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Knowledge-Based Regional Development in Albania and Kosovo - Reducing social and economic disparities through social and economic innovation

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The wiiw Balkan Observatory

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Blerjana Bino, Ketrina Çabiri, Erjon Curraj, Ilire Mehmeti and Alban Hashani

Knowledge-Based Regional Development in Albania and
Kosovo - Reducing social and economic disparities
through social and economic innovation





The wiiw Balkan Observatory

www.balkan-observatory.net

About

Shortly after the end of the Kosovo war, the last of the Yugoslav dissolution wars, the Balkan Reconstruction Observatory was set up jointly by the Hellenic Observatory, the Centre for the Study of Global Governance, both institutes at the London School of Economics (LSE), and the Vienna Institute for International Economic Studies (wiiw). A brainstorming meeting on Reconstruction and Regional Co-operation in the Balkans was held in Vouliagmeni on 8-10 July 1999, covering the issues of security, democratisation, economic reconstruction and the role of civil society. It was attended by academics and policy makers from all the countries in the region, from a number of EU countries, from the European Commission, the USA and Russia. Based on ideas and discussions generated at this meeting, a policy paper on Balkan Reconstruction and European Integration was the product of a collaborative effort by the two LSE institutes and the wiiw. The paper was presented at a follow-up meeting on Reconstruction and Integration in Southeast Europe in Vienna on 12-13 November 1999, which focused on the economic aspects of the process of reconstruction in the Balkans. It is this policy paper that became the very first Working Paper of the wiiw Balkan Observatory Working Papers series. The Working Papers are published online at www.balkan-observatory.net, the internet portal of the wiiw Balkan Observatory. It is a portal for research and communication in relation to economic developments in Southeast Europe maintained by the wiiw since 1999. Since 2000 it also serves as a forum for the Global Development Network Southeast Europe (GDN-SEE) project, which is based on an initiative by The World Bank with financial support from the Austrian Ministry of Finance and the Oesterreichische Nationalbank. The purpose of the GDN-SEE project is the creation of research networks throughout Southeast Europe in order to enhance the economic research capacity in Southeast Europe, to build new research capacities by mobilising young researchers, to promote knowledge transfer into the region, to facilitate networking between researchers within the region, and to assist in securing knowledge transfer from researchers to policy makers. The wiiw Balkan Observatory Working Papers series is one way to achieve these objectives.



“Knowledge-Based Regional Development in Albania and Kosovo - Reducing social and economic disparities through social and economic innovation”

RESEARCH REPORT: ALBANIA and KOSOVO

February 2015

This paper presents the findings and analysis conducted in the framework of the project “Joint research and workshop on Knowledge-Based Regional Development in Albania and Kosovo - Reducing social and economic disparities through social and economic innovation”.

Leading organisation of the project is The Vienna Institute for International Economic Studies (wiiw), Austria.

The research was conducted by partner organizations: Riinvest Institute, Kosovo and UET Centre, Albania

The project is funded and support by the Zentrum für Soziale Innovation (ZSI), Austria within the Higher Kos Programme: “Research Cooperation and Networking between Austria, Kosovo and the Western Balkan Region”

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The project was conducted in Albania and in Kosovo in January – November 2014. Two workshops were organised by wiiw in Vienna in April and September 2014. The final research papers were drafted between January and February 2015.

EXECUTIVE SUMMARY

This research project investigates to what extent and in what ways, if at all, strategies, and policy interventions and programmes for the development of a knowledge-based society in Kosovo and Albania could contribute to sustainable regional development. This research project applies a combined approach of quantitative and qualitative methodology. The quantitative methods, such as secondary data analysis, will help to collect data in order to explore the extent and direction of the impact of knowledge-based development through social and economic innovation on social and economic disparities. The fieldwork includes focus groups with representatives from the government, business sector and research/HEIs. During the fieldwork online semi-structured interviews were conducted with national and regional stakeholders (GOs, NGOs, think tanks and research centres; enterprises; local firms; chamber of commerce; HEIs) in order to investigate the extent to which “knowledge-based regional development” impacts social and economic disparities and the potential conflict between knowledge-driven growth and social cohesion.

It is argued that the Western Balkan countries need to shift their growth model towards production and trade in order to be able to compete in the European market and benefit from the EU accession. In achieving this model of growth, the WB countries such as Albania and Kosovo face challenges such as the legacy of fragmented reforms, low levels of R&D, deterioration of research infrastructure and brain drain; low levels of business and research collaboration, lack of strategic policy processes, politicization and lack of systematic monitoring and evaluation of research performance. Therefore the strategic aims for the smart growth of the Albania and Kosovo in the context of a knowledge-based society should be: (i) improvement of research base and conditions for research excellence; (ii) enhancement of effective research commercialization and fostering research and business collaboration; (iii) improvement of business sector innovation and establishment of start-ups.

The Triple Helix model can be applied in Albania and Kosovo by considering the context of the research and development system as well as the socio-economic priorities of each country. It is necessary to enhance the communication and interaction between university-government and university/research – industry/business as preconditions for the successful implementation of the Triple Helix model. In this sense, the Triple Helix is relevant to Albania and Kosovo as it acknowledges the role of non-R&D innovators; a considerable part of the innovation process in not technology and R&D driven as it is the case in these countries.

Recommendations:

- Development of policy for higher education, science and technology, research and innovation;
- Innovation policy should support the upgrade from production to technology capability;
- Integration of FDI and innovation policy;

- R&D should focus more on relevance rather than excellence;
- Support for the business sector at the local level in terms of R&D and engineering and software through programmes for adoption of ISO certificates; trainings for software training; funding for R&D;
- The endogenous weak technological capability cannot be entirely substituted by FDI and therefore there is a need to improve the absorptive capacity of these countries through reforming the higher education system; improving vocational and professional training as part of twinning industry partnerships; encourage circulation of people between government, private sector and research/academia.

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ABBREVIATIONS

ARTI – Agency for Research, Technology and Innovation
EC- European Commission
EU – European Union
FDI – Foreign Direct Investment
GDP – Gross Domestic Product
GoA – Government of Albania
ICT – Information and Communication Technology
HEI- Higher Education Institutions
IPR – Intellectual Property Rights
MEST – Ministry of Education, Science and Technology, Kosovo
MoES – Ministry of Education and Sports, Albania
R&D – Research and Development
RDI – Research, Development, Innovation
S&T – Science and Technology
RCC – Regional Cooperation Council
WB – World Bank
WBC – Western Balkan Countries

1. INTRODUCTION

1.1 Research Background

The emergence, development and the rapid proliferation of information and communication technology (ICT) have significantly transformed almost all dimensions of our contemporary society leading to a conceptualisation of our society as a knowledge-based society. The prominent interpretation of a knowledge-based society is that of a network society that is based on command and control centres of knowledge generation and information flows (Castells, 2001). Though scholars do not agree on a common, all-encompassing definition of the knowledge-society concept, in the sphere of politics, policy-making and private sector various international and national programmes are being established so as to develop a knowledge-based society. As such Horizon 2020, the European Union Strategy, focuses primarily on the ways in which smart growth could be boosted by concentrating efforts on the knowledge sector, which entails knowledge-society in terms of research, development and innovation. In this sense, particular attention is paid to the extent and the ways in which research and innovation could contribute to regional development and the reduction of social and economic disparities. However, they constitute relatively new policy areas in South East Europe and particularly so in Kosovo and Albania.

Regional policy in Kosovo and Albania in the context of changing and emerging demands of a knowledge-based society is relatively a novel area of policy process and content. Studies demonstrate that there is limited awareness and isolated intervention programmes regarding the importance of regional-level enterprises for social and economic innovation that could help foster regional sustainable development and smart growth. As these emerging regions move more and more towards knowledge-based society and economy through the impact of the proliferation of ICT, European Union integration and accession process, EU Regional Policy and exposure to other international practices, they are poised to become more responsive to addressing regional social and economic disparities. In this light, regional development policy in the context of a knowledge-based society and economy constitutes an area that could transform challenges into opportunities to reduce social and economic disparities through the encouragement of social and economic innovation. This is precisely the focus of this research project contextualised in the cases of Kosovo and Albania. The research concentrates on three main pillars: Research and Development; Triple Helix and knowledge-based regional development to fight economic and social disparities.

1.2 Project aim and research questions

The aim of this research project is to investigate to what extent and in what ways, if at all, strategies, policy interventions and programmes for the development of a knowledge-based society in Kosovo and Albania could contribute to sustainable regional development. This research project seeks to explore how knowledge-based regional development can impact social and economic disparities. In this sense, the research project will investigate the potential for Research and Development and knowledge-based growth in emerging economies. This research project intends to explore the concept of “knowledge-based regional development”, i.e. regional development through social and economic innovation, which is informed by the outcomes of the partnership (Triple Helix) between government, business and research in academia in the context of Kosovo and Albania.

The project also investigates the following research questions:

What are the main approaches (strategies, policy interventions and programmes) towards the development of a knowledge-based society in the context of Kosovo and Albania?

What are the main characteristics and dynamics of the R&D and innovation systems in Kosovo and Albania?

In what ways, if at all, can the Triple Helix, i.e. partnership between government, business and research/ academia be developed in Kosovo and Albania?

1.3 Research significance and impact in Albania and Kosovo

This project is relevant to the Albanian policy framework development given that in the period between 2013 and 2015 the government and stakeholders are in the process of evaluation of existing strategies and drafting the strategies till 2020 in line with the European Union accession process. In this sense, the interplay between research, innovation and development needs to be fully explored in order to inform sound policy. Of particular interest to policy-making and accession process in Albania is the extent and the ways in which research and innovation could contribute to sustainable regional development through the reduction of social and economic disparities. Thus the impact of the project is three-fold:

First, the research topic is relatively under-explored in Albania and as such the research project contributes to the development of knowledge and provision of policy recommendations based on academic research on this particular topic and paves the way for future research and similar initiatives. Second, the research project seeks to provide policy recommendations in regards to: (i) the enforcement of the link between research, innovation and regional development in Albania; (ii) the enhancement of the partnership between government, business and research in Albania in such a way as to contribute to knowledge-driven regional development and thus reduce social and economic disparities.

Third, the implementation of the research project along with the dissemination strategy initiates a critical mass of researchers, students and policy makers who are aware of and committed to the emerging topic of knowledge-based regional development in Albania by exploiting the key strength of the applicant organisation and individual researchers.

2. SURVEY OF THE LITERATURE

2.1 Conceptual framework on knowledge based society and economy

The concept of a knowledge-based society implies that science; technology, innovation and research are the drivers of social, political and economic development. In a knowledge-based society, the production and dissemination of knowledge is not confined to the higher education settings and research institutes, rather science and technology have become part of political discourses and public policy development (Nowotny et al., 2001). In this light, science and technology, particularly so information and communication technologies, have become significant social institutions due to increasing demands for innovation, quality research and reliable scientific knowledge that could contribute to development (Thorlindsson & Vilhjalmsson, 2003). In addition, science and technology and the knowledge related to them are contextualised, i.e. impacted by the particular social, economic and political contexts (Nowotny et al., 2001).

The central role of science and technology and as such of innovation and research in contemporary society entails that science is becoming more a transgressive system with fluid boundaries rather than a demarcated subsystem of society (Gibbons et. al., 1994). Following the argument of Bell (1973) regarding the functions of knowledge and innovation in post-industrial society, other scholars have argued that the production of knowledge and its application are central characteristics of social organisation and successful economic performance (Gibbons et. al., 1994; Nowotny et al., 2001). In addition, knowledge production and application, innovative research and information and communication technologies are considered as drivers of social, economic and political development in the political discourse and policy-making processes (European Union, Horizon 2020). Intensive research is being conducted in order to investigate the ways in which knowledge-based society and economy impact regional development. The transition of emerging economies and regions towards a knowledge-based society and innovation-driven development are of particular research interest.

In the context of a knowledge-based society, the sources of economic growth are more and more linked to the role of knowledge, innovation and research within and across economies. As such, the concept of a knowledge-based economy emerges from the acknowledgment of the central role of knowledge production and dissemination within economies (Huggins & Strakova, 2012). Knowledge is seen as the key to competitiveness of a production unit, but also as a crucial element of achieving regional competitiveness, whereby regions are treated as an economic entity on their own (Huggins et al., 2008). While the desired impact of a knowledge society and economy, based on research and

innovation, is the endogenous regional growth and reduction of social and economic disparities, the processes of endogenous development underpins the growth trajectories of regions (Vazquez-Barquero, 2007).

The principle of endogenous development of regions refers to the role of collective learning and cooperative behaviour play in the establishment of an innovative milieu that facilitates knowledge creation and flow (Huggins, 2008). The implication here is that regional development and economic growth should be enhanced through bottom-up approaches, which concentrate on strengthening local production systems, initiatives and enterprises based on social and economic innovation rather than bottom-up approaches of redistribution of resources. The paradigm of endogenous regional development is particularly relevant to emerging regions such as South East Europe, which require the transformation of economy through innovation (Huggins & Strakova, 2012). As Garofoli (2002) points out, endogenous development refers to the capacity of regions to innovate and produce collective intelligence that is contextualised to their environments and recognises the importance of knowledge creation, diffusion and accumulation.

The knowledge-based models of endogenous regional development imply that through fostering and supporting clusters, the triple helix, innovation systems and networks so as to establish an innovative milieu, whereby by knowledge production and flow is of central importance, it is possible to achieve innovative outputs and economic growth and thus contribute to sustainable regional development. In this sense, the efforts to enhance the knowledge-based society and economy are strongly related to sustainable regional development.

2.2 Triple Helix model and relevance to the Western Balkan

In a knowledge-based society and economy, the role of higher education institutions as centres of education, training, research and knowledge-creation in driving innovation and development processes has been acknowledged and formalised in the triple helix model. This model views higher education institutions as more 'entrepreneurial', as centres to drive innovation systems and provide knowledge and research to business, industry and policy-making processes (Etzkowitz, & Leydesdorff, 2000). The model implies increased cooperation between the spheres of government, business/industry and higher education/research/academia. This has also become a significant dimension of public policy intervention and initiatives in the private sector and civil society settings.

The triple helix model is considered as a policy mechanism for regional development in South East Europe, whereby due to the relative lack of knowledge-production enterprises and developed research institutes, higher education institutions are the most prominent knowledge actors (Etzkowitz, & Zhou, 2006). While it is generally accepted that higher education institutions through cooperation with the business and government sphere could contribute to economic growth and regional development in emerging economy contexts too (Huggins & Strakova, 2012), a particular area of research is interested in

exploring the factors that enhance or hinder the role and the potentialities of higher education institutions as centres of training, education, research and knowledge-creation in the encouragement of a knowledge based - regional development.

The Triple Helix model (Leydesdorff 1997, 2000; Etzkowitz, 2008) was initially considered as mostly not relevant to the WB countries because of the limits of the three helices such as low scientific capacities both in the private and the public sectors, low R&D investments, absence of frontier technologies and the lack of strategic innovation governance (Švarc, 2014: 239). Recently a new perspective has been presented in the Triple Helix Systems of Innovation concept (Ranga and Etzkowitz, 2013), which integrates key elements of the Triple Helix model with the innovation systems paradigm (Carlsson, 2003). Thus a Triple Helix System is defined as a set of components (institutional and individual actors; R&D innovators; non-R&D), relationships (technology transfer, research and business collaborations) and functions (knowledge, innovation and consensus spaces) that generate and promote innovation. This updated model of the Triple Helix is relevant to the WB countries as it acknowledges the role of non-R&D innovators; a considerable part of the innovation process is not technology and R&D driven. This also correlates with the argument above that R&D in the WB countries should be seen in terms of applied research with socio-economic relevance (Radosevic, 2014; Radosevic & Lepori, 2009).

In addition, the Triple Helix model can be applied in the Western Balkan Countries due to the following arguments: first, the competitiveness of the WBC cannot be sustained in the long run without the improvement of the absorption capabilities and the upgrading of technology; second, considering the weak business R&D in the WBC, the universities are the main generator and disseminator of knowledge and promoters of new technologies and thus their role as a helix is of particular relevance in WBC and can impact directly the economic structure; third, considering the weaknesses of each of the helices in the WB, it is necessary to enhance the communication and interaction between university-government and university/research – industry/business as preconditions for the successful implementation of the Triple Helix model (Švarc, 2014: 241). Therefore, instead of dismissing the model completely it is required to explore a contextual fit to the WBC economies.

One of the biggest challenges in this case is to make research and innovation more attractive for the business sector and industry and encourage a spirit of entrepreneurship. In this sense, public and private actions shall focus more on standard business development issues such as innovation management, acquisition of new technology, investment in human capital, funding of research etc. than to the commercialization of scientific research (Švarc, 2014: 243). In addition to the development of business competences for R&D and innovation, the implementation of the Triple Helix model is related to the improvement of innovation policies at the national and regional level. An example of this is the World Bank's Western Balkans Regional R&D Strategy for Innovation (World Bank 2013) under the auspice of the Regional Cooperation Council.

2.3 Research and Development in the Western Balkan

The Western Balkans countries have followed the economic strategy shared by the EU new members states as a sign of the political will for the EU integration and free market economy and as a result their product and services markets have been integrated in EU through instruments such as EU association agreements, CEFTA, FDI inflows (Radosevic, 2014: 59). Economists (Kadare, et.al., 2014; Becker, et.al, 2010) argue that the impact prior to 2008 crisis was not entirely satisfactory with the trade balance deteriorating and the FDI composition biased in favor of banking and real estates. Consequently the economic growth of the region seemed to go more towards 'spurt' and less catching-up. The 'spurt' tendency implies that there is a short period of high growth, but it exhausts itself due to limited technology upgrading, innovation, institutional reforms and restructuring of the economic system as a whole (Radosevic, 2014). Considering that the EU accession is the '*only game in town*', technology upgrading, innovation and R&D as factors for economic growth and social progress have emerged as new policy issues in the WBC (Kadare et.al., 2014).

In principle it is argued that R&D leads to innovation, which then enhances competitiveness, and therefore economic growth is generated. The question is whether this model may be of relevance in emerging economies like it has proven to some extent for the developed countries. Radosevic (2014: 60) argues that this model is not relevant for the WBC as these countries operate behind technology frontier and their R&D competences are very weak. However, innovation is as important in the WBC as it is in developed countries, but it has to do more with acquisition and adoption of machinery rather than the conventional meaning of R&D. In this light the policy demand for R&D and innovation has been low, but with a recent emergence at the national and international level. Considering the above, R&D cannot be the only growth model for the WB.

Table 1: The R&D Capabilities in the WBC

The Scientific performance is below the average of EU country in terms of quantity and quality despite improvements.

The average number of citations per document in the WB (0.62) in 2003–2010 was about half the EU-27 average (1.27).

The Enterprise sector's investment in research and innovation is low and sporadic.

None of the WB countries surpassed the EU-27 or the world's "impact factor" average in the same period.

Research and industry collaboration tend to be driven by occasional opportunities and short time objectives.

In a science-industry collaboration ranking of 144 countries, the Western Balkans' average stands at the 88th position, compared to the 40th of the EU-27.

Source: SCIMAGO Research Group 2012

Scholars (Radosevic, 2014; Becker, et.al, 2010) point out that the growth model of WBC should be based on pattern of technology upgrading for latecomer economies. This implies that the first step is the improvements of production capability and then followed by technology upgrading and innovation. In this sense, R&D sector in WBC means moving towards applied research in priority areas of the economic growth, social progress and overall country development and EU integration processes. Radosevic and Lepori (2009: 659) argue that the major challenge of post-communist countries' research funding systems is '*to achieve balance between scientific excellence and socioeconomic relevance*'. Even though this does not fall within the mainstream policy on R&D, it is a contextual fit based on the market structure of WBC, their institutional landscape, political issues as well as higher education and research dimensions. As such R&D should be more about social and economic relevance of the research and its impact rather than excellence and pure science. Given that Horizon2020 is based on the principle of excellence, it may be a constraint for the R&D system in WBC, where the funding schemes should be not only about excellence, but also about social and economic relevance.

Table 2: Mainstreaming Research and Innovation in the WBC

Human capital and addressing the brain drain issue
Reforming the research infrastructure and funding system
Support technology transfer and upgrading
Policy transformation and regulatory framework

Despite the challenges for R&D in the WBC and the notion that R&D shall not be considered as the only model of growth, the European Commission includes the WBC into the overall objectives of innovative Europe, which based on research excellence. Drawing from the principle that science and research are the driving forces for the economic growth, social progress and stability of the emerging economies, European Commission in cooperation with the World Bank and Regional Cooperation Council have developed the following projects:

- Southeast European ERA.NET – SEE-ERA.NET, a platform launched to support the integration of SEE into the European Research Area. It aimed not only to link EU members states with SEE in terms of R&D but also to interconnecting existing research activities at the national, regional and bilateral level. In order to enhance research cooperation, in 2009 a follow up project was initiated, SEE-ERA.NET PLUS.
- Since 2008 within the 7th EU Framework Programme, the ‘Steering Platform on Research for the Western Balkan Countries’ was funded by the EC and was technically supported by the WBC-INCO.NET. It is evaluated that WBC-INCO.NET ‘*was crucial for fostering European and regional dialogues concerning structured participation in FP7, monitoring and analyzing S&T cooperation, facilitating networking and increasing participation of the WBC’s researchers in European RTD projects through structural measures*’. (Martinovic & Dall, 2014: 14).

Under the auspice of the Regional Cooperation Council and the funding of the EU and WB, in October 2013 the ministers responsible for science and education in seven Western Balkans countries met in Zagreb to sign a declaration endorsing the *Western Balkans Regional R&D Strategy for Innovation* (Polajnar, 2014: 66). This is a clear confirmation of the importance placed the WBC countries and the international community on the R&D and innovation sectors in the region. The aim of the Strategy and the Action Plan is to create a regional common framework to address the WBC’s priority of improving their R&D, innovation, economic growth and thus prosperity. The Strategy seeks to propose institutional and policy reforms in order to improve the quality of R&D,

which then contributes to innovation and therefore to the establishment of knowledge-based economies that will generate growth. The target of the Strategy is to ‘to mobilize additional resources from public and private sources, the EU and other stakeholders to reach an average of 1.5% of GDP of Gross R&D expenditures at the regional level by 2020’ (Polajnar, 2014: 68). This will facilitate the integration of WBC in the European Research Area and improve their innovation capacity, which can lead to the convergence of the R&D set by the EU.

The concrete results of the Strategy and Action plan are still to be evaluated in terms of the impact they will bring in the WBC R&D and innovation systems. The concern is that they will remain yet again good strategies in paper, rather difficult to be implemented in practice in the region due to various constraints of the research system. As shown in Table 3 the first recommendation coming from the *Western Balkans Regional R&D Strategy for Innovation*, is that of improvement of research excellence through investments in the development of human capital. The lack of funding from governments in WBC and the brain drain remain obstacles in improving the research excellence. The competition with the frontier research of the EU and other regions in the world makes this even harder. Thus the action plans supported by the EC shall focus more on the applicable research and its social and economic relevance for the needs of the region. The recommendations for R&D and innovation policy as well as research and industry collaboration also highlight the necessity for regional cooperation and business investments in research.

Table 3: EC Recommendations for R&D and innovation in the WBC

<p>Improve Research Excellence</p>	<ul style="list-style-type: none"> • Brain gain • Investment in human capital • Increase research funding • Improve research infrastructure • Incentive for research performance • Attract talented researchers from the scientific diaspora • Promote researchers' mobility
<p>R&D and innovation policy</p>	<ul style="list-style-type: none"> • Completion of the reforms of the higher education and research systems • Development of research management competences • Regional collaboration
<p>Research-Industry Collaboration and Technology Transfer</p>	<ul style="list-style-type: none"> • Research-Industry Collaboration and Technology Transfer • Enhancing the performance of technology parks and incubators • Enable Business Investments in Research and Innovation and in the Creation of Start-Ups

3. RESEARCH DESIGN

3.1 Methodology approach

This research project applies a combined approach of quantitative and qualitative methodology. The quantitative methods, such as secondary data analysis, will help to collect data in order to explore the extent and direction of the impact of knowledge-based development through social and economic innovation on social and economic disparities. In this sense, a set of measurable indicators are explored such as: funding for education; extent of the proliferation of ICTs; public and private investment in research, research, development and innovation; human capital and science and technology capabilities; entrepreneurship and adaptations of innovative initiatives. In addition, qualitative methods such as focus groups with governmental organisations, HEIs and research centres, business representatives and semi-structured interviews with local stakeholders will be applied. The research was conducted in three main research phases: (i) desk research; (ii) field research and (iii) data analysis and drafting of final papers. One of the main difficulties of the research was the limited quantitative data to measure the impact of national strategies and policy regarding knowledge-based society on economic and social disparities. Another limitation refers to the relatively limited reliable data to statistically measure the impact of Triple Helix on economic and social disparities at a regional level. However, as will be analysed in the following sections, the research uses quantitative and qualitative data from the stakeholders interviewed as well as secondary quantitative data from other reports in order to address the main research question.

3.2 Methods and instruments

The desk research provides an overview of the international scholarship on knowledge-driven society and regional development. During this phase drawing from the literature review, a conceptual framework was elaborated along with the research approach and methodology. In addition, through desk research the main approaches (strategies, policy interventions and programmes) towards the development of a knowledge-based society in the context of Albania and Kosovo were explored. This was done mainly through document analysis and use of secondary data. Document analysis and secondary data were also employed to analyse the main features and dynamics of the public policy framework in Albania and Kosovo regarding regional development and social cohesion and its interrelations with strategies, policy interventions and programmes for knowledge-based economy and society. The main resources used were: policy documents, reports from international organizations, secondary data from governmental institutions, independent and non-governmental organization as well as project reports.¹

The fieldwork includes focus groups with representatives from the government, business sector and research/HEIs. Three focus groups were organised in Albania (23 participants

¹ Full list of resources used for document analysis and secondary data analysis can be found in Annex 1 – List of Resources.

in total, one moderator and an assistant researcher to take notes and record) as per the three spheres: government, business and HEIs (research/academia). The participants were contacted from the list of institutions working on research and development per each country in cooperation with the EC funded Tempus Project on linking science and society for sustainable development and innovation². The aim of the focus groups was to evaluate the dynamics and the level of development of the Triple Helix in Albania and Kosovo. The analysis of the primary data from focus groups along with the interpretation of the policy documents mentioned in the desk research enabled the researchers to investigate the factors that enhance or hinder the role of higher education institutions in the encouragement of a ‘knowledge based - regional development’.

Secondly, during the fieldwork online semi-structured interviews were conducted with national and regional stakeholders (GOs, NGOs, think tanks and research centres; enterprises; local firms; chamber of commerce; HEIs) in order to investigate the extent to which “knowledge-based regional development” impacts social and economic disparities and the potential conflict between knowledge-driven growth and social cohesion. The list of stakeholders in knowledge-driven society and regional development was compiled in collaboration with the researchers working on the ConSus project.³ The sample for the online semi-structured interviews is 41 convenient-based sampling given the list of institutions involved and they were conducted in September – October 2014⁴. A total of 41 institutions were selected in Albania and were classified based on the type of institution and field of expertise or operation, for instance higher education institution offering programmes in architecture and urban planning such as Polis University. A total of 23 institutions were involved in the survey in Kosovo as well as three universities.

The online questionnaire was distributed through an online platform (izi-Survey) and the data was then analysed by the researchers. The questionnaire used for the online semi-structured interviews was composed of the following main sections: first, questions on the profile and areas of activity of the organisation/institution; second, the concrete involvement of the organisation/institution in sustainable development and innovation; third, collaborations with research and higher education institutions on issues related to sustainable development and innovation; fourth, the involvement of the organisations/institutions in the transfer of knowledge, research and development; finally, forms of outputs of the collaborations with research and higher education institutions⁵.

² The project ConSus - ‘Connecting Science-Society Collaborations for Sustainability Innovations’ is funded by the European Commission and led by the University of Graz, for more on the project visit the webpage: <http://consus.allafine.com/project.php>.

³ *ibid.*

⁴ See Annex 2 for the full list of stakeholders and participants in focus groups and online semi-structured interviews.

⁵ For more refer to the Final Report ‘Identification and Evaluation Network of Science –Society Collaboration for Sustainable Innovation’, Work Package 1, Tempus Project ConSus, available at <http://consus.allafine.com/project.php>.

4. FINDINGS AND ANALYSIS: KOSOVO and ALBANIA

4.1 Development of knowledge-based economy

4.1.1 The case of Kosovo

Given the trend toward knowledge-based economy, the Kosovar human capital is the nation's most important economic asset. The success of the Kosovar education system in developing high levels of attainment in the key competences represents an important determinant of future national economic development. Equal access to a modern education system is also a major factor in promoting equity and social welfare as well as raising the well-being of minority and disadvantaged groups. Improving educational standards stimulates economic development directly through its effect upon the productivity of workers. In addition, a more educated workforce is more flexible and adaptable, and thus are better able to respond to the changing needs of the Kosovar and European economies. Consistent with these arguments, Hoti and Adnett (2004) have shown that, at the individual level, the amount of schooling is a major determinant of both the probability of being in and retaining employment and the level of earnings in Kosovo – more educated individuals have higher probability of being employed and higher earnings. Moreover, higher levels of educational attainment in the population also stimulate local innovation and enterprise and crucially speed up the process of knowledge transfer.

A particular advantage to the Kosovar economy is that the successful promotion of key competencies stimulates self-employment and hence helps overcome some of the obstacles in job creation caused by uncertainty of political status and delayed privatization. Finally, higher levels of educational attainment increase the prospects of Kosovars competing successfully in foreign labour markets as well as their own. For all these reasons expenditure on education must be viewed as an investment, the returns from which will be faster economic growth. It is this characteristic which necessitates that the Kosovar Government prioritizes increasing total public and private sector expenditure on education.

Kosovo has faced severe economic and political challenges especially in the 1990s and has consequently gone through a longwearing reconstruction phase. Struggles still exist in many spheres; one of them being the stagnation of the educational system development. The country needs to focus on upgrading the current level of quality of education in order to stimulate employment, a competitive environment and socio-economic growth. The prevalent young workforce shows the potential the society has to progress and capture the model of knowledge-based economy by focusing all its efforts on developing its information and innovation systems. Investment in educational reforms and improvement of education policies will offer the opportunity to turn its human capital to economic advantage (Selmani et al., 2011). The Strategy for Development of Higher Education in Kosovo 2005–2015 (2004), prepared by the Ministry of Education, Science and Technology (MEST) envisioned an enrolment of up to 25% of the young population (18-24 years) in higher education; a number which was realized in 2010. Now the aim is to reach an involvement of up to 35% by 2016. In 2003 this number was as low as 12 %.

Up until now, however, Kosovo has used its human capital short of its potential. Weak institutions and institutional framework, lack of up-to-date teaching methods, lack of staff motivation, out-dated educational curricula and learning materials, among others are evidence for the low level of quality education greatly needed for human capital development in a knowledge society. The system still does not generate graduates that have acquired applicable knowledge, skills and critical thinking capabilities that are much in demand (Kefela, 2010). For a country to go along the lines of a knowledge-based society and economy it has to have a workforce that is able to apply knowledge to bring about innovation and react to new challenges. New directions for future growth have to be deployed to utilize the human capital resources and to create conditions for innovations systems.

The MEST is the highest regulating body of higher education in Kosovo, with the responsibility of planning and supervising the development of higher education and the research activity. It has developed its *Strategy for Development of Higher Education in Kosovo 2005–2015* (MEST, 2004) and with that set the main goals for education development. The Strategy aims to develop an efficient education system that contributes to long-term social and economic development by providing quality education and research, equally for all social groups. It most importantly aims to ensure Kosovo integration into European higher education. Initially, by bringing the education system in line with the principles of the Bologna Declaration, an important initiative, which is now in place. One of the main pillars of the Bologna Process, which the Government and MEST hence followed, is quality assurance and accreditation procedure. The accreditation process of Kosovar higher education institutions has commenced in 2008. Six strategic objectives were outlined: (i) Elaborating and implementing a contemporary and all-inclusive education policy and finalizing the higher education legislation; (ii) Advancing management and coordination in higher education; (iii) Developing the management system for quality in higher education; (iv) Increasing the capacity for research and scientific work; (v) Establishing mechanisms for the provision and efficient management of financial resources for higher education development; (vi) Developing a comprehensive and functional infrastructure for higher education. The majority of these strategic objectives have been realized.

ICT sector in Kosovo

One of the most promising sectors in Kosovo, which puts forward the necessity of adopting and constantly developing the education system to the needs of the economy, is the Information and Communications Technology (ICT) sector. ICT sector in Kosovo is relatively new, although the opportunities from this sector are significant. Kosovo has the youngest population nomenclature in Europe. Youngsters tend to be highly interested in ICT developments, and moreover their knowledge of foreign languages appears to be motivating for finding skilled labor force. Based on USAID (2007), the ICT sector has annual revenue of approximately 35 to 50 million Euros. Roughly 25 to 30 percent of this revenue is for IT services, the remainder for equipment resell, installation and related services. The sector is growing roughly 20 to 25 percent annually. Based on strategy of

Industry, published by Ministry of Trade and Industry in 2010, there are around 150 firms operating in this sector. According to the strategy, only a minority of these firms are software developers.

An USAID (2011) sectorial profile in ICT argues that the increasing number of vacancies for ICT professionals in Kosovo is reflecting the increasing progress of the sector, and with improvement of the education of IT specialists across public and private universities the general interest is on the rise. Moreover, according to USAID as the average salary levels are similar to those in the region and due to the high demand for ICT specialists in Kosovo there is no evidence of brain drain in the country. The same report argues that the average number of employees in ICT specialized companies has risen with almost 4 percent in 2010. According to a research conducted by the Kosovo Private Enterprise Program (KPEP) of the ICT sector, the companies operating in the ICT field are mainly young small to medium size companies consisting of less than 20 employees.

Still, ICT companies in Kosovo have to count in more expenses to accurately train their workforce. This is exactly due to the educational system, which does not bring out a qualified labor force for the ICT sector. The existing school/ educational programs are not in sync with the constant developments in the information technology sector. The STIKK together with international institutions intend to establish a research and development laboratory, which would assist and upgrade other sectors as well. Professional ICT trainings, such as CISCO, Microsoft and ORACLE have built up the skills of the workforce in Kosovo. An interesting fact is that there mostly are CISCO engineers per capita in Kosovo, which are all employed.

Regulation of the ICT sector is scattered between three ministries: The Ministry of Public Administration, which deals with e-governance, the Ministry of Infrastructure, which has a telecommunications department and the Ministry of Education, Science and Technology, which has a technology department, which deals with the technological development in the educational aspect. ICT companies are organized under the Kosovo Association of Information and Communication Technology (STIKK), part of the Kosovo Chamber of Commerce. The main objective of the Association is to support the development of a sustainable and prospering ICT sector in Kosovo that can be a leading force in increasing innovation, technology and competitiveness as well as facilitating job creation and exports across Kosovo's economy.

4.1.2 The case of Albania

The Albanian Government is addressing issues related to research, science and technology at the level of strategy and policy-making only recently, in line with the ambition to join the European Union and be part of the European Research Area. Between 2006-2013 the research system in Albania experienced some essential transformation with the introduction of policy, national strategies, programmes and action plans addressing higher education, research, science and technology and innovation. In this regard, research institutes, previously separated from higher education institutions and linked to line ministries, were reorganized and 12 Technology Transfer Centres and Agencies were created, having as their main mission the transfer of technologies and knowledge with technical support (ERA Watch Observatory, 2014). The development of a knowledge-based economy in Albania can be traced in various policy, national strategies, programmes and action plans, which focus on research, innovation, science and ICTs as key instruments for the economic growth and social progress of the country.

First, the establishment of new faculties of science and technology such as: (i) the Information Technology Faculty of the Polytechnic University of Tirana; (ii) the Faculty of Biotechnology and Food of the Agricultural University of Tirana; (iii) the Applied and Nuclear Physics Centre and Biotechnology Department of the University of Tirana. In addition, other specific programmes and curricula in higher education were introduced both in the public and private sector with a particular focus on ICT, innovation and entrepreneurship. In addition, a new Law on Higher Education was introduced in 2007 in line with the Bologna Process, which is currently under revision with the new Government as will be analyzed in the following section. Moreover, another element is the participation in the EC Framework Programmes, FP6 and FP7 and recently Horizon2020 and Erasmus+, particularly in areas such as infrastructure, transport, health and ICT.

Secondly, the *Brain Gain Programme* was launched in 2006 by the Albanian Government and supported by the UNDP aiming at attracting highly qualified scholars in the diaspora to return to Albania, but also to prevent brain drain in the future by providing incentives to remain in the country (Zeneli, 2012). In order to support human capital, the GoA established in 2008 the Excellence Fund to provide scholarships for young researchers and scientist to study at top universities abroad mainly for masters and doctoral programmes.

Third, the launch of the *Cross-cutting Strategy on Information Society* (2008 - 2013), aiming at coordinating the efforts towards information based economy. To implement the goals of the strategy, the *National Agency for Information Society* (NAIS) was established in 2007 to coordinate government activities in information technology and communication. In addition, for the first time in 2009 the *National Strategy for Science, Technology and Innovation* was launched (2009-2015), which establishes the instruments for designing the foundations of a functioning scientific research system in Albania. The strategy was based on the model of the national innovation system, which is also currently moving towards the Triple Helix model. The establishment of the *Albanian*

Agency of Research, Technology and Innovation (ARTI) in August 2009 aimed at improving policy implementation followed this. The role and functions of ARTI are now under revision with the introduction of the reform on higher education and research in Albania.

A dedicated government unit at the level of ministry was created for Innovation and ICT in 2010, namely the *Minister for Innovation, Information Technology and Communication*. In September 2013 with the new government this became the *State Minister for Innovation and Public Administration at the Council of Ministers*. In terms of the private business sector, the Business Innovation and Technology Strategy (2011 – 2016), including *Strategic Programme for the Development of Innovation and Technology of SMEs for the period 2011 – 2016*, was introduced in 2011 seeking to provide concrete support to SMEs by promoting the innovation process, improving technological capacity, and establishing an innovation system that will enhance interaction with institutions that support enterprises.

The new GoA, which came into power after the parliamentary election in 2013, marks a shift from the 8-year right wing government to a left wing coalition, which is currently introducing substantive reforms in various sectors such as education, health, justice etc. The Government has initiated in 2014 a reformation process of the higher education and research system in Albania with a particular focus on science and research development. The Government in line with the EU integration has reconfirmed the previous government stance on the importance of the R&D and scientific progress as the indication of the country social, economic, and cultural development, as well as a factor of democratic consolidation and EU accession perspective. The new government introduced some institutional recompositions of the line ministries and institutions supporting R&D and innovation in Albania, for instance, the previous Ministry of Education and Science is now composed as the Ministry of Education and Sport, the previous Minister of Innovation, Technology and Information Communication is now composed as the Minister of Innovation and Public Administration, the previous Ministry of Economy, Trade and Energy is now split in two ministries: Ministry of Economic Development, Trade and Entrepreneurship and Ministry of Energy and Industry. Though MES remains the key governing authority in the area of science and technology, other ministries such as Ministry of Economic Development, Trade and Entrepreneurship, Minister for Innovation and Public Administration and the Ministry of Social Welfare and Youth are engaging more in the area of R&D.

The NSDI (2007-2013) did not manage to grant funds for some of the key issues included in the programme such as Fund for transfer of technology and knowledge, Cluster programme; Incubation Programme; Research Infrastructure Programmes; Albanian Centres of Excellence Programme; Research Eagle Grants. In this light, the innovation policies towards addressing societal challenges, supporting research infrastructure in academia, supporting young researchers and innovative project from business and public sector still face major challenges. The new GoA has completed the evaluation and revision of the NSDI 2007-2013 and a new strategic document has been developed. The NSDI 2014-2020 proposes to increase funds for research through National Programmes

and International Programmes for Research and Development, (bilateral and multilateral), so that funding for this sector accounts for 1% of GDP in 2020 (NSDI, 2014-2020).

4.2 Dynamics of the R&D and innovation systems in Kosovo

Two laws regulate the scientific and research activities in Kosovo: the *Law on Higher Education* and the *Law on Scientific and Research Activity*. The Law on Higher Education regulates the principles of establishment and functioning of higher educational institutions and outlines their primary roles. The Law on Scientific and Research Activity defines the scientific and research activity in Kosovo, provides outline of the institutions carrying scientific and research work and the structures responsible for creating the national research policy. The law underlines the importance of continuous advancement of the scientific research activity. It also specifies the need to increase the amount of funds and the quality of research. Furthermore, it states the importance to create an appropriate environment for conducting successful research that meets the European and international standards. The final goal of the law on scientific research activity is to assure that the research outcome meets the requirements of the new technology and has a significant impact in the development of society and economy in Kosovo. The law also specifies the amount of annual funds that has to be dedicated to the activity of the scientific research. Article 7 writes, “*for the purpose of fulfilling the necessary conditions and providing the means, up to 0.7% of the Budget shall be allocated.*” Until recently however, only 0.1% of GDP, or €5.48 Million, have been allocated to research and development (MEST, 2010).

The research activities in Kosovo have only few other possibilities of being funded. Beside the state budget allocation, which is awarded to private, mixed and public scientific institutions, various donor organizations (international, bilateral, multilateral, domestic etc.) support applicative and developmental social science research projects. Organizations such as the World Bank, USAID, UNDP, OSCE, European Commission and other organizations represent the primary source of the majority of research published in Kosovo.

Taking into consideration the still low activity and engagement in research and technological development in Kosovo, the Kosovo Assembly approved the *National Research Program 2010-2015*. This Program sets the main priorities for the social and economic development of Kosovo and was developed by the National Research Council. It aims to create provisions for infrastructural investment, to increase participation in international scientific research projects and to establish an efficient education program for researchers. Moreover, it plans to improve the situation in the field of research and its linkage to higher education by increasing research institutions capacities and by initiating research in sectors of importance such as environment, health, food safety, social science, and ICT. The following objectives are outlined in the program: development of human capacity for research activities; development of research infrastructure; internationalization of scientific research activity; strengthening the links between science, society and economy for enhancing economic and social development; and

excellence in research and scientific activity (The National Research Program, 2010). The Assembly of the Republic of Kosovo approved the document and a budget of the amount prescribed by the National Science Program was allocated.

In view of the Horizon 2020, Kosovo will also need to strengthen its capacity to face new challenges. More specifically, an emphasis on research and innovation will enable the country to gradually meet the R&D and policy targets set by the EU. Kosovo's scientific performance is, mostly, substantially below that of the average EU country in both terms of quantity and quality. Technology transfer activities, such as technology licensing and spin-off companies, are rare in the country, and collaboration with industry tends to be driven by occasional opportunities and short-term goals rather than by strategic, long-term partnerships. Despite some substantive results, most of the achievements so far have been partial, small scale, and short-lived, with a strong influence from the political sphere. Fragmentation and limited coherence are observable even among initiatives supported by international donors. Progress has thus been slow in Kosovo.

Over the past two decades, Kosovo in line with the other Western Balkan countries experienced a massive brain drain and a deterioration of its research infrastructure facilities. Combined with inadequate recognition and promotion of scientific merit, these factors brought about a declining performance of research output. For research to become a meaningful input to economic growth, improving its quality is an important prerequisite. Kosovo can only improve its research base and conditions for research excellence by slowing down the brain drain, supporting a brain gain and investing in human capital; as well as providing access to modern research facilities and research funding. The country needs to invest in the adequate qualifications of its researchers and expand participation in higher education. Reforms promoting the mobility of researchers, within the region or other countries –such as adopting common PhD programs, diploma equivalence, and lower visa requirement for scientists–should be taken seriously and should be worked on. Universities in Kosovo need to continue their process of integration into the European Higher Education Area. The consolidation of research institutes also needs to be completed; meanwhile, broader reforms of the education sector would further support the research and innovation sphere.

Science and research have a minimal role in the economic development of Kosovo, similarly as in the other Western Balkan countries, which is not only contrary to the goals of European Strategy 2020 for transition to the knowledge economy, but also threatens the production capabilities of companies and their absorption capacities of foreign knowledge and innovation that are vital to the country's economic activity. The economic strategy of Kosovo with a strong reliance on capital inflows and external knowledge and de-industrialization resulted in weak and declining research sector characterized by low R&D investments, innovation-lacking business sectors, brain drain, as well as inadequate ICT utilization.

Kosovo's research systems differ considerably in research intensity, manpower, institutional complexity and performance abilities. It can be said that the institutional set up for R&D and higher education in the country is mostly in place, as well as research

policies and strategies. However, although it has established research and higher education systems, currently the systems require wide-ranging reforms in order to achieve satisfactory levels of scientific excellence and contribution of the research sector in the national economy. The research system is also in an unpleasant phase, due to the political and economic specificities of the country. For example, according to the data, the government of Kosovo invested, for the first time in 2010, €1 Million for research for public institutions.

The most critical part of the research system in Kosovo is the business research sector; where R&D investments are extremely low, showing a lack of interest for R&D and weak technological capacities. Although some minor R&D investment in the business sector has started, this is far below the investments needed to create a serious mass of researchers and resources for technological accumulation and knowledge-based innovation. The main problems in the research sector are: lack of manpower, low international and sectorial mobility of researchers, obsolete scientific equipment, weak abilities for university- industry collaboration and commercialization of research results.

4.3 Dynamics of the R&D and innovation systems in Albania

As part of its efforts to integrate into the larger European economy and research area, and in line with EU integration processes and the candidate status, Albania has undertaken a number of strategic reforms and has adopted policies aimed at developing its research, development, and innovation system. As noted by the World Bank assessment of the R&D in Albania, profound challenges remain in terms of research capabilities and innovation. Even though, various programmes have been implemented such as the Brain Gain Programme, Albania does not have a critical mass of specialized researchers, nor does it have sufficient infrastructure and funding for research excellence (Correa, 2013: 7). Another concern is that it is not adequately capitalizing on knowledge from skilled nationals abroad through enhanced innovation linkages, much less reversing migration trends by providing professionals new and better employment opportunities (Correa, 2013: 7). Other issues relate to research infrastructure, low levels of research and industry collaboration and funding.

In order to assess R&D capabilities in Albania, it is necessary to consider the following indicators: Expenditure for research; internationally recognized papers/publication; resident patents; technology transfers; research – industry collaboration. Even though the number of patents and international recognized publication in WBC is relatively low compared to the EU, production capability has improved in Albania, Macedonia and Croatia with technology upgrading and product differentiation in sectors such as food, furniture, clothing and footwear (Radosevic, 2014: 62). However, number of internationally recognized papers/publication and resident patents as well as technology transfer is low (Kutlaca, 2013). According to ERA Watch Observatory, most private companies in Albania are still in early phases of development, and the technologies and knowledge that are needed to grow their business already exist on the market. Thus, the approach has been mainly to import innovations. Albanian companies generally are not willing to spend much on R&D or in becoming partners in possible research projects with

public institutions.

The lack of public-private partnerships for research remains a critical weakness in the Albanian research system and one of the main policy challenges for the future of R&D in Albania. Most policies are aimed at developing research and scientific capacities of the higher education sector. However, the GoA has also introduced policies targeting the business sector R&D such as the launch of the *Albanian Business Innovation and Technology Strategy* (BITS) 2011 – 2016, to provide concrete support to SMEs by promoting the innovation process, improving technological capacity, and establishing an innovation system that will enhance interaction with institutions that support enterprises. In 2012 some of the *Business Innovation and Technology Strategy* (BITS) programmes were launched. For instance the public-private partnership ProTIK Innovation Centre, began operations fully in 2013 as well as Albanian Investment Development Agency. The Ministry of Economic Development, Trade and Entrepreneurship has revised the previous national strategy on business and investment development and is currently finalizing the draft ‘Business and Investment Development Strategy 2014-2020’. The strategy is in line with the program of the new Government, EU 2020 and SEE 2020 and focuses on a competitive Albania. The strategy is an important policy document, which engages to revitalize the Albanian economy through a dynamic entrepreneurship and productive industry, where ‘*an important part of the strategy is given to innovation and entrepreneurship culture for SMEs*’ (Draft BIDS, 2014).

Table 4: Key actors in R&D in Albania

Innovation-related government institutions
Governmental programmes and policy
Technology and Innovation Centres
Innovation Clusters
Technology and Science Parks
Business Start-up
Technology Incubators
Higher education and research institutions
International organisations

Similar to other post-communist countries, the funding of research system in Albania, has undergone significant transformations in the past 25 years, which were impacted by the structural changes in the economic system; the opening up of the research and innovation system and the introduction of the quality as a funding criteria (Radosevic & Lepori, 2009: 661). The R&D funding flows in Albania are principally from the state budget and small amount from the private sector. An increasing support is received from international organizations. The flows of R&D funding in Albania are as follows:

- State budget through Ministry of Education and Science through:
 - This is institutional financing allocated by the state budget to research institutions such as Albanian Science Academy, Albanian Institute of Statistics, other research centres of line ministries and public universities. The funding flows goes via the Ministry of Education.
 - Programme financing within the framework of the information society under the Minister for Innovation and Public Administration.
 - Bilateral programmes between the Albanian Government and other countries (e. Austria – Albania Science and Technology Fund; Turkey and Albania Research Fund) financed through ARTI and/or MES;
 - National Programme for Research and Development financing scheme through ARTI.
- International collaborations. International donors have been one of the most relevant sources of funding and support to the research and development in Albania such as: Austrian Development Agency; Swiss Agency for Development and Cooperation; The Research Council of Norway, the European Commission and World Bank.
- Private financing from the business sector, private universities and other organizations. The funding of R&D from international organization has, apart from the benefits, created new gaps between the local business and enterprise sector and the R&D.

Table 5: Albanian Government Expenditure on Education and Science

Albanian Government: Expenditure on Education and Science	2008	2009	2010	2011	2012	2013
% of expenditure on the education system from the total state budget	15,2%	16,4%	16,3%	15,6%	15,8%	15,4%
% of expenditure for research activities from the state budget in the field of education	1,3%	0,62%	0,5%	1,6%	1,6%	0,7%
Share of GDP for scientific research	0,4%	0,2%	0,2%	0,3%	0,3%	0,1%

Source: Era Watch and Open Society Foundation for Albania, Monitoring Draft Budget 2014

According to the Era Watch Research Policy Observatory, it is estimated that in 2012 the Albanian Gross Expenditure on R&D was close to 15m Euro, which represents only 0.04% of the GDP, i.e. the lowest in Europe and far below the Lisbon target of 3%. R&D is concentrated primarily in the public sector, higher education and line ministries of the government. According to UNESCO statistics, 52,1% of the R&D was performed by the public sector and 47,9% by the higher education and research centres under the auspices of the MES. In terms of funding, UNESCO data indicate that 80.8% of R&D is funded by the government sector, with 8.6% supported by higher education, 7.4% from abroad and 3.3% by business enterprises. It is estimated that the gross business enterprise expenditure on R&D to GDP in Albania is approximately 0,00025% (Era Watch Observatory, 2014). There is a growing pattern of R&D performance in the private sector, particularly in private universities, non-governmental organization as well as companies focusing on innovation.

For the period 2010 – 2012, there are seven National Programmes of Research and Development. In terms of expected funding for the period 2010-2012, the programmes for ITC and Agriculture, Food & Biotechnology received more than a fifth of the R&D funding, whereas the next four priorities received around 12-13% of the funding.

Figure 1: National Priorities for R&D Budget

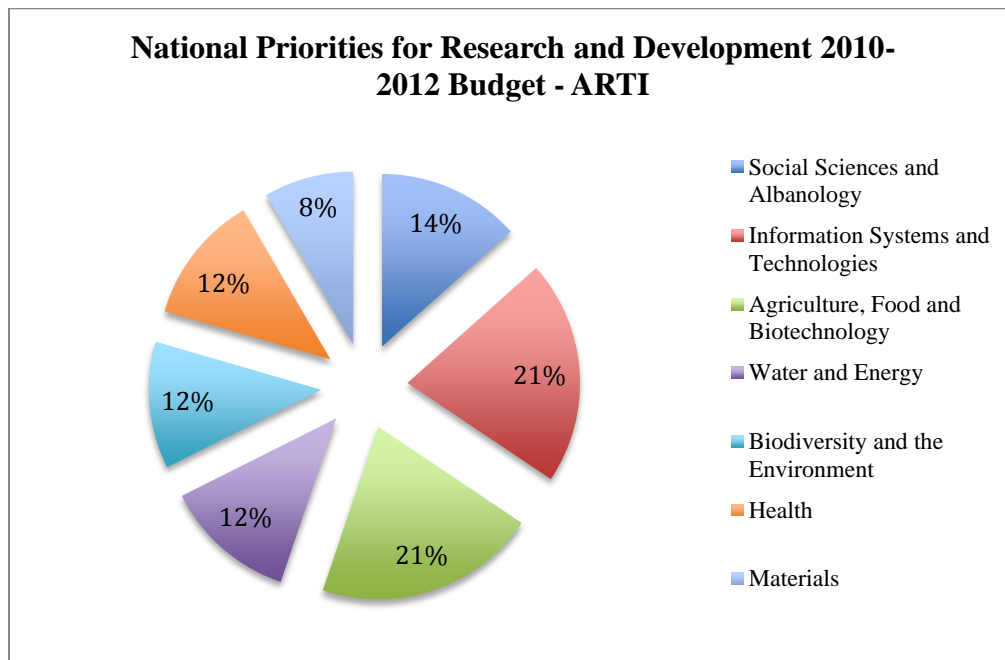
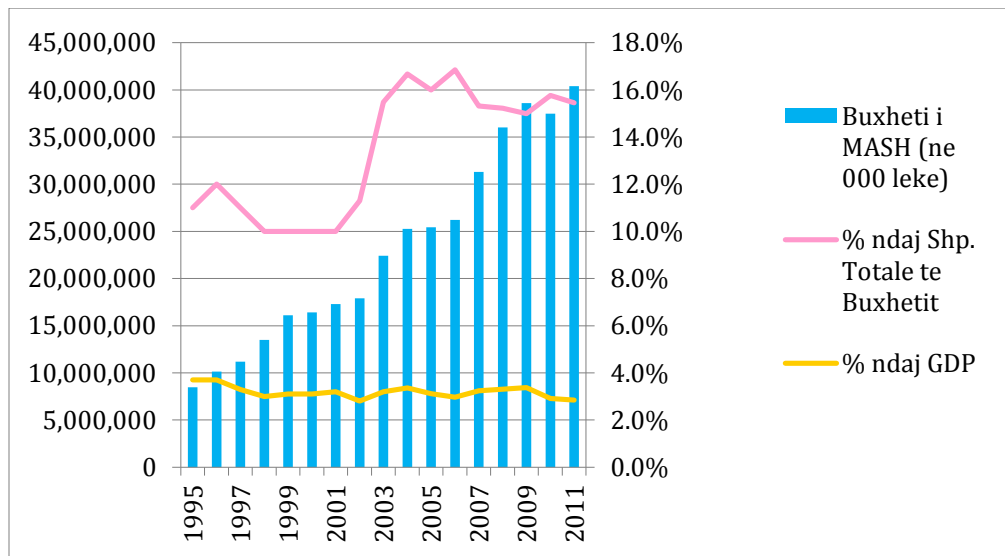


Figure 2: Albanian Budget for Education System 1995-2011



Source: Open Data Albania 2014 based on World Bank; Ministry of Finances and Bank of Albania

The R&D policy in Albania is based on the *National Strategy for Science, Technology and Innovation* and the soon to be introduced *Law on Higher Education and Research*. Even though the aim of the strategy is to introduce competitive funding criteria for policy instruments in R&D and innovation, this has not been achieved so far. The new *Law on Higher Education and Research* seeks to remedy this and provide a new funding scheme for higher education institutions and research in Albania. The budget for higher education represents 14,8% of the overall budget for the Ministry of Education and Sports, whereas the science fund represents only 0,45%. The total budget for education sector, including the vocational and professional education, for 2015 represents 2.75% of the GDP and 8,9% of the total budget expenditure for 2015. Despite the slight increase in the state budget for MES, the share for higher education and science/research is still low.

Table 6: Ministry of Education and Sports Budget 2015

Ministry of Education and Sports	Total Budget Expenditure for 2015 in 000 ALL
Total	39,049,980
Planning, management and administration	805,730
Basic education	24,887,628
Secondary general education	6,879,263
Higher education	5,797,590
Science Fund	177,000
Development of Sports	502,769

Source: Ministry of Finances, State Budget 2015

The Prime Minister created a Commission for the Reformation of Higher Education and Scientific Research in early 2014. The commission introduced a First Draft Report on the Reform of Higher Education and Scientific Research in Albania in spring 2014, and upon consultation with stakeholders, a final version was launched in July 2014. The Commission then developed a draft law on Higher Education and Scientific Research in Albania, which is currently still under discussion in the Parliament. Some important changes regarding science and research proposed in the new reform and which most likely will go through are:

- The establishment of the National Agency for Financing Higher Education, which will allocate funds to the higher education institutions in terms of: institutional support fund for the public HEIs; Scholarships and Support fund for students; funds for scientific activities, research and development.
- ARTI will be transformed into the National Agency for Scientific Research, composed of academics and managers elected by MES. The main function of the Agency will be the allocation of funds for scientific activities, research and development based on a competitive application process for all HEIs in the country and scientific performance indicators. The Excellence Fund for doctoral programmes will be managed by the agency.

Progress has been made in terms of regional and international cooperation in research and development. Two main policy papers have been drafted, in which the Albanian Government engages to cooperate with UN organizations and address a regional approach to R&D and innovation policies. These main documents are expected to potentially affect the R&D policies towards a better integration with the regional priorities and access more international support as regards support measures. The two papers are:

- Albania – United Nations Programme of Cooperation 2012-2016 represents a common action plan for 20 UN agencies with the Government of Albania for the coming five years. The programme substantiates the UN's contribution to national priorities and outlines a series of expected results in four priority areas: Governance and rule of law, Economy and environment, Regional and local development, and Inclusive social policy.
- Regional Strategy for Research and Development for Innovation for Western Balkans represents the regional strategy, as analyzed above.

4.4 Triple Helix model in the case of Kosovo

As seen above, The Triple Helix model of university-industry-government relations was perceived as mostly irrelevant to the Western Balkan countries, and particularly the underdeveloped Kosovo, because of well-known deficiencies of the three aspects of the model, such as low scientific capacities both in the private and the public sectors, low R&D investments, absence of high-end technologies and the lack of strategic innovation governance. The recent *“Triple Helix Systems of Innovation”* concept introduces a new concept by bridging key features of the Triple Helix model with the innovation systems theory as discussed above and is thus relevant to a certain extent in Kosovo as well.

Kosovo in terms of Triple Helix interactions is under a statist regime of Triple Helix model (Triple Helix I), where the government plays the chief role, driving university and industry, and even this regime is irregular. A move towards a Triple Helix II model (led by industry) is thus inevitably a great challenge. The main obstacles come from the deficiencies of the production sector, which is mainly low-and medium-tech and rarely cooperates with the research sector. Large and un-reformed state-owned companies that are just partially exposed to market competition, which in turn would force them to innovate, dominate the economy in Kosovo. A small number of SMEs have been established in traditional sectors, which are not based on R&D and innovation, and consists largely of micro companies with less than 10 employees having modest capacities to perform or absorb research.

The transition to a balanced model (Triple Helix III), which is characterized by interaction between knowledge-producing institutions, industry and government, might thus sound unrealistic. However, it could prove a viable objective if intended as a process where universities could take an active, if not leading role, by strengthening government-university and university-industry interactions. Since companies are not able to create advanced technology and apply competitive technologies, room for universities is created to become more involved in the transfer of new knowledge and innovation for the needs of the industry. Government support, or a stronger government-university interaction, is crucial in achieving this goal, and could have an amplifier effect by further strengthening the university-industry link. Although such a model is still far from the balanced model of Triple Helix III, it could be seen as a forerunner, giving universities a chance to fill the gap and overcome the drawbacks of an undeveloped and inefficient production sector and government sector. Nevertheless, even though universities could have a lead role in certain technological advanced sectors, the core of economic activities remains within the business sector. Therefore, one of the most essential steps towards implementation of the Triple Helix system in Kosovo is to adjust the economic strategy to revitalize industry and improve technological competences of companies and allow universities to take a facilitating position. The Ministry of Trade and Industry has initiated a project/collaboration with the private university Universum and a couple of NGOs to tackle the topic of Triple Helix model and its application in Kosovo; however, nothing concrete has started yet.

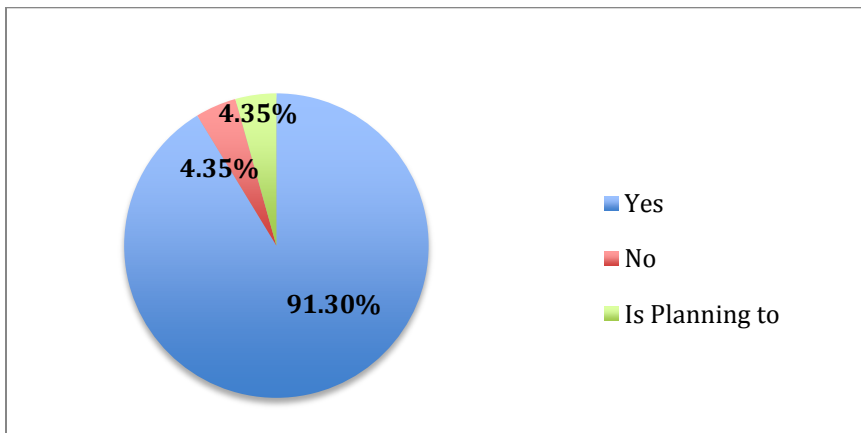
The quantitative and qualitative data collected from the survey (total sample of 23 stakeholders in Kosovo) helps to analyse the relevance and challenges of the Triple Helix model in Kosovo particularly in terms of sustainable development and innovation in the context of a knowledge driven economy. Terms such as innovation, sustainability and cooperation for a sustainable future have found their way in our everyday vocabulary, but there seems to be a lack of adequate knowledge of their true meaning. For the purpose of this survey, we have defined sustainable innovation as “*innovation of/with more sustainable techniques, materials, less energy consumption, etc.*” (Jorna, R. 2004) The definition was not meant to serve as a limitation for the respondent, but rather as a guide to assist them in answering our questions. According to the questionnaire, the majority of stakeholders do not have a clear understanding of sustainable innovation. In particular, the majority of stakeholders see sustainable innovation as one dimensional, meaning that

it only concerns the environment. Similarly, in a separate questionnaire conducted with professors and students of three higher education institutions in Kosovo, the respondents showed a lack of knowledge regarding the topic. Below, we have summarized the responses regarding sustainable innovation and have interpreted some of the more noticeable findings, which are of importance for this project.

The lack of understanding regarding sustainable innovation should not be seen as deficit, but rather as an opportunity to further develop the cooperation between the science and society in order to help sustainable innovation in Kosovo. In reference to the questionnaire, 100% of the stakeholders want to be involved in sustainable development and innovation. Similarly, in a separate questionnaire conducted with professors from the partner universities, 94% of them showed their readiness to become involved in sustainable development and innovation, while 6% answered negatively.

One of the main findings regarding this research has to do with the fact that 91.30% of the stakeholders said their organization is involved in sustainable development and innovation, while 4.35% said they are planning to be involved. Only another 4.35% of the stakeholders are not involved in sustainable development. Their responses are important because they are not positively correlated with their awareness for the subject. One could conclude that stakeholders are mainly focused on the environment and see sustainability from that perspective only. This is an area where society could cooperate with science in order to establish a broader definition of sustainable innovation that pertains to Kosovo and that could be included as part of the academic curriculum. Furthermore, this collaboration could educate entrepreneurs and businesses in Kosovo to see innovation as means to increasing their profit and gaining competitive advantage, rather than as constraint that inhibits their ability to grow.

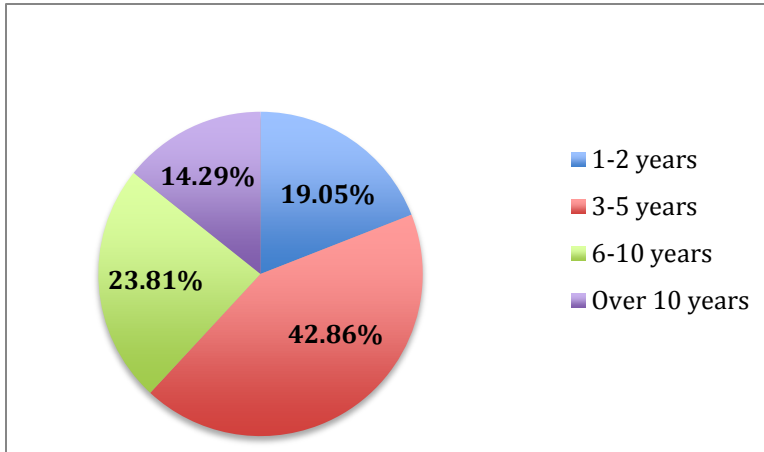
Figure 3: Kosovo - Organisation involvement in SD & Innovation



As mentioned previously, sustainable innovation is a new term, and as such, one should not be surprised with the answers given by the stakeholders. In total, 61.91% of the stakeholders have less than 6 years of experience with sustainable innovation, while 23.81% have 6-10 years of experience. Only 14.29% of the stakeholders have over 10 years of experience with sustainable innovation. Nonetheless, the experience in the field

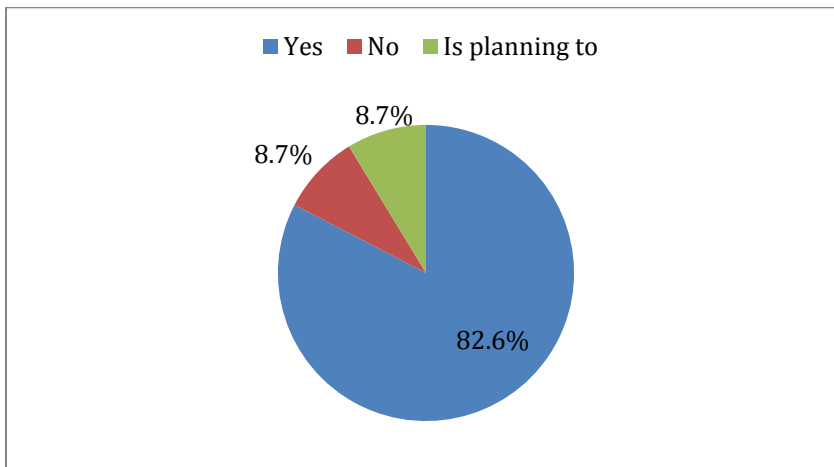
of sustainable innovation has to do with the fact that Kosovo is a young state whose economy was destroyed 15 years ago, thus, one would expect for the development of the infrastructure to take longer.

Figure 4: Kosovo - Length of stakeholders' involvement in SD & Innovation



In the case of stakeholders who answered the questionnaire, 82.6% of them are involved in sustainable innovation projects, while 8.7% plan to be involved. Only 8.7% have no involvement with sustainable development and innovation projects. However, it should be mentioned that the majority of stakeholders are involved in sustainable development and innovation through internationally funded organizations that are mainly concerned with public awareness in regards to energy and environment. We do see an opportunity for the stakeholders to cooperate in order to involve the business community and government as well.

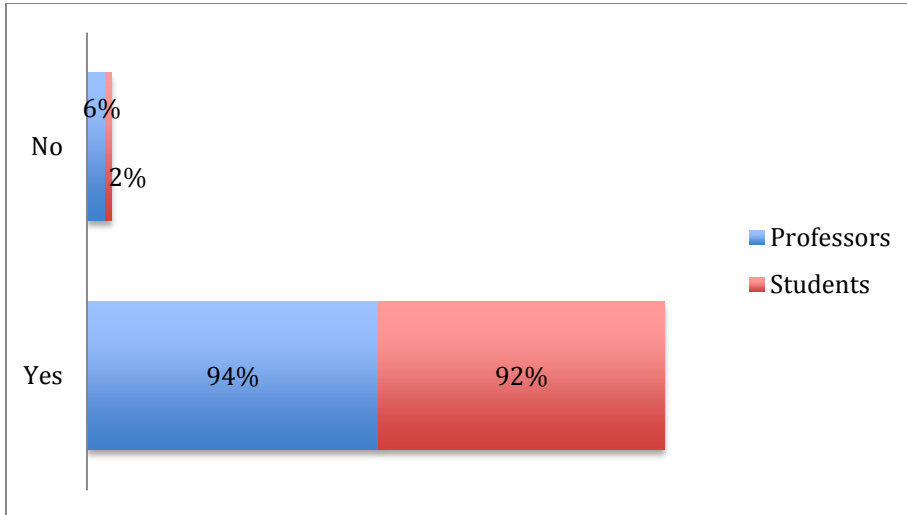
Figure 5: Kosovo - Organisations' involvement in SD & innovation projects



The questionnaire was conducted also with professors and students from three higher education institutions: Universum College, Riinvest College and University of Peja (Haxhi Zeka). The number of respondents was 71, composed of 32 professors and 39

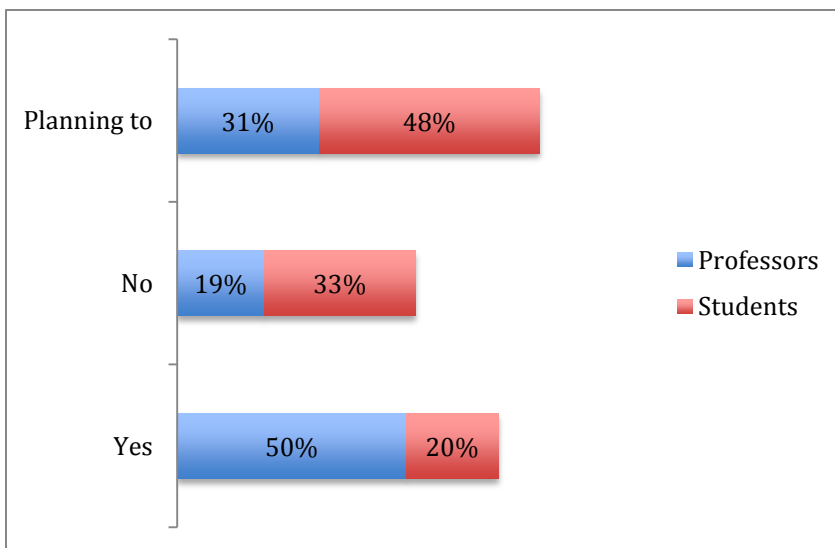
students. Regarding the question “Are you interested to become involved in activities / initiatives / networks that examine and address issues of sustainable development and innovation?” the majority of professors and students gave a positive answer. In total, 94 % of the professors showed their will to become involved in sustainable development and innovation. In addition, also 92 % of the students gave positive answer, whereas 8% of them did not show any interest to get involved in sustainable development and innovation.

Figure 6: Kosovo - Professors and students interest to be involved in SD & Innovation



Furthermore, based on the findings, 50 % of the professors said they are involved in sustainable development and innovation, whereas 31 % of them indicated they are planning to get involved. On the other hand, 19 % of them are not involved in sustainable development.

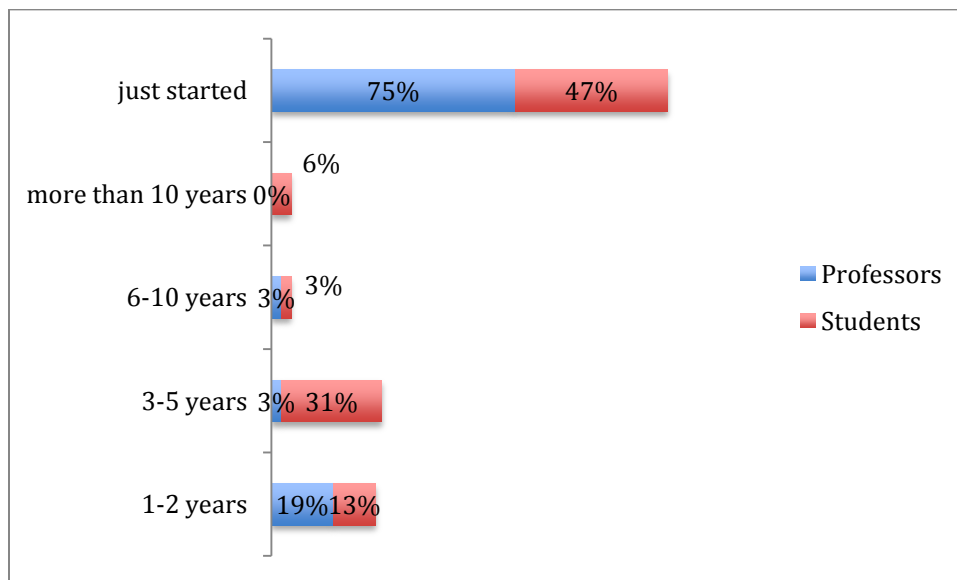
Figure 7: Kosovo: Current involvement in SD & Innovation



Even though it was a high percentage of professors that confirmed that they are interested to become involved in sustainable innovation, the percentage of professors that are not involved in these activities is high yet. The reason of such results might be that still they do not have a clear understanding of what sustainable innovation is. The majority of the professors associated the term with energy, using natural resources without having a negative impact in the environment, using different teaching methods in their institutions in order to increase productivity, increasing the number of projects with the aim to cooperate with other institutions, etc. Only few of them indicated that sustainable innovation involves a combination of environmental, societal and economic impact. Conversely, only 20% of the students said that they are involved in sustainable development, whereas 48% of them stated that they are planning to become involved and 32% of them are not involved in sustainable development and innovation. In addition, students have lack of understanding what a sustainable innovation is. They just relate the term of innovation such as new ideas, lack of innovation in Kosovo, etc.

Surprisingly, with regard to the question “For how long have you been involved with topics concerning sustainability and innovation”? 47% of professors said they just started to get involved with the topics concerning sustainability and innovation, whereas 44% of them have less than 6 years of experience and 3 % of them have 6-10 years of experience. Only 6% of professors have over 10 years of experience with sustainability and innovation. These findings confirm that the majority of the professors have less than 6 years of experience with sustainability and innovation. According to this fact, it might be concluded that even though the term of sustainable innovation is getting more and more widespread in our society, there is a room to get improved in this aspect.

Figure 8: Kosovo - Duration of involvement in S&D and innovation

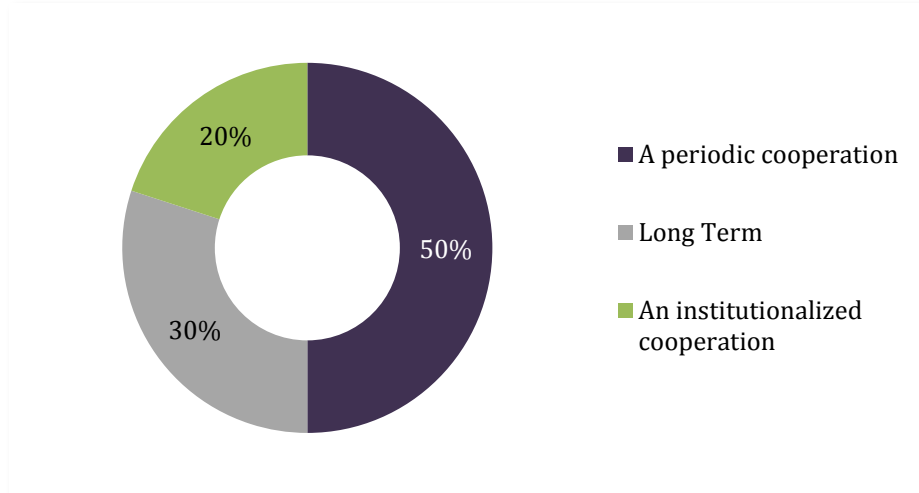


On the other hand, the findings are not surprising with regard to students due to the fact that they have lack of knowledge about this term. In total, 75 % of them said they just started to be involved with sustainability and innovation, whereas 19 % of them have less than 3 years of experience and only 6 % have less than 10 years. Generally speaking, these findings imply that there is an immediate need for more opportunities to involve sustainable innovation issues at a higher education and emphasizes its important role in our society. In addition, as a recommendation, Universities should offer more programs and courses that are practical oriented and treat innovation issues. Moreover, Universities should also cooperate with society actors in order to increase the importance and the number of sustainable innovation.

One particular section of the questionnaires for science and society actors as well as for students is the issue concerning collaborations in the field of sustainability and innovation. Initially, the questionnaire sought to get a picture of how the different actors understood the term of collaboration. Partnership for common goals and interests and a relationship initiated for the purpose of benefiting two or more parties involved is the shared opinion on the term. Collaboration should preferably be long-term and incorporate the component of sustainable development. According to one respondent “*Collaboration is when institutions or individuals unite their strength and expertise to promote a certain project that aims for sustainable development*”. Generally, a real collaboration that brings together serious and interested actors leads to a project or initiative that is stronger and more sustainable. For an organization to function properly, to produce its output a healthy cooperation is needed not only internally within the organization, but also with other organizations, public institutions etc. This cooperation with external actors from different spheres facilitates the realization of objectives and of projects; hence, it is perceived as a key component to the development and success of an organization. One interviewed stakeholder sums up the interpretation of the concept, in line with the beliefs of all other stakeholders “*Collaboration is the ability to identify and act in partnership with the parties that have similar interests to those of your institution and join forces to achieve greater results, which are sustainable to time*”.

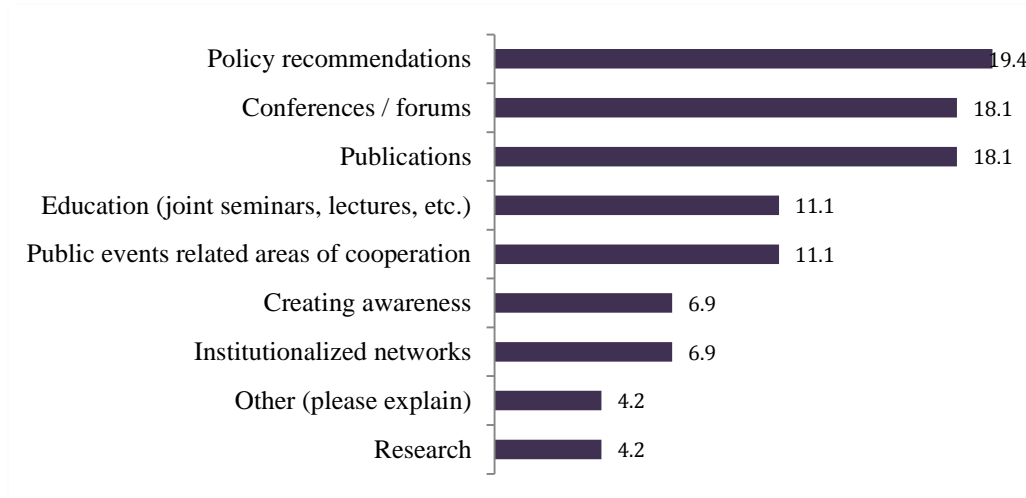
As the results further indicate, a majority of about 95% of the interviewed stakeholders declared to actively collaborate with universities or research institutes on different matters, and only the remainder of roughly 5% admitted to no collaboration of any kind. When asked about the type of cooperation with the universities or research institutes, half of the interviewed stakeholders revealed periodic and rather short term collaboration, whereas 30% affirmed a long-term collaboration and only 20% are committed to institutionalized and established cooperation.

Figure 9: Kosovo - Cooperation with university and research institutions



As expected, these collaborations are stated to mostly be in the field of sustainable development and innovation, with around 83%. Further, the questionnaire asked about the sought results of these collaborations, in order to understand the reasons for such initiatives. The most stated goals from the collaborations are the preparation of relevant policy recommendations (around 19%), publications, as well as conferences forums (both around 18%). The figure below shows all results.

Figure 10: Kosovo - Results of collaboration science-society



Even the institutions, which do not have any collaboration with universities or research institutes, are very much willing to change that and establish some kind of cooperation. Namely, about 95% show enthusiasm and the remainder are not totally disinclined, with about 5% answering the question with maybe. The willingness to collaborate stems from the belief that the scientific institutions can truly contribute to society. This contribution is mostly sought in the forms of staff training, training and collaboration on project proposal drafting, training in the use of different software, sharing of expertise,

experience, laboratories, market information and similar activities. As proclaimed in one of the interviews “*Scientific expertise is, what we as a research institute lack, so we see a functioning cooperation as very helpful to us*”. In this regards, scientific institutions have a very important role in contributing to social institutions. Science can provide institutions with new methods that can be applied to different fields and can be put into practice by these institutions. Regardless of the intensity of collaboration with scientific institutions, all interviewed stakeholders agree that scientific institutions can build the best platform to serve the society and institutions and can also directly affect development and innovation of the work of these institutions. This becomes quite relevant when considering the funds available by the EU for research and development and the opportunity these funds can give to scientific institutions and in turn to social institutions as well.

However, not only scientific institutions can contribute to society institutions; the former can also largely gain from the society institutions. Transfer of know-how, training of students and the financing aspect are very important to the existence, success and development of any scientific institution. Fieldwork and market analysis can serve as valuable, direct and accurate information for scientific research, which is more difficult for the scientific intuitions to conduct on their own. Moreover, joint programs of the institutions can serve the scientific institutions and their curricula greatly, turning every program into a more applied contemporary program. This is more attractive to students and serves the market needs and the institutional demand for research. Contribution through financial support; preparation of joint research and development projects; and different opportunities on the professional development of students (through internships, etc.) is what every scientific institution should seek.

There are many positive aspects of science-society collaborations that the stakeholders are aware of and seek to capture. It is not only perceived as merely exchange of knowledge and its application in specific projects, but it is considered the only way to develop strong policies that support sustainable human development in Kosovo. A science-society collaboration has the capacity to provide the best conceptual solutions to contribute to the improvement of social welfare of citizens. A combination of analytical studies with first-hand information and on the field experience makes science-society collaboration so important and needed. Besides, the exchange of expertise and the sharing of resources, the cooperation of the two sectors dictate the most efficient division of roles in generating and applying Innovations. Science-society collaboration contributes significantly to sustainable development of a society by promoting mutual learning of innovative sustainable methods and approaches. “*As is widely known, the coordination of market needs with science and teaching methods/approaches is essential for any economy to grow and prosper*”, as put by one of the stakeholders.

Concerning the issue of collaboration, also the stakeholders from science where asked what in their opinion and connected with their area of expertise science-society collaboration is. Generally, science-society collaboration is considered to be scientific research (from research institutes) that addresses issues that affect the life of a society and creates tools or methods to fulfil these needs. Also, it is the task of science to acquire

knowledge on each occurrence / scientific development and assess how they affect everyday life and human activities. Scientific institutions provide society with the information necessary to function more efficiently. Scientific Institutions regulate society, either by being directly involved in decision-making, or by acting as a counsellor of decision-making. Science-society collaboration is the transfer of theoretical knowledge and research findings in practical solutions for others. It is through the financing of science by the business sector/society that necessary social research can be conducted, the results of which can in turn be used for social development. According to one interviewed university professor: *“This kind of collaboration is almost inevitable for an advanced society, for the sole reason that science can help society, in understanding ideas, implementing projects and developing as a whole”*.

In Kosovo the collaboration of science-society is still limited because scientific and educational institutions are not sufficiently developed and work in an unstable political and academic environment. Due to this the trust in institutions is not sufficient and even initiatives to increase cooperation are lacking. The predominant collaboration is short lived, with simple research reports, which conclude in joint publications and conferences. Even though there is a perceived increase of science-society cooperation, it is quite insignificant and at a low level. Nevertheless, it will become a necessity to achieve sustainable development. The links that are currently being used in Kosovo are only networks between research institutions and universities, which are insufficient to support innovation. Meanwhile, links to support innovation more significantly are the links between research institutions and the industry, meaning direct cooperation in product development and innovative processes. This means that science and society have a very close cooperation, and knowledge transfers to bring about concrete results needed in the industry. Science-society collaboration is effective when research and its findings are used and commercialized by enterprises and find use in society. Essentially, science and education institutions have a mission to distribute and share knowledge whereas society is the one to benefit from it the most. This has become evident from the interviews with both types of stakeholders, which have revealed conformity of opinions and beliefs.

4.5 Towards the Triple Helix model in Albania: Relevance and challenges

The stakeholders involved in the focus groups and in the online questionnaire come primarily from three main areas of activity in Albania: (i) socio-economic; (ii) environment and urban planning; (iii) agriculture and food. These cover various specific issues such as local governance, human rights, good governance, infrastructure, urban planning, education and research, agriculture, creative industries, cultural and historical heritage, environment, technology, public health, architecture and structural design, energy, culture, public diplomacy and other. The stakeholders included in the survey represent the two helices of the Triple Helix model, i.e. the universities/research and the private sector, i.e. business and industry. Whereas in the focus groups representatives from the third helice, the government sphere, were also included.

As expected from the survey of the literature and policy documents in the WBC and more concretely in Albania, knowledge-based economy, regional development and innovation have emerged as priority policy issues. As such, the vast majority of the stakeholders

confirm that their organisation/institution is currently involved in activities related to sustainable development and innovation, for instance 67% of the socio-economic stakeholders declare to be currently working on sustainable development; 84,6% of the environmental stakeholders work on issues of sustainable development and innovation in area such as urban planning, architecture and design, landscape and environment, technology and materials, energy, water and pollution; 78% of the agriculture stakeholders are involved in issues of sustainable development and innovation in areas such as plant protection, environment and ecology, aquaculture and fisheries, technologies and materials, food and biotechnology.

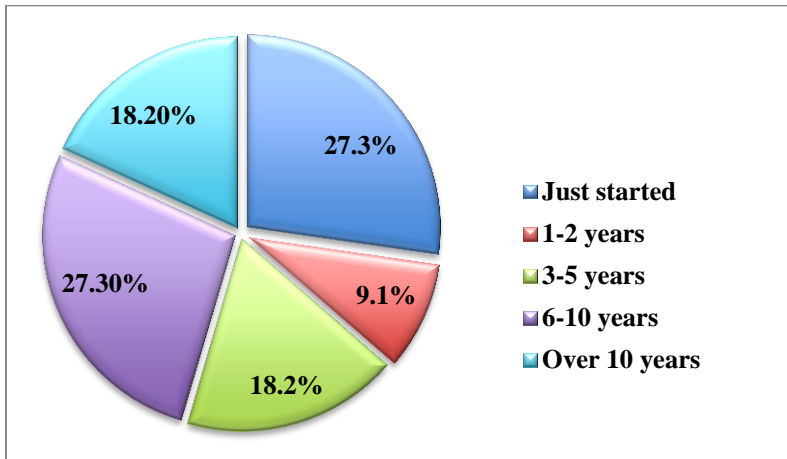
As far as the collaborations with research and higher education institutions on issues related to sustainable development and innovation, the type and frequency of collaborations differ across the different sectors. 33% of the stakeholders from the socio-economic sector confirm established collaboration with the research/higher education sphere. This is mainly done in the form of common activities such as conferences, roundtables, workshops, joint publication or awareness raising campaigns. For instance, the European University of Tirana has initiated various activities to promote the research-business cooperation in Albania such as: A series of roundtables on 'New ideas from academia for new entrepreneurship'; establishment of Labour Market Boards in each department to link study programmes to the market demands; establishment of a Centre for R&D and Consulting; prioritizing the university profile as a business university, i.e. working closely with businesses to develop curricula, conduct research, work placement and internships for students; common grants for R&D projects etc. Regional universities such as F. S. Noli University of Korça seek to work in the same direction, but by focusing on local businesses and development issues. However, indicators for concrete outputs and impact are yet to be fully established and measured. Whereas in the area of environment and agriculture as well as electronics and technology (Polytechnic University) are to some extent more identifiable.

In this sense, more than 70% of the environmental stakeholders have in place established collaborations with the research/higher education field and 18,2% of which have been established for more than 10 years as shown in Figure 3 below. In addition, the findings from the focus groups reveal that the collaboration research-business in the field of environment and urban planning has been successful in influencing the government policy as well. For instance Co-PLAN, the Institute for Habitat Development, which works with the POLIS University. Co-PLAN is a non-profit organization established in 1995. The research and consultative work of Co-PLAN built upon four expertise areas: Spatial Planning and Land Development, Urban and Regional Governance, Urban Environmental Management, with Research constituting a cross-cutting, shared feature by all three teams. Co-PLAN has worked closely with the GoA, supported by international donors, for instance the current project on The Regional Development Program (RDP) in Northern Albania, funded by Austrian Development Agency (ADA).

Upon the successful experience of CO-PLAN, POLIS University was established in 2006 with programmes focusing entirely on Architecture, Urban Planning, Environment and Energy. The institutions now work closely in research and development in the area of

architecture and environment as mentioned above. Currently, the Institute for Research and Development at POLIS University coordinates activities with the Faculties which carry out scientific research in service of the academic process through 2 specialized units: MAD Center & Gallery (Multimedia, Art, Design); and SUST_Lab (the Laboratory of Environmental, Structural, and Energetic Sustainability). This model can be seen as the first attempts of the functioning of the Triple Helix in Albania in the field of environment, urban and spatial planning and energy, where research, government and business have created spaces for interaction and collaborations for sustainable development and innovation.

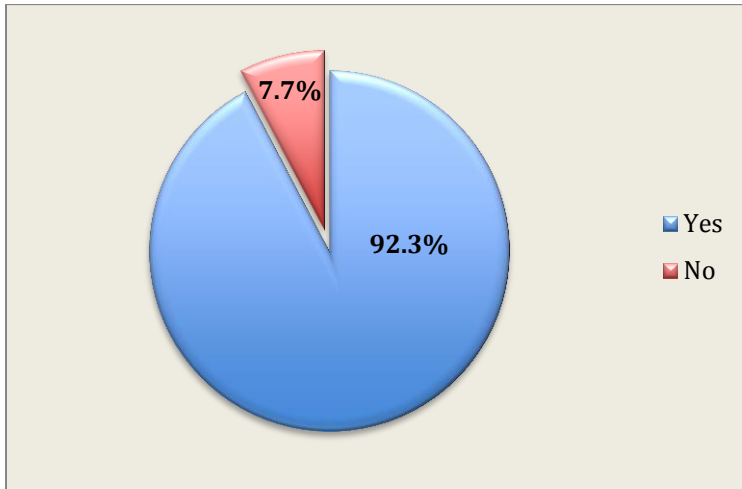
Figure 11: Collaboration research and business in the environment area



What is more, the Agriculture University of Tirana (UBT) has now established a legacy of successful cooperation with the government and the business sector. For instance, some key stakeholders are: Department of Plant Protection (National Laboratory of Plant Protection); Department of Aquaculture and Fisheries (Laboratory of Aquaculture and Fisheries); Department of Agro-Environment and Ecology (Laboratory of Environment); Faculty of Biotechnology and Food (Laboratory of Food Research. The rationale behind such identification was the existing and pending links of such entities with industry and society. The survey shows that the first three entities in the list have already established links with the industry whereas the Faculty of Biotechnology and Food, in view of legislative modification, foresees promising activity in that connection. UBT has been actively participating in EC funded projects such as Tempus, Erasmus Mundus and IPA. What is more, 25,5% of the projects funded by ARTI in 2010 were developed by UBT as per the ERA Watch observation.

The survey shows that when it comes to the involvement of stakeholders in transfer of knowledge and R&D, the highest level of involvement comes from the environment stakeholders both from science and business sector with 92,3% as shown in Figure 4 and then followed by the agriculture sector with 89%.

Figure 12: Involvement in knowledge transfer and R&D in the environment sector



The socio-economic stakeholders from both the science/research and business sector are less involved in the transfer of knowledge and conventional R&D compared to the environment and agriculture sectors. However, the interest is increasing as shown in Figure 6.

Figure 13: Agriculture sector involvement in transfer of knowledge and R&D

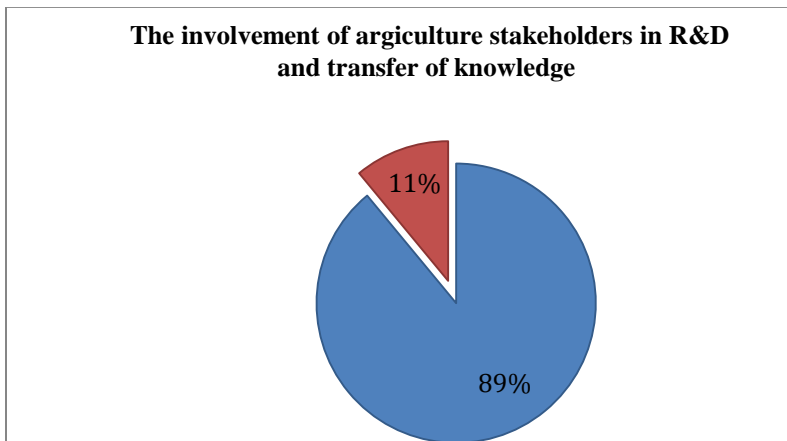
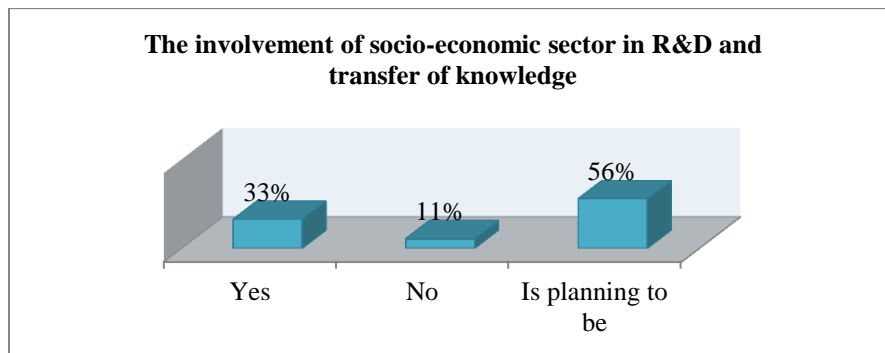


Figure 14: Socio-economic stakeholders involvement in knowledge transfer and R&D



The findings from the focus groups highlight that the most important actions to improve research and business collaboration are:

- Improvement of the dialogue between stakeholders; Establish dialog and communication between science and industry by using a variety of instruments such as thematic workshops, brokerage events, mobility schemes to foster science and industry cooperation;
- Strengthening research and business collaborations through funding mechanisms for companies to projects to higher education institutions (PhD projects) and research centres;
- Provide strategic Innovation consultancy to SMEs and establish an innovation coaching scheme to train entrepreneurs on innovation management;
- More funding for knowledge/technology transfer activities and expert consultations and more funding for collaborative research between universities and businesses

When considering the role of the stakeholders in the R&D system, the participants in the focus groups argued that the most important stakeholders are: SMEs; professional and industrial association (Business Albania, AITA); universities and research centers. Whilst state and local regulations as well as expert assistance, seem critical for innovative performance today, investment in human resources and in infrastructure emerges as crucial to enhance cooperation in the future. In addition, research and business strengthened communication is necessary to build a common agenda for applied research with social-economic relevance that fits to the Albanian context. Suggested instruments by the stakeholders in the survey are:

- Investment in knowledge and technology sharing, expert consultations and collaborative research;
- Decrease in regulation;
- Strengthening of human resources;
- Improvements in infrastructure (including ICT);
- Building awareness on innovation benefits;
- Fostering mobility;
- Enhancing communication between different stakeholders.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Concluding remarks

The stakeholders from the socio-economic, environment and agricultural sectors involved in the focus groups and survey for this research project confirmed their interest in sustainable development and innovation in principle through collaboration between government, research and business/industry sector. The majority of them have already initiated activities and collaborations in the field of sustainability development and innovation with the highest level of activities and collaborations from the stakeholders working in environment issues. The forms of the output of such collaboration are common projects, institutionalized networks, publications, conferences and policy recommendations as well as awareness raising campaigns. However, the transfer of knowledge and R&D in the sustainable development and innovation is less applied among socio-economic stakeholders than environmental and agriculture stakeholders. The latter apply a more active approach when it comes to the transfer of knowledge in the sustainable development and innovation as well as R&D activities, compared to socio-economic stakeholders. This report though does not have data from other sectors such as electronic, information technology, construction etc., which would be interested to explore the frequency and type of collaboration in the Triple Helix and impact on social and economic disparities.

5.2 Recommendations

Based on the survey of the literature, focus groups and online questionnaire, the following recommendations are drawn for the R&D systems in Albania and Kosovo, the successful implementation of the Triple Helix in order to contribute to knowledge-based regional development and reduce social and economic disparities:

- Adopt a Smart Specialization Strategy approach to national and local planning for R&D and Innovation;
- Provide technical support to conduct a self-assessment as per the Innovation Union Annex I.
- Systematic evaluation of the Innovation Climate as an instrument for policy development and as an indicator of innovation;
- Continue the reforms to enhance transparency and accountability through E-Government; Open Data; extensive use of ICTs in the public sector (e-customs, e-business; e-procurement; Digital Albania);
- Improvement of the secondary education curricula with creativity and entrepreneurship to promote innovation and entrepreneurship to the young generations;
- Use of new media and other PR techniques to communicate science and research and thus improve the relation with the market and the public;
- Concentrate on capacity building programmes for social innovation and non-technical innovation with social and economic relevance as per the regional context of each region in Albania;
- Use fiscal incentives to encourage the business sector to invest in R&D and innovation;

- Ensure the implementation of the law on Intellectual Property Rights and improve its protection as a mechanism to enhance marketing of innovations;
- Develop a virtual laboratory for research innovation and entrepreneurship using a web platform and on-line services;
- Develop the capacities of young researchers in research project management and innovation management, including grant application, project writing and international cooperation.
- Foster Regional Researcher Mobility in WBC as well as EU and WBC mobility;
- Foster staff circulation between the spheres of government, business and research;
- Create a Program to connect researchers in the WBC with WBC-researchers living and working abroad (scientific diaspora);
- Twinning of best practices between innovative clusters in EU Member States, Associated Countries and the WBC;
- Promote creation of spin-off companies within faculties;
- Facilitate the establishment of a network of innovation officers for SMEs;
- Increase business development in incubated SMEs via international networking and co-incubation of companies with universities.

However, innovation is as important in the WBC as it is in developed countries, but it has to do more with acquisition and adoption of machinery rather than the conventional meaning of R&D. In this light the policy demand for R&D and innovation has been low, but with a recent emergence at the national and international level. Considering the above, R&D cannot be the only growth model for the WB.

5.3 Future research

Future research should elaborate an econometric model to measure concrete impact of the R&D and innovation on the possible reduction of social and economic disparities at regional level in Kosovo and Albania. In addition, further data shall be collected in order to statistically measure the impact of Triple Helix on economic and social disparities at a regional level.

ANNEX 1 – List of Resources

The policy documents to be analysed during the desk research in order to explore strategies, policy interventions and programmes on knowledge-based growth and regional development include:

- *Cross-cutting Strategy on Information Society*, Republic of Albania, Council of Ministers, National Agency on Information Society, Tirana, 2008.
- *National Strategy for Development and Integration, 2007-2013*, Republic of Albania, Council of Ministers, Department of Strategy and Donor Coordination, Tirana, 2007.
- *Draft National Strategy for Development and Integration, 2013-2020*, Republic of Albania, Council of Ministers, Department of Strategy and Donor Coordination, Tirana, 2013.
- *Business and Investment Development Strategy, 2007-2013*, Republic of Albania, Ministry of Economy, Trade and Energy, Tirana, 2007.
- *Business Innovation and Technology Strategy*, Republic of Albania, Ministry of Economy, Trade and Energy, supported by the EU SME Project Albania, Tirana, 2011.
- *Strategic Programme for the Development of Innovation and Technology of SMEs for the period 2011 – 2016*, Republic of Albania, Ministry of Economy, Trade and Energy, Tirana, 2011.
- *National Strategy on Science, Technology and Innovation 2009-2015*, Republic of Albania, Council of Ministers, Tirana, 2009.
- *National Strategy of Higher Education 2008 - 2013*, Republic of Albania, Council of Ministers, Ministry of Education and Sciences, Tirana, 2008.
- *Regional Development Cross-Cutting Strategy, 2007-2013*, Republic of Albania, Council of Ministers, Ministry of Economy, Trade and Energy, Tirana, 2007.

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- Agency for Research, Technology and Innovation;
- National Agency on Information Society;
- Business Relay and Innovation Centre;
- Pro-TIK Innovation Center;
- Chamber of Commerce;
- Albanian Academy of Science;
- HEIs;
- INSTAT – Institute of Statistics;
- Department of Strategy and Donor Coordination at the Council of Ministers.

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- TEMPUS, European Commission;
- UNESCO data on education;
- USAID reports on investment, development and innovation;
- Data on regional and local development from the United Nations Development Programme;
- Swiss Agency for Development and Cooperation – Regional Development Programme Reports;
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ANNEX 2 – List of Stakeholders in Albania

List of stakeholders participating in Science – Society Networks in Albania as developed by the working group of the EC Tempus Project ConSus

1	Center of Excellence Tirana University	High Education Institutions	Social element of sustainability
2	Faculty of architecture	High Education Institutions	Environment
3	University 'Aleksander Xhuvani' Elbasan	High Education Institutions	Socio-economy
4	The Academy of Film and Multimedia 'Marubi'	Research Institute	Social element of sustainability
5	FOPER (Regional Network which includes 5 Forestry Faculties of and 5 research institutes of Forestry in the Region.	High Education Institutions	Ecology, agriculture
6	1 – Laboratory of Environment 2 – National Laboratory of Herbs Protection 3- Laboratory of aqua culture and fisheries	High Education Institutions	Ecology, agriculture
7	ASET (Albanian Socio-Economic Think Tank)	Independent Think Tanks (NGO)	Socio-economy
8	Institute for Democracy and Mediation (IDM)	Research Institute	Socio-economy
9	Albanian Legal and Territorial Research Institute (ALTRI)	Research Institute	
10	Civil Society Development Center Durres	Independent Think Tanks (NGO)	Ecology
11	Albanian Tourism Association, ATA	Independent Think Tanks (NGO)	Sustainable tourism Ecology
12	Refraction association	NGO	Social element of sustainability
13	EU Energy Efficiency Centre	NGO	Environment
14	The Regional Environmental Center for Central and Eastern Europe (REC) http://www.rec.org/	NGO	Environment
15	Albanian Association of Communes	NGO	Institutional
16	SEDA Institute for <i>Social Economic Development Alternatives</i>	Institutes	Socio-economy
17	Senior-A program, Support for Environmental Civil Society organization in Albania, Swedish Embassy http://www.senior-a.al/index.php/networks . 4 networks were founded in the framework of Sebiar A	Network	Environment
18	RCE Middle Albania	Network	ESD, Education for Sustainable Development
19	AD-in Studio Architecture, Design, Interior	Company	Sustainable architecture
20	Eco-tour Albania + sports University	Company	Ecology
21	3A KONCEPT & ZHVILLIM	Company	Urban ecology

22	Research and Development Chipstar	Company	Clean production
23	“A&I Design”	Company	Sustainable architecture
24	Consulting and Management Albania C&M Albania	Company	Energy efficiency
25	PROTIC	NGO	Information and technology
26	Vision fund Albania	NGO	Energy, ecology
27	Duna Vision	NGO	Ecology
28	EDEN Center	NGO	Environment
29	Milieukontakt Albania	NGO	Environment
30	EPER Center	NGO	Environment
31	ECO- Partners for Sustainable Development	NGO	Ecology
32	Institute for Nature Conservation of Albania	Institute	Ecology
33	Co-plan	NGO	Environment
34	Institute for Urban Research	Institute	Ecology
35	IKZH- Institution for Research and Development, POLIS	Institute	Ecology
36	Ministry of Urban Development and Tourism	Central government	Urban planning
37	Ministry of Environment	Central government	Environment
38	Center of EKOLËVIZJA Group	NGO	Environment
39	Albanian Constructors Association	NGO	Construction
40	Metropolis Studio	NGO	Ecology
41	UET Centre	NGO	Economy

ANNEX 3 - List of Stakeholders in Kosovo

Stakeholder Description	Activities Related to Sustainability	Type of Collaboration and Institutions involved	Indicators	Products
United Nation Development Program (UNDP)	<ul style="list-style-type: none"> • Young Entrepreneurship Program (encouraging employability) • Ensure Environmental Sustainability • Improvement of Health • Promotion of Gender Equality • Achievement of Universal primary Education, etc. 	Institutionalized Collaboration UNIVERSUM Periodical Collaboration RIINVEST INDEP	<ul style="list-style-type: none"> • Jointly forums • Jointly organized conferences • Institutionalized networks between academics and practitioners 	<ul style="list-style-type: none"> • Publications • Guest Speakers/Public Lectures • Spring School for Human Development
STIKK – The Kosovo ICT Association	<ul style="list-style-type: none"> • Organizing of events related to ICT industry (Guest speakers – Industry Experts) • Trainings • Help policymakers formulate legislation that is in favor of the ICT industry in Kosovo • Establish cooperation between international and Kosovar organizations, in order to promote their services and encourage employment 	Institutionalized Collaboration RIINVEST UNIVERSUM	<ul style="list-style-type: none"> • Jointly organized conferences • Institutionalized networks between academics and practitioners • Employment Boards or similar initiatives (at the universities); 	<ul style="list-style-type: none"> • Guest Speakers/Public Lectures • Computer Science curriculum update to meet market demands
Regional Environmental Center (REC) decision making regarding the environment.	<ul style="list-style-type: none"> • “Capacity building of local authorities, NGOs and governmental officials; • Good governance practices, transparency - promotion of the Aarhus Convention principles of environmental democracy; • Environmental education and awareness raising; • Environmental information dissemination; • Waste issues, and • Sustainable development practices” 	Periodical Collaboration UNIVERSUM	Jointly organized conferences	<ul style="list-style-type: none"> • Research/Publications • Guest Speakers/Public Lectures
Ministry of Labor and Social Welfare	<ul style="list-style-type: none"> • Creation and improvement of the legal framework in the field of employment and social policy • The growth of employment and the strengthening of vocational training according to labor market demand 	Periodical collaboration; RIINVEST UNIVERSUM	<ul style="list-style-type: none"> • Jointly organized conferences • Joint Forums 	<ul style="list-style-type: none"> • Publications (Each year Universum College conducts a research on Employment Barometer and

	<ul style="list-style-type: none"> Organizing an event for increasing social welfare through the provision of support in the community and poverty reducing Etc. https://mpms.rks-gov.net/Portals/0/Shtypi%20Ditor/13.08.2013.pdf 			<p>Vacancy Analysis, which is later used by MLSW for more in-depth analysis</p> <ul style="list-style-type: none"> Public presentations and policy recommendations
Ministry of Agriculture, Forestry and Rural Development	<ul style="list-style-type: none"> “Develop policies and implement laws for development of agriculture including also the cattle and production of plant, rural development and setting of standards for maintenance Facilities development of credit scheme for the support of agriculture, forestry and activities for rural development in private sector In cooperation with Ministry of Health, Environmental and Spatial Planning surveys control of food quality and agriculture inputs with the purpose of consumers” 	<p>Long-term UNIVERSUM</p> <p>Periodical collaboration; RIINVEST UNIVERSITY HAXHI ZEKA</p>	<ul style="list-style-type: none"> Joint forums Jointly organized conferences 	<ul style="list-style-type: none"> Research/Publications Guest Speakers/Public Lectures
“Why Care?”	<ul style="list-style-type: none"> Social awareness on welfare issues Thriving for an environmentally conscious society where scarce resources are used accordingly Better information for larger companies who use scarce resources to maximize their profit. Fund raising events Annual research on the situation regarding poverty and hunger in Kosovo 	<p>Long-term (internal organization project) UNIVERSUM</p>	<ul style="list-style-type: none"> Institutionalized networks between academics and practitioners Jointly organized conferences Joint Forums 	<ul style="list-style-type: none"> Publications Innovative Types of Services (Gift packages for families in need – especially during the holidays, fundraising initiated by students and academic staff, etc) Conferences (Public Lectures from different Ministries)
ProCredit Bank	<ul style="list-style-type: none"> Eco Loans Agribusiness loans Youth employability through Young Bankers Program Short term and/or Long term internship for students and/or recent graduates 	<p>An institutionalized collaboration; RIINVEST UNIVERSITY</p>	<ul style="list-style-type: none"> Joint forums Jointly organized conferences 	<ul style="list-style-type: none"> Guest Speakers (especially in the fields of Finance, Management, Accounting and Human Resources)
Meridian Corp	<ul style="list-style-type: none"> Economic and Social 	<p>Periodical</p>	<ul style="list-style-type: none"> Joint forums 	<ul style="list-style-type: none"> Guest Speakers

	Development through employment and sponsoring many initiatives in Kosovo <ul style="list-style-type: none"> • Use local products for their production 	Collaboration UNIVERSUM	<ul style="list-style-type: none"> • Jointly organized conferences 	(especially in the fields of Finance and Management,
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GAP Institute	<ul style="list-style-type: none"> • Social • Energy • Environment 	An institutionalized collaboration	Jointly organized conferences	<ul style="list-style-type: none"> • Publications • Public presentations and policy recommendations
Group for Legal and Political Studies	<ul style="list-style-type: none"> • Efficiency • Energy • Environment 	An institutionalized collaboration	Jointly organized conferences	<ul style="list-style-type: none"> • Public presentations and policy recommendations
Forum for Civic Initiative	<ul style="list-style-type: none"> • Social • Civic Initiative • Environment 	An institutionalized collaboration	Jointly organized conferences	<ul style="list-style-type: none"> • Public presentations and policy recommendations
Initiative for Environment and Local Development (Obiliq)	<ul style="list-style-type: none"> • Social • Environment 	A periodical collaboration	Joint forums	<ul style="list-style-type: none"> • Public presentations
Initiative for Environment and Local Development (Obiliq)	<ul style="list-style-type: none"> • Social • Environment 	A periodical collaboration	Joint forums	<ul style="list-style-type: none"> • Public presentations
ATRC (Advocacy, Training & Resource Centre)	<ul style="list-style-type: none"> • Energy 	A periodical Collaboration	Joint forums	<ul style="list-style-type: none"> • Policy recommendations

Kosovo Civil Society Consortium for Sustainable Development (KOSID)	<ul style="list-style-type: none"> • Social • Energy • Environment 	A long-term	Jointly organized conferences	<ul style="list-style-type: none"> • Publications • Public presentations and policy recommendations
GIZ	<ul style="list-style-type: none"> • Social development • Environment and climate change • Economic development 	A periodical collaboration UNIVERSITY Haxhi Zeka	Joint forums	<ul style="list-style-type: none"> • Public presentations
Kosovo Renewable Energy Association	<ul style="list-style-type: none"> • Energy • Environment 	A periodical collaboration	Joint forums	<ul style="list-style-type: none"> • Public presentations
Sharcem	<ul style="list-style-type: none"> • Environment 	A periodical collaboration	Joint forums	<ul style="list-style-type: none"> • Policy recommendations
Kosovo Cap Project	<ul style="list-style-type: none"> • Environment • Social 	A periodical collaboration	/	<ul style="list-style-type: none"> • Innovative products

Dukagjini College	Education research	A periodical collaboration	Sustainable Education	<ul style="list-style-type: none"> • Conferences • Papers
Institute of Agriculture is part of Ministry of Agriculture	Agriculture product testing Advising Research	Institutionalised Collaboration	Sustainable Agriculture production	<ul style="list-style-type: none"> • Publications • Public presentations • Policy recommendation
Mountain club "Gjeravica"	Sport recreation Rescue missions	A periodical collaboration	<ul style="list-style-type: none"> • Human security • Smart tourism 	<ul style="list-style-type: none"> • Service tourism
Syri Vision	Youth activities: Training, entertainment	A periodical collaboration	Sustainable Democracy Youth engagement	<ul style="list-style-type: none"> • Forums • Conferences • Youth Events

	Election activities			
Cultural Heritage without Borders	rescuing and preserving cultural heritage affected by conflict, neglect or human and natural disaster	A periodical collaboration	Culture heritage	<ul style="list-style-type: none"> • preservation
The Promotion of Heritage Management of West	Promotion of Cultural Diversity	A periodical collaboration	Sustainable heritage tourism	<ul style="list-style-type: none"> • Forums • Conferences
Porta Perendimore (West Gate)NGO	environmental protection, reconstruction & economic development and promotion of cultural heritages	A periodical collaboration	Sustainable heritage tourism	<ul style="list-style-type: none"> • Toursim information service • Advising for local enterpreneurs • Bike renting
Era Group ERA	Training for economic sustainability	Periodical Collaboration	Sustainable tourism Environment protection	<ul style="list-style-type: none"> • Policy Papers • Conferences • Heritage plane for West Kosovo
Department of Economic development- Peja municipality	Economic development	A periodical collaboration	Economic development	<ul style="list-style-type: none"> •
Devolli Group- Food production- Innovation	Food production- dairy products	A periodical collaboration	Sustainable food production	<ul style="list-style-type: none"> • Food production
UNIOR AQUA- "Rugova" - Unior Aqua d.o.o	Water production Dairy Production	A periodical collaboration	<ul style="list-style-type: none"> • Sustainable use of water resources • Dairy production 	<ul style="list-style-type: none"> • Water • Dairy

British Council	<ul style="list-style-type: none"> • Education • Skills for Employability • Scholarships 	Institutionalized Collaboration RIINVEST UNIVERSUM	Sustainable Education	<ul style="list-style-type: none"> • Innovative products • Spring School for sustainable Development
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Friedrich Ebert Foundation	<ul style="list-style-type: none"> • Decentralisation and local government • socially just and sustainable economic development • labour relations • regional and international integration 	Periodical Collaboration	Joint Forums Jointly organized conferences	<ul style="list-style-type: none"> • Publications • Public presentations • Policy recommendations;
Kosovo Education Centre	<ul style="list-style-type: none"> • Education 	Long Term Institutionalized Collaboration RIINVEST	Joint Forums Participates in the board of the College	<ul style="list-style-type: none"> • publications • public presentations • policy recommendations
Promoting Private Sector Employment(PPSE)	<ul style="list-style-type: none"> • Private sector development • Tourism • Health • Agriculture 	A periodical collaboration RIINVEST	Jointly organized lectures	<ul style="list-style-type: none"> • public presentations
Development Academy	<ul style="list-style-type: none"> • Local Development 	Institutionalized collaboration RIINVEST	Staff members lecture and hold workshops	<ul style="list-style-type: none"> • Workshops
World Bank	<ul style="list-style-type: none"> • Economic Development • Sustainability 	Periodical Collaboration	Guest Lectures	<ul style="list-style-type: none"> • Public Presentations • Joint Conferences
Forum 2015 Network	<ul style="list-style-type: none"> • Development • Energy • Accountability 	Institutionalized Collaboration RIINVEST INDEP	Joint Forums	<ul style="list-style-type: none"> • Policy Papers • Conferences
BIRN	<ul style="list-style-type: none"> • Transition Accountability 	Periodical Collaboration RIINVEST	Joint Forums	<ul style="list-style-type: none"> • Policy Papers • Participation as

	<ul style="list-style-type: none"> • Rule of law • Policy reform. 			speakers
Koha Group	<ul style="list-style-type: none"> • Media • All 	Periodical Collaboration RIINVEST INDEP	Joint Forums	<ul style="list-style-type: none"> • Policy papers • Participation as speakers/contributors
Kosovo Chamber of Commerce	<ul style="list-style-type: none"> • Employability • Business Environment 	Institutionalized Collaboration RIINVEST	Joint Forums	<ul style="list-style-type: none"> • institutionalized networks
Kosovo Alliance of Business	<ul style="list-style-type: none"> • Employability • Business Environment 	Institutionalized Collaboration RIINVEST	Joint Forums	<ul style="list-style-type: none"> • institutionalized networks

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