH under EU Support to Economic Development in Bosnia and Herzegovina, IPA funds for 2008, has just launched Call for Proposals VI.²⁹. Proposed projects should support the growth and expansion of SMEs in economic sectors³⁰ that must have:

- the greatest potential for growth,
- potential for job creation or
- high number of MSMEs within the sector.

Examples of activities that may be supported include:

- Comprehensive intervention in the sector that would improve and create pre conditions for further improvement of hard and soft infrastructure for MSMEs, improve competitiveness of MSMEs, policies and programs for development, training, networking and work in partnership.
 - Networks or cluster formation and administration in order to match raw material producers with final producers, with the goal of establishing sustainable networks of cooperation. (e.g. technology support centres and applied research centres based around the sectors and/or clusters, technology transfer projects etc).
 - Support to technology centres/business incubators/centres for excellence or other facilities to support development of a specific sector (start-up and existing businesses). This support may include establishment of new centres or adaptation of existing ones;
 - Combining soft and hard support for development of the sectors such as creation of sustainable programs or policies for development of the sectors and researches (feasibility studies) and application of the programs/researches.
-
- Minimum grant contribution per action: € 300,000.00
 - Maximum grant contribution per action: € 400,000.00

Indicative overall allocation of funds under this Lot 1 (SME development) is € 1,925,000. There is also Lot 2 for tourism development with allocation of € 1,925,000.

EC Delegation also launched three Call for Proposals under IPA component II – cross border cooperation³¹, for BiH-Croatia, BiH-Serbia and BiH-Montenegro.

There are other funds that BiH could use (in country as well) for building networks for innovation, technology and entrepreneurship development. The European Commission will publish soon several new calls in the 7th Framework Program (FP7) based on its work programs for 2010. Among these will also be a call specifically to support Research Potential in the Western Balkan countries, but as Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Montenegro and Serbia are associated to the Framework

²⁹ EC Delegation to BiH, www.europa.ba, the Call is lauched on 15th July 2009 and is open till 15th October 2009.

³⁰ The Sector is any sector or sub-sector in the BiH economy that is or has the potential to be competitive.

³¹ EC Delegation to BiH, www.europa.ba

Programme, researchers from these countries can participate in all sub-programmes of FP7 with the same rights as EU Member States.

The question is if BiH is going to prepare projects that focus on building networks for innovation, technology and entrepreneurship development.

9. CONCLUSION

EU integration process is probably the only common and widely accepted objective in the whole Bosnia and Herzegovina. Since Bosnia and Herzegovina is in this process (potential candidate country) and preparations for membership include adoption of EU policies and application of EU policy instruments, knowledge about these areas becomes an imperative. Faced with a lot of challenges, BiH should look for the answers in the EU models and solutions, and follow guidelines it provides to both Member states and future member states.

Building new and rebuilding pre-war innovation and technology networks should be main tool for BiH to join global networks for taking firms, industries, regions and nations into Knowledge based economy. BiH doesn't have own funds to support innovation and technology development, but policies are good start, and with good projects finding funds wouldn't be an issue.

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