Occupational perspectives analysis

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COMPASS Project

Contents

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1. Executive summary

This document is developed under the Erasmus+ project "COMPetences for Agencies for Sustainable Site conversion – COMPASS". ". It has been realized by the project partners, namely: A Sud - Ecologia e Cooperazione ONLUS (Italy), The Bulgarian Development Agency (Bulgaria), Ce.S.F.Or. Centro Studi Formazione Orientamento (Italy), Civitas Foundation for Civil Society - Cluj Branch (Romania), Society for Sustainable Development Design - Door (Croatia), Europanorat Beratung, Training, Management, Consulting GmbH (Germany).

The Compass project wants to contribute to building fair, socially and environmentally sustainable societies through the development of a new professional curricula and a training course in the field of ecological conversion of public spaces. The project, based in 5 European countries includes activities of context analysis, dialogue with stakeholders, professional training and collaborative project ideas' development with local authorities to enhance participative and ecological conversion processes throughout Europe.

The document analyses occupational perspectives for the following countries:

- Romania
- Croatia
- Germany
- Italy
- Bulgaria

The findings of this report are that in almost all countries there is a lack of integration of social aspect and society importance in sustainable conversion professions. There are pre-existing professional profiles usually connected to architecture, city and urban planning, green energy and waste management. However it is stressed that social aspects are not subject of teaching in these specialties, while it is acknowledged the importance of society for any sustainable conversion success.

2. Introduction

In this report we analyse the occupational perspective of professionals working in the conversions sector, existing educational programmes as well as educational and training needs. The report is based on research in five European Union member states: Bulgaria, Croatia, Germany, Italy and Romania. Each partner in the COMPASS project analysed the situation in its country and prepared a national report. These reports are the core of this document.

The approach we have taken is practical and includes in-depth study of the occupational perspectives in each of the countries subject of study. We believe that in such way the project can present both national and European trends in the occupational perspectives in the sector of sustainable conversion. Gaps and needs in both work positions and education are also captured.

The occupational perspective analysis describes the dimensions of the profession of sustainable site conversion and goes beyond by linking education, professions and needs identified. This document will serve as a base for the development of materials in the project at latter stages.

3. Occupational perspective analysis in Romania

3.1 Existing professional profiles related to conversion sector

In Romania conversion of used spaces, buildings, etc. fall under the responsibilities of architects and other profiles related to them, such as Building architect; Head architect; Urbanism, landscape and spatial planning architect; Restoration architect; Architect advisor; Expert architect; special inspector architect; specialized referent architect Territorial analyst; Environmental analyst; Cadaster employee at local authorities; Regional Development agents, etc. Official documents regarding spatial and urban planning have all taken in consideration a more environmental friendly way of designing many buildings, streets, parks, etc. of the public sector.

Every major urban city has in effect local urban planning regulations. These are a series of documents, that cover specific regulations for urban and many rural localities alike. The documents lay down many rules for land usage and building land limits, including a well outlined development strategy and other regulations in correlation with the approved spatial planning documents, approved by the local council. There are six types of urban plans: General urban regulation plan; General urban plan; Zonal urban plan; Zonal urban plan for core area; urban plan for protected built area and detailed urban plan. Planners in local councils have to respect the legal frameworks (see chapter 2) that govern town and spatial planning when making important decisions. The decisions have to respect the heritage, environment and specific laws/policies.

3.2 Existing education and training programmes related to conversion sector

Babeș-Bolyai University Cluj-Napoca, Faculty of Geography has a few educational offers that relate and are structured in way that they integrate conscious, environment friendly spatial planning. The core of the specialisations varies, but each of them shares the main legal framework on which spatial planning and sustainable development are based on. Many of the programs incorporate fieldwork as a requirement. Cartography and Territorial planning specialisations for instance have multiple field trips in which students are introduced to the equipment, techniques and examples of good practices with which they can operate later on in their professional line of work.

Examples of education programs related to conversion sector at the faculty of geography in Cluj-Napoca are Territorial Planning and Cartography which have the following courses that are related to

sustainable development: Environmental geography; Rural and Urban Planning; Geographic area organization; Social Investigation Techniques; Management of development projects; Landscape architectural services; Institutions and legislations in urbanism and land management; Regional Planning and Local Development; Geographical risk phenomena and processes; Global Challenges of Sustainable Development; Geoeconomy; GIS Spatial Planning Applications; Evaluation and protection of the environment; Mapping industrial and agricultural systems.

Another example is Ion Mincu University for Architecture and Urbanism, located in Bucharest, Romania. It has only 4 faculties, but it is the best university in Romania on architecture:

- Faculty of Architecture
- Faculty of Interior Architecture
- Faculty of Urbanism and Landscape
- Department of Advanced Studies

3.3 Education and training needs in the conversion sector

As mentioned before, the only educational programmes in the conversion sector – such as urban development, urbanism or architecture are provided by national universities. Every major city of Romania has at least two faculties dedicated to urban development and planning. The problem is the lack of practical workshops and trainings.

Another need in this sector is linked to private programmes which will involve theoretical and practical information and exercises for those aiming to work in sustainable conversion. There are no private initiatives to help students to get a professional degree specialized in the conversion sector, but there are international programmes where Romanian students can apply for a fellowships or training courses in sustainable conversion of public spaces.

4. Occupational perspective analysis in Croatia

4.1 Existing professional profiles related to conversion sector

Graduates from the Faculty of Architecture are professional profiles likely to be shaped into future specialist “sustainable conversion expert”. So far it is not clear what kind of knowledge and expertise is needed for a complete sustainable conversion consultancy. Existing schemes like LEED, BREEAM or DGNB could be used as guidelines or even standards.

GREEN Building Council programme Croatia1 has listed 15 consultants offering consultation and building certification according to US LEED2, UK BREEAM3, or German DGNB4 certification systems.

4.2 Existing education and training programmes related to conversion sector

The programme that is most similar to the needs of sustainable conversion is Green building professional programme. It is an annual education programme covering various topics in 12 modules and led by GREEN Building Council Croatia.

The modules are:

1. Green building definition, principles of architecture design, planning and construction of green buildings, green building envelope
2. International certificates for green building (LEED, BREEAM, DGNB)
3. Green building management and “Cradle to Cradle”,
4. Reconstruction of cultural heritage buildings according to green building principles
5. Design of a nZEB houses ; Legal framework for nZEB; Green office Croatia
6. BIM, Facility Management
7. Spatial planning and urbanism as a precondition for a green building, choice and management of a sustainable site
8. Sustainable materials and resources, sustainable wooden constructions in green buildings
9. Intelligent buildings and lighting design

[1] http://www.gbccroatia.org/stranice/konzultanti-za-me-unarodne-certifikate/67.html
[2] http://www.usgbc.org/leed
[3] http://www.breeam.com
[4] http://www.dgnb.de/en

10. Efficient management of water resources

11. Financial aspects of a green buildings, funds and incentives (national and international)

12. Sustainability and landscape architecture

In addition to above mentioned programme a collegium Sustainable architecture is taught on the Faculty of Architecture, Zagreb covering in general energy efficiency, environment protection, technologies of materials and systems.

4.3 Education and training needs in the conversion sector

There is a need for an integrated training programme, or at least for an additional module to existing programmes covering social aspects of the conversion. Spatial planners and urbanists are closest to the occupation of conversion site specialist, but there is no formal or informal education except a few courses on the Faculty of Architecture. They gain experience mainly through work in certified bureaus.

5. Occupational perspective analysis in Germany

Under this section we investigate the occupational perspectives in the conversion sector. We try to answer the question if there are special conversion sector specialists, professions, education in this sphere.

5.1 Existing professional profiles related to conversion sector

There are some professional profiles in Germany related to this sector. Following the five most important to our opinion:

First: Urban resp. Town Planner (Stadtplaner)

Urban planners are involved in making long and short-term decisions about the management and development of cities, towns, villages and the countryside.

They aim to balance the conflicting demands of:

- Housing;
- industrial development;
- agriculture;
- recreation;
- transport;
- and the environment, in order to allow appropriate development to take place.

Planners should be at the heart of regeneration within towns and cities, taking into account the often competing views of businesses and local communities. In rural areas, they must ensure that development is sustainable and that the right balance of development is achieved to preserve the countryside.

And most important: The work of planners also makes a positive contribution towards tackling the effects of climate change.

Second: Spatial Planner (Raumplaner)

Spatial planning systems refer to the methods and approaches used by the public and private sector to influence the distribution of people and activities in spaces of various scales. Spatial planning can be defined as the coordination of practices and policies affecting spatial organization. Spatial planning is synonymous with the practices of urban planning in the United States but at larger scales and the term is often used in reference to planning efforts in European countries. Discrete professional disciplines which involve spatial planning include land use, urban, regional, transport and environmental planning.[1] Other related areas are also important, including economic and community planning. Spatial planning takes place on local, regional, national and international levels and often results in the creation of a spatial plan.

Third: Landscape Architect (Landschaftsarchitekt)

Landscape architects create the landscape around us. They plan, design and manage open spaces including both natural and built environments.

They work to provide innovative and aesthetically pleasing environments for people to enjoy, while ensuring that changes to the natural environment are appropriate, sensitive and sustainable.

The work covers diverse projects – both urban and rural – that range from designing the layout of parks, gardens and housing estates to city-centre design, sporting sites and improving land affected by mining or motorway construction.

A landscape architect collaborates closely with landscape contractors, as well as other professionals, especially architects, town planners, environmentalists and people working in surveying and engineering functions.

The five main areas of practice within landscape architecture are:

- landscape design;
- landscape management;
- landscape planning;
- landscape science;
- urban design.

Fourth: Architect (Architekt)

Architects work in the construction industry and are involved with designing new buildings, extensions or alterations to existing buildings, or advising on the restoration and conservation of old properties.

They can work on individual buildings or on large redevelopment schemes, and can be responsible for the design of the surrounding landscape and spaces.

Architects work closely with their clients and users to make sure that projected designs match their needs and are functional, safe and economical. They usually control a project from start to finish and work with a number of construction professionals, including surveyors and engineers, producing drawings and specifications that the construction team works to.

The role of an architect is very varied and can range from freelance and small-scale project work to employment with multinational organizations working on iconic landmarks.

Fifth: Geographer (Geograph)

A geographer in general is a scholar whose area of study is geography, the study of Earth's natural environment and human society.

Although geographers are historically known as people who make maps, map making is actually the field of study of cartography, a subset of geography. Geographers do not study only the details of the natural environment or human society, but they also study the reciprocal relationship between these two. For example, they study how the natural environment contributes to the human society and how the human society affects the natural environment.

In particular, physical geographers study the natural environment while human geographers study human society. Modern geographers are the primary practitioners of the GIS (geographic information system), who are often employed by local, state, and federal government agencies as well as in the private sector by environmental and engineering firms.

Hence, important to our field is the Human geography which includes topics like urban geography, cultural geography, economic geography, political geography, historical geography, marketing geography, health geography, and social geography.

Many other professions overlap with the conversion sector due to their interdisciplinary. To mention them all might not be possible on the small scale of this report.

5.2 Existing education and training programmes related to conversion sector

For all the professional profiles mentioned in point 5.1 education and training programmes exist in the German-speaking area (incl. Austria and Switzerland). Many Universities or Universities of Applied Sciences (Fachhochschulen) are offering various courses of studies.

Examples (for summer semester 2016):

Urban resp. Town Planning:	53 master degree courses
Spatial Planning:	33 master degree courses

Landscape Architecture:	23 master degree courses
Architecture:	155 master degree courses
Geography:	103 master degree courses

So in the five detected main professional profiles related to the conversion sector we will find more than 350 possibilities to gain a master degree within the German-speaking area this year.

5.3 Education and training needs in the conversion sector

Corresponding to the huge amount of opportunities mentioned in point 5.2 it is difficult to figure out what will be necessary in particular.

First there is already a broad agreement within the German society on the subject “sustainability”.

But the conversion sector must also be seen socially. The economic liberalism is a mechanism which often rules private planning and conversion within our cities. The motto is maximal gain. Hence it is our opinion that in the profession of conversion – beside the aspect of sustainability – must an emphasis on social affairs.

Many universities, their teachers and students work already with respect to this. Even business companies sometimes have got a social claim (beside the sustainability). But anyway:

To determine the needs in the conversion sector the further strengthening of social and sustainable aspects must be our principal object.

6. Occupational perspective analysis in Italy

6.1 Existing professional profiles related to conversion sector

With the term green jobs are generally indicated all the professions in the industry and services sectors which adopt "ecological" solutions.

The United Nations Environment Programme (UNEP) defines green economy the one that aims at " improving human well-being and social equity, while significantly reducing environmental risks and ecological deficits "

Moreover, according to the ILO (International Labour Organization) and UNEP definition, the green jobs category includes all the work activities that in the agriculture, industry and services sectors contribute in preserving or rehabilitate the quality of the environment. It also specifies that it does not refer only to those jobs directly associated with specific areas of sustainability but also to those related to the efficiency, quality and innovation of goods and services offered looking at a green perspective.

On the other side are defined as "hybrid" the professions whose work is not directly aimed at producing green goods and services or at reducing the environmental impact of the productive cycles, but which can provide know-how in companies working in the “green sector”.

In Italy the people employed in the green sector (both private and public), according to the above definition - are more than 3 million.

In 2013, there have been 52 thousand hiring, both in non-seasonal and seasonal jobs, which represent the 9.2% of the hiring in the whole job market. Analysing the specificity of the sector 47 thousand of the hiring were non-seasonal (the highest rate in the last five years).

Most of the green jobs origins as an evolution of existing professions; rather than the creation of new professions we see an integration of new skills and practices on pre – existing professional figures .

Some sectors more than others are generating demand for green jobs, here the ones that are facing a significant improvement:

1. *Integrated waste management*

The evolution taking place in the waste management has opened new job profiles; where in the past the central figure was the one of the garbage man, and in addition the operator of compacting machine, now the waste has become a complex system that requires different figures and different skills, some of which characterized by innovation and creativity: from the knowhow on the functioning of technological systems (reception facilities, treatment and recovery, energy plants, biodigesters), to the

implementation of communication campaigns for citizens called to contribute to the collection; from new companies that organize the refitting and re-use of the goods otherwise destined for landfill, to the experts in the remediation of contaminated areas; from the eco-designer, that imagine the products in order to minimize the waste at the end of its life, to those who invents app and microchips for the traceability of waste. A changing world that needs always higher skills and professionalism.

Specific profiles connected to waste management sectors are: the Ecodesigner, Trainer of active citizenship/communicator, Site manager for waste reuse, refitting technician, technician of treatment and recovery plant, expert of integrate management, technician for energy-waste plant, expert in biodigester or agro-energy plants, expert of the remediation of contaminated sites and landfills.

2. Sustainable building

The construction sector is one in continuous and profound change and brings with it a great of potential for new professions. As an example the energy quality of the buildings is improving, many rules become mandatory, new technologies are put in place and new computational tools integrated the old system; but above all the market seems to welcome this " revolution " and requires new skills at all levels of the supply chain. There are some new profiles that is worthy to mention as an example of new professional figures in the construction sector: the energy auditor, technician for the certification of energy quality, construction technician expert in energy efficiency and ZEB (zero emission buildings) designers.

3. Sustainable mobility and transport

In order to achieve a sustainable mobility system many different actors have to be involved in the conversion process: those who design and implement the vehicles used to transport people and goods ; those who deal with the mode of transport in and out of the city ; rethinking the organization of functional areas of the city; professionals in citizenship education and those who control that the rules of common life are respected. The professional figures connected with the sustainable mobility and transportation sector are: mobility manager, logistic manager, traffic and transports engineer, expert in environmental education, expert in the economy of transports and port manager.

4. The production of energy from renewable sources

The studies and data available on employment impacts, in the areas linked to renewable and energy saving, reveal that the sector of energy efficiency, in relation to the construction industry is among the green sectors the one that offers most employment opportunities. Below the depth of some professionals belonging to this wide sector: installer of biomass plants for energy uses, installer of heat

pomp, geothermal installer, installer of thermoelectric and photovoltaic systems, installer of solar thermal systems, chimney sweeper, energy manager and expert in designing renewable energy systems.

5. Sustainable agriculture and agro - energy

The field of agro - energy is one of the most advanced in agriculture development, firstly because all the technologies related to it are new or have been innovated in the last twenty years and secondly because the agro - energy converge the latest theories on land use, energy efficiency and water saving. In addition to the most innovative professional figures belonging to this new sector, it is worthy to remind also to the more traditional ones, due to the multidimensional nature of agriculture. Among them we see the entrepreneur for agro-energy, manager of agro-energetic plants, consultant for the development of agro energetic plants, agronomist, manager of agro-tourism and operator of didactic farm.

6. The local management and sustainable tourism

In a perspective of prevention against the increasingly disruptive effects of climate change, that are added to those caused directly and indirectly by human beings, a sustainable land management needs of professionals that are able to understand its changes and its transformation. In this perspective, sustainable tourism becomes a great opportunity to develop multitasking professionals able to hold together communication skills, knowledge of the local territory, to understand its peculiar and distinctive elements and knowledge about the load bearing capacity of the environment and the communities concerned. The professional figures identified in this sector are landscape gardener, expert in territorial management, disaster manager, expert in territorial event organization, and marketing manager.

7. Smart City

The new professionals are characterized by high technological skills and management . It is a very broad category, a new generation workers with a keen sensitivity to the economic and social sustainability . Here an insights about some of the professionals in the industry: start-up consultant, expert in geographic information system (GIS), expert in information communication technology (ICT), smart city expert, participation facilitators, expert in web marketing for sharing economy, digital facilitator, fundraiser and App designer.

8. Eco – innovations

The Eco-innovation sector involves a mix of professionalism, from scientists to creative, from experts in economic issues and management to communication experts . Their skills describe in detail what knowledge, skills, values and behaviours characterize them . Five professional profiles were selected as priority: chemical (ex.expert in bioplastic), designer, certification (ex. Responsible for quality assessment and expert in green certification), Life Cycle Assesment (Expert in LCA and in evaluation of the product and process sustainability), facilitator and science communicator.

The sole problem concerning the access to this labour market is the difficulty for the enterprise to find candidates that meet the requirements of the job positions, in terms of skills and know how.

The education and training opportunities are still scarce and the traditional education does not provide the practical training that is needed for this kind of professional figures.

This aspect concerning the training opportunities will be deepened in the following paragraph.

6.2 Existing education and training programmes related to conversion sector

Nowadays many economies are looking forward to contribute to the ecological conversion of productive activities as well as consumption. It is implicit that these are growing importance also for the training processes.

The traditional education system, high schools, professional school and universities is facing a consistent gap in training young people for the new green professions. By now faculties like agronomy, building and energy engineers does not provide specific courses on green solutions. The knowledge on energy efficiency, the technology related for example to passive houses and all the innovation related to the green sector including the technology to produce organic food are left to the research sector or to the practical experience of professionals.

Another limit of the current formal training is the need to innovate the training methods; the training programme still use traditional education methods as face to face lectures and formal evaluation and certification tools.

The acquisition of the skills should take place in the field, such as contamination and cooperative exchange between different disciplines, they should be result oriented and focused on giving the tools to develop business idea. An example is the organic farming: to be able to work in the organic sector the professionals needs to practice in the fields rather than in the classroom, to give a practical demonstration to the farmers that producing organic is possible and furthermore it is more convenient. The current educational paths, as the university career in Agronomy (with rare exceptions) do not provide specific training on organic growing.

In a wider perspective of the training system, it would be interesting to have the contribution of the artisans and enhance their skills for the green sector.

Carpenters, blacksmiths, glassblowers and small producers could play a key role within the share economy making themselves promoters in changing the current productive model.

In our country the promotion of education and training is among the competences of the regions.

Considering the numerous opportunities offered by the conversion sector it is more necessary than ever the implementation of national and regional laws encouraging the investments and promote a public-private collaboration in developing training programmes. Hence, it is necessary to provide funding for the actors involved in conversion training activities, such as schools, universities, accredited entities, public bodies, private enterprises, trade unions, associations and informal bodies. All of them should be enabled to develop interdisciplinary and complementary training programmes aimed at achieving a social and ecological conversion in our Country.

This would be the sole option to promote a genuine transition towards new productive, energetic and consumption models oriented to an environmental and social sustainability.

In terms of training, it is worth mentioning that the companies are facing greater difficulty in finding professionals able to work in the green sector, mainly because of lack of technical and " transversal " skills (ex. Autonomy, flexibility, ability to work in teams , etc .) Competences that can be developed only through wider diffusion in the formal education of training paths envisaging the alternation school to work.

In the last few years, regional authorities have tried to fill the gap of the traditional education by financing the realization of professional training specific for the new jobs related to the green sector.

Many Regions, including Lazio Region, are developing European Union funded (European Structural Funds) educational programmes providing skills and knowledge to have access to green jobs to be implemented by accredited training centres located in the territory. On the other side, the private enterprises are taking advantage from their trained professionals and started offering training not only to its own employees but as a new branch of business.

AlmavivA Green experience represents an excellent example of training innovation in the conversion sector. Almaviva, an industrial group with over 25 thousand employees, was born in 2005 through the merging of two companies COS group and Finisel. In 2008, following the need of optimizing costs and find more resources to continue the activities of the enterprise, the managers decided to promote and implement a plan for reducing consumption, promote new behaviours aimed at environmental sustainability and reinvest the saved resources to pay the provision for the results bonus to the employees. To achieve this process of change, the enterprise started to develop research activities by monitoring the consumption of the company.

To integrate the research activities and the rehabilitation of the company and make it more efficient and sustainable, the enterprise realized the project Almaviva Green. In 2009 it was constituted a Green Team of experts in different disciplines, which defined a road map, designing a structured and detailed plan of the intervention to be done and the schedule to implement them. At the end of the year the transformation of the enterprise in a Green enterprise was achieved.

A key aspect of this evolution has been the vocational training of the employees. The training developed by the research unit was aimed at raising awareness on the perspectives of the economic system, analysing the causes of the productive and environmental crisis, examining options for a conversion of the production to respect the environment and finally involve the unions for a stronger engagement in environmental field.

In this framework the company decided to promote training modules focusing on three directives:

a) Carrying on the training initiatives addressed to Almaviva's employees and extent to the other enterprises part of the Almaviva group the training materials used in the past editions.

b) Repeat the training courses in all the plants situated in other regions, involving other research units and other unions' referents.

c) Design specific training addressed to the employees of Almaviva on issues related to energy savings law (national and European)

It would be interesting to spread the experience of Almaviva to other enterprises at national level, by promoting lobby activities on the Unions in order to give them an active role in the promotion and diffusion of best practices.

6.3 Education and training needs in the conversion sector

Here accent is over needs of development/re-definition/creation/fostering the profession of conversion expert at regional and national level. In addressing the issue of education and training in the conversion sector in terms of social impacts and effects on the labour market we have to consider an interesting fact that emerges from the report prepared by the ILO "Green Jobs becoming a reality - Progress and outlook in 2013". It affirms that in 2013, almost 20 professional figures out of 100 in the green sector are considered by enterprises difficult to find, compared to the 11 out of 100 of the other sectors. These difficulties have provoked 10,000 hires less in absolute terms, a relevant number considering the current level of unemployment. Therefore the need to make proposals is becoming more urgent in order to offer appropriate training and clear the mismatch between the supply and the demand in the green sector.

According to ISFOL (the Institute for the Development of Vocational Training for Workers) in the last two years the demand for training in the environmental sector has significantly increased; and the 70.7% of the training activities surveyed is about lifelong learning. This demonstrates that the need of upgrading skills and create new competences is more widely perceived by the adult population that seeks to adapt to the new trends of the market.

The vision of a complete economic and social transition towards a paradigm of environmental sustainability expands and scale up the range of possible occupations and new competences that can be used in the labour market. This should be the goal of the vocational training and for the training actors in order to update the contents and the professional figures result of the courses.

Forming a private company, an entrepreneur, a group of workers, a community or administrators to the ecological conversion, means being aware that a conversion is real only if it is fair from the social and environmental point of view. Therefore only if it considers various and diverse aspects the ecological conversion can represent a real transition to a new paradigm.

The first step will be to recover the existing knowledge and to update them, secondly it will be necessary to form not only entrepreneurs and companies but also to raise awareness and build training processes addressed at all industrial sectors and in particular to the communities and institutions that are involved in the conversion process (ex Almaviva Green).

It would also be important to promote the local production, discouraging the relocation and long distance supply chains, to build synergies with research centres and universities in order to support the conversion process in the long-term, a key aspect will also be the contribution of the trade unions and civil society. The training will have to enhance the skills and potential of each trainee, and be part of a wider project in which not only the employer-employee relationship is involved in the process, but also the relationship with other workers, the surrounding environment and the community that hosts the productive activity.

We consider essential that the training takes a systematic and interdisciplinary approach; while maintaining an high quality level in order to train technicians and operators of specialist areas, it should also give elements and contents able to offer a wider overview.

As an example of innovation we specify that in a legislative instrument that we mentioned in paragraph 2.2, the Regional Law proposal n. 227 it is mentioned the introduction of incentives for lifelong training of workers aimed at rehabilitating the local productive structure both through the innovation of the hardware (innovations related to infrastructure and innovation on the product), and innovation of the software (cultural, systemic and innovative aspects of the production cycle). In our view a key aspect is that the conversion of the labour market could incorporate these two approaches in an integrated and synergistic way, in order to build a more systematized action able to provide a more complete vision, useful for human and professional development.

In Morin's view, development creates a way of organizing the society that follows a logic in which the hyper specialization provoke the compartmentalization of the individuals. This also depends on the techno-economic conception of development, ruled by the calculation as unique instrument of investigation and knowledge. This system lead to disregard many important aspects: first of all it leaves apart any activity that cannot be monetized, the mutual help, the use of common goods, and more important it does not consider what cannot be measured as for example joy, suffering, dignity, ecological degradation.

Inspired by this approach we should try to humanize a model that clearly shows its contradictions and inconsistencies, highlighting on the other side a trend, the one of the green economy and green jobs, that can offer opportunities of fair growth and development for the country.

For example in the construction processes of the smart cities, a required profile may be the "collective impact officer" with the role of looking for partners and mediate between stakeholders in the preparation and implementation process of infrastructure projects or the "facilitator of green projects in multi-stakeholder partnership". These "hybrid" professional figures will have to be able to integrate their specialized skills and know how to range from the sociological scope for the promotion of participation, the identification of key actors, using methods of territorial survey, the ability of stimulating aggregation processes; to a more technical field, as the sustainable mobility, or the Green Public Procurement. Another key figure may be the expert in the design of conversion interventions: a professional with expertise on ecological conversion in the institutional, business and social field, a figure able to adopt a systemic vision useful to design local development interventions, with an integrated and interdisciplinary approach, focusing on environmental and social sustainability.

7. Occupational perspective analysis in Bulgaria

Under this section we investigate the occupational perspectives in the conversion sector. We should answer are there special conversion sector specialists, professions, education in this sphere.

7.1 Existing professional profiles related to conversion sector

Due to the fact that there isn't an integrated conversion sector in Bulgaria, there is no professional profile of the conversion expert. However, there are other occupational opportunities, which are related with the development of this sector, even though at this moment they are considered more as part of other branches such as ecology, social entrepreneurship, sustainable development, regional development, infrastructure, architecture, urban development, arts, etc.

Therefore the majority of professional profiles, related to the conversion sector are mainly previously developed, in order to cover other trends. The first profile, which is going to be presented, is the one of an architect:

The Law on Chambers of Architects and Engineers in Investment Design (LCAEID) defines:

- The structure, organization and activities of professional Organizations of Architects and Engineers in Investment design, for the exercise of the profession
- The methodology for determining the amount of remuneration for providing design services in the planning and Investment Design
- The liability for breach of professional duties and professional ethics
- The terms and conditions for the acquisition of special design capacity.

In Bulgaria regulations for entry and subsequent implementation of activities market services in the field of investment design are some of the strict EU-wide.

Regulations for entry into the profession (How to become an architect)

Regulations and restrictions related to educational qualification degree and recognized compulsory internship:

LCAEID said that the acquisition of full design capacity persons with a degree "Master" is required two years of service as an employee under an employment contract with Designer fully qualified or four years as designers freelance or employed under official contract or employment relationship (Art. 7 of

LCAEID 6). LCAEID, Art. 7 (5) designers with limited design capacity can acquire full qualification if they have experience of: 1. (amend. SG. 28 of 2009) two years as employees on the payroll with full designer design capacity, or 2. four years as designers Free practice or employed as civil servants or labor relationship with basic employment contract to a post that requires relevant education

In addition, the legislature expressly states that persons degree bachelor who have not less than four years' experience, may acquire limited design capacity and provide design services in the field of planning and investment projects for the development of projects relevant parts of the project documentation after their entry into Register designers with limited design capacity in the Chamber.

Designers with limited design capacity have strict quantitative restrictions on the scope and specifics of the provided design services in the field of planning, investment planning and development of projects relevant parts of the project documentation (Art. 7, para. (3) LCAEID).

Membership in the Chamber of Architects is required for full Architects design capacity (Art. 9 ZKAIIP7).

The next type of occupation, related with the conversion sector is the one of the urbanist. This trend is relatively new, as the first university urbanism program was established in 2002. Since then the occupation has been growing its popularity. The realization in the labor market is related with many different activities.

Diversity in the current and the last place of work, adaptability in terms of employment, the large number of professional areas in which planners have contributed, shows convincingly that graduates "Urbanism" successfully integrated into the national labor market. The assessment of real opportunities for professional development of planners in the country at this time is positive.

Another focus on the need is to strengthen the profession and building a positive image among the general public. Other tie the realization of the existence of public funding for research and analysis, regional and spatial planning.

In terms of sustainable development, the diversity of professional profiles in bigger. The reason is that this topic is attractive for the public institutions, as well as the NGOs and the private organizations. It needs ecologists, as well as experts in the fields of energy production, engineers and even artists. In both of the cases the gaining of specific skills can be done both at university level, or by different VET programs.

Generally the sustainable development is divided into three subsections- ecological-preserving of the environment for future generations, social- preserving a high standard of living for the population, economical- development of products and services, which are connected with the idea of preserving the goods for future generations.

Each of these subsections requires different knowledge and skills, and therefore- different occupational profiles. From researchers to politicians and entrepreneurs, a wide variety of occupations can be related to this field of the public life.

7.2 Existing education and training programmes related to conversion sector

At this moment in Bulgaria there are 50 authorized higher education institutions (HEIs). Six of these HEIs offer architecture programs, only one offers Urbanism as Bachelor program.

The University of Architecture, civil engineering and geodesy offers a variety of subject, related to the conversion sector as follows:

Architecture Master (MA)- Students, pursuing the degree programme in Architecture study about 100 disciplines with a total number of about5000 academic hours. During the first eight semesters the study process is carried out under a uniform academic curriculum.

Urban Planning Bachelor (BA)- Students in the Bachelor's degree programme in Urbanism study about 50 disciplines with a total number of about 3000 hours during eight semesters.

Transportation Engineering Master (MA)- Training in Transportation Engineering was introduced in 1943/44, one year after the establishment of the first Higher Technical School in Bulgaria.

The complete study programme takes 10 semesters.

Water Supply and Sewerage Master (MA)- All programmes of the Faculty of Hydro-technics have been accredited by the European Association of Engineers (FEANI) and graduates can obtain the degree "Euro-engineer". The length of study in Water Supply and Sewerage is 10 semesters, the last one being used for development and presentation of a diploma project.

Land and Real Estate Management and Planning Bachelor (BA)- In 2007–2008 academic year the Faculty of Geodesy launched a new degree programme.

Other HEI institution, which has specialized in this subject, is University of Structural Engineering & Architecture (VSU) "Lyuben Karavelov" – Sofia, offering programs such as civil engineering, architecture and Buildings renovation and design.

The University of Forestry offers programs, such as Ecology and landscape architecture, which are generally focused on the topic of sustainable development and green urban planning.

On the other hand, there are professional training centres, which offer different education programs, related to the conversion sector, apart from the university programs. Among them are "ecology and preserving the environment".

7.3 Education and training needs in the conversion sector

Ones the conversion sector becomes an integrated part in the public sphere, it will develop its own needs and required skills, which will lead to its specific occupational skills.

On this stage is rather early to make such conclusions, but the needed requirements will be to offer a complex set of skills, which will cover the skills, gained in different and non-homogeneous programs.

It has to obtain organizational and planning skills, as well as at least basic knowledge in the field of ecology, urbanism, economy and social service.

Another important issue, which needs resolving, is the type of programs which are going to be offered. Will it be settled as a part of Master studies, Bachelor programs of different VET courses? All of these decisions will determine the future development of the conversion sector.

8. Conclusions

In all countries there are professions related to sustainable conversion sector. Typically these are architects, urban planners, civil engineers, waste, water and energy management specialist, etc. What has been identified as a major need according to the national reports seems to be the integration to the current educational profiles of society and social side of sustainable conversion.

In details per each country :

- In Romania there are existing professional profiles in the fields of architecture and urban development. Major need identified is the lack of private training programmes including practical examples.

- In the case of Croatia, there are existing training programmes in the field of architecture and urban planning and development. The most suited programme is called Green building and covers almost all aspects but lacks social dimensions in sustainable conversion sector. It seems the needs in term of training are well covered, even if there with room for future development and improvement.

- In the case of Germany it seems that there is quite well developed professional and educational profiles in the field of sustainable conversion. Professions like urban and spatial planner, landscape architect, architect and human and urban geographer together with their relevant training programme do cover the most needs. However, there is a need to strengthen the social and sustainable aspects of ecological conversion.

- In Italy, professional profiles exist in the fields of waste management, green building, energy efficiency urban planning and sustainable building, etc. Needs in education are identified mainly in the lack of inter-disciplinary training integrating the 3 pillars of ecological conversion: economic, environmental and social aspects.

- In Bulgaria existing professions like architect, civil engineer, urban development etc. are used in the area of site conversion. Again the main needs are in social and ecology areas where there is no comprehensive training programme combined.

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