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STUDY
ON PROSPECTS FOR KOSOVO INDUSTRY UPGRADING THROUGH CLUSTER INITIATIVES

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1. Introduction

1.1. Purpose of report

This report provides an overview of the prospects for using cluster development as a tool for improving industry competitiveness in Kosovo.

This report has been written to provide inputs to the Department of Industry at the Ministry of Trade & Industry for the formulation of cluster policies and to provide initial guidance on the development of programme/interventions to support cluster initiatives in sectors and industries that are important for economic growth.

The term clusters is used in a wider context in this report since we believe that the State's measures for upgrading industries and improving competitiveness could apply as much to larger, country-wide collaborative inter-firm networks as well as to appropriate geographical concentrations located in one or more districts within the country. Indeed, it has not been uncommon for State cluster support programmes in transition economies to support national clusters drawing participating enterprises from the entire country. For this reason, we have also looked at business association development given that these are an organized form of inter-firm cooperation as well as being institutions through which it might be possible to undertake cluster initiatives focused on specific industries with either a country-wide or regional focus.

This report is focused only on manufacturing industries that lie within the scope of the Department of Industry's activities, namely sectors within the range of NACE industry classification from 10 to 33. The report refers to ICT, but does not include this in the analysis. Neither does it look at tourism or other service clusters, which are important because services are a major contributor to national output and could provide opportunities for industry-service cluster cooperation.

The findings, conclusions and recommendations included in this report are based on an analysis that includes using statistical data on industries and their performance based on a number of official sources, as well as reference to a range of sector reports prepared over past years with the support of international donors and organizations (see appendix 1 for a list). The analysis has been supplemented by first hand opinions and views obtained from interviews with projects, associations and specialist organizations providing support to enterprises and industry. This report does not claim to represent a full and in-depth analysis of all industries, which would a major undertaking and repetitious since there is already much information, but we believe it is sufficient for the purpose of general guidance and highlights issues that need to be addressed by the Department in its subsequent work on competitiveness building through clustering.

1.2. Some background explanation and terminology

Business or industry clusters were popularized by Michael Porter in The Competitive Advantage of Nations (1990). Although industry clusters is a phenomenon that can be traced back to past centuries in the history of industrial development, cluster initiatives supported by cluster programmes have increasingly played an important role in building competitiveness and stimulating innovation throughout the World during the past decades, and there is mounting evidence to show that effective regional clusters increase the welfare of the people living in their areas of operation and

contribute to innovations. Cluster related literature is full of definitions and explanations of clustering and its forms. To ease understanding of this document, we have included some simple explanations that should help the reader.

Industry clusters are geographically concentrated groups of enterprises operating in specific or related industries, whose location can be attributed to the presence of natural resources, workforce or some other factor that has encouraged co-location. Industry clusters can result in significant benefits and economic spillovers for the area in which they are located, including transfer of know-how and skills, formation of efficient supply chains, investment attraction and innovation. Innovating clusters collaborate closely with locally based public and private sector institutions, which provide the enterprises with inputs and support in the execution of their business, for example, product testing, or research and development services. Clusters are sometimes differentiated as vertical or horizontal or a combination thereof, in the sense that they may be focused on a specific industry and include enterprises in the local value-chain, or they may be focused on horizontally linked enterprises at a specific stage in a value-chain.

Clustering is often referred to as a competitiveness-building instrument since it is used to encourage cooperation between co-located enterprises as well as the attraction of investment, enterprise and workforce through special programs elaborated by the national or regional authorities often acting in cooperation with private sector stakeholders. Special programs are designed to address the specific needs of clustered enterprises and industries, and to provide support benefiting large groups of enterprises. Above all, the focus of clustering is to improve the competitiveness of SMEs although large enterprises also benefit from its effects, inter alia through the local presence of effective supply chains. Clustering is not normally used as an instrument for supporting industrial development or entrepreneurship from a zero base or in inherently weak industries with low growth potential, though it can be used to improve industries that have potential for import substitution and subsequent development into those trading outside the regions in which they are located. In this respect it is important to differentiate between traded industries (those trading outside their regions i.e. in the case of Kosovo this means exporting) and local industries that serve the needs of local markets.

In situations in which clustering is supported by national or regional authorities, whether acting in cooperation with private sector or not, this is referred to as a top-down clustering approach. This top-down approach is usually directed and implemented by special agencies or institutions established for the purpose. Thus, when used a competitiveness-building instrument clustering is an organized approach. However, clustering cannot work without the willingness of owners, managers and workforce, who have to overcome latent mistrust and natural reluctance to cooperate with potential competitors, to work bottom-up on developing a collective approach to improving the competitiveness of a cluster's members. Voluntary activities of enterprises to reap the benefits of clustering are referred to as bottom-up clustering. Debates take place on the best way to build competitiveness through clustering, whether top-down or bottom-up. Top-down activities can be an effective way of raising awareness, facilitating and stimulating the formation of clustering activities. However, effective and innovating clusters will never form without bottom-up initiatives.

The design and implementation of cluster development programs in specific industries and geographical areas leads to the implementation of cluster initiatives, the purpose of which is to encourage enterprise collaboration between firms and with supporting industries and institutions, and to plan and implement cluster focused programmes and activities leading to the achievement of concrete goals resulting in the resolution of cluster problems and elimination of obstacles to growth. Where considered beneficial, enterprises and supporting partner organizations form managed cluster organizations with members, formed to plan and implement member activities. Cluster organizations register as legal entities that enable them to officially represent the interests of

members, manage and receive funds, and implement member projects and services. There are many forms under which clusters may register, namely associations, limited liability companies, cooperatives, partnerships, special interest groups etc. By far the most popular form of registration in Europe is the association.

Statistical clusters are concentrated groups of enterprises operating in specific or related industries, which are statistically characterized by data showing a high degree of geographical/regional specialization and industry dominance marked by large numbers of workforce and enterprises. Growing clusters are further characterized by statistical evidence of growing industries including the dynamics of enterprise growth and formation, wage and workforce growth, aggregated output and productivity.

Many cluster initiatives in West Balkans countries resulted in managed cluster organizations registering as business associations. Cluster initiatives during the past decade often resulted in the formation of legal entities, often using the association format, representing local or nationwide initiatives to tackle industry challenges. In effect the so-called national clusters were a substitute for the lack of associations representing the interests of specific trades or industries since members felt that the national networks under the auspices of chambers of commerce were not serving their specific interests and providing needed services. Indeed, it can be said that in most cases clusters registered as associations different little in their goals and activities from typical business associations, especially in the early stages of development. Furthermore, by being nationwide rather than local they are not strictly geographically focused clusters in which members are located in close vicinity to one another, thus easing inter-enterprise collaboration. However, in small countries especially, such as Kosovo, the issue of proximity may be academic, especially if separation between regions or districts in a country is not a significant obstacle to collaboration.

2. Cluster Development as a part of the National Development Strategy

Kosovo has little experience of organized cluster activities, which is apparently due to the lack of a collaboration culture. Furthermore, relatively little work has been carried out carried out by or on behalf of Ministry of Trade and Industry in relation to cluster development. The opportunities for Kosovo cluster development have been examined in the report UNDP report “Natural Born Clusters”, 2015. Furthermore, a project is currently being implemented by GIZ to support the establishment of a cluster of metal-processing enterprises manufacturing products for the renewable energy sector. The USAID/Kosovo Cluster Business Support Program (KCBS or program) was the US mission’s main mechanism for implementing private sector objectives under the USAID Mission Strategic Plan for 2004-2008, and inter alia included support to the formation of sector associations in some sectors, though these did not really achieve sustainability.

The MTI’s intention is to use cluster development as an instrument for industry upgrading as required in the National Development Strategy (NDS) 2016-20, and to be subsequently incorporated within a detailed plan in the new National Private Sector Development Strategy. The National Development Strategy 2016-20, includes policy measure 1 for Enhancing domestic competitiveness through cluster development, and describes cluster measures involving Support to cluster development and outlines a multi-step framework including:

1. Cluster selection
2. Development of cluster governance
3. Cluster diagnostics
4. Action Planning

5. Financing
6. Implementation
7. Monitoring & Evaluation

The NDS proposes measures to strengthen the capacity and resources of Cluster Associations that would enable the member SMEs to become suppliers to lead firms in the cluster. It refers to the likely need of donor assistance for these initiatives. Policy measure 2, promotion of industrial upgrading, innovation and technology transfer includes support to making Quality certification available to industries, as well as establishing an SME innovation facility that would stimulate investment in R&D, acquisition of new technology and establishment of links with academia and research institutions. It can be said that policy measures 1 and 2 go together since an ecosystem for cluster support would include the elements of support proposed under the second measure.

3. Approach and Sources of Information

Our approach is as depicted in the diagram shown below.

DIAGRAM 1: Study on cluster development - approach & sources of information

Manufacturing Sector targeting
We analyzed sectors using NACE coded data on their structure and HS coded data on trade flow of goods that may be related to these sectors. This has distinguished important sectors for the economy, differentiating between traded sectors that trade beyond Kosovo's borders and local sectors operating in the domestic market. The data is solely for manufacturing and does not include services.

Statistical cluster mapping
We subsequently mapped sector agglomerations countrywide in the seven regions of Kosovo, and distinguished between regional statistical clusters in NACE sectors by adopting a "star" grading system, in which clusters are awarded up to 3 stars based on their characteristics, as described hereunder.

Cluster ecosystem

We have looked at the cluster support ecosystem do gauge whether it is capable of supporting organized regional or even national cluster initiatives.

Findings and Conclusions on current state of readiness for clustering

Cluster Development Framework
We have recommended policies on cluster development and a framework for managing and delivering support to clusters and business networks.

We have carried out the analysis using NACE sector data provided by the Department of Trade and industry and HS trade flow data available from Eurostat (see Appendix 2, Data), supplemented by information obtained from sector reports prepared mainly by UNDP and USAID, and meetings with donor projects and industry representatives (Appendix 1).

3.1. Reports

We reviewed a number of sector related reports including the 2014 report on "Natural Born Clusters" as well as reports on specific sectors produced by UNDP (under the Aid for Trade project) and USAID on its enterprise support projects, especially EMPOWER. See the Appendix 1 for a list.

The reports provide overviews of industries and their value chains, and include some useful data and information on needs that generally apply to the majority of enterprises in a sector without regard to specific location. The following table is summarizes some of the key needs mentioned in the reports for some of the industries considered in this report. The reports also refer to associations, which were apparently formed or in the stage of development to tackle industry problems. The table below shows a summary of some of the obstacles faced in industries:

Sector	Obstacles/Needs	Associations
Food processing	Finance, Quality and Certification, Workforce skills, Supply of production inputs Technology, Product development, Branding & Promotion	National Raspberry Association Association of Medicinal Herbs Enologjia – wines Milk Processors
Textile (incl. apparel & leather products)	Finance, Design and Product line expansion, Promotion and Sales, Environmental (for leather)	Apparel Marketing Association
Chemicals	Finance, Quality and Certification, Workforce skills	
Wood processing	Finance, Product development, Quality and Certification, Workforce skills, Promotion and Sales	Wood processors association

As is evident from the table above, unsurprisingly the challenges faced by the sectors are of a similar type. Most of the issues highlighted are of a type that could be tackled through cluster development programs. It is encouraging that associations are already emerging, which are aiming to tackle the problems facing some of the industries within the sectors.

3.2. Interviews with stakeholders

To date discussions and interviews have been carried out with the following stakeholders:

- MTI Department of Industry team. Note: the discussions with the DoI team were carried out with reference to a presentation on discussion points.
- USAID EMPOWER Project, with Izil Rexhepi, Competitiveness Team Leader to discuss industry support, and inter-enterprise cooperation in particular.
- USAID AGRO Project, with Mike Wood, Chief of Party to discuss industry support to agriculture and food-processing, and inter-enterprise cooperation in particular.
- USAID REG Project, interview with Peter Stojanovic, Chief of Party to discuss how this inter-regional multi-country project could support clusters.
- Swiss Connect Promoting Private Sector Employment Project, with Sigrid Meier, Project Manager, and Fisnik Recica, Deputy Project Manager, to understand this project's experiences with industries and inter-enterprise cooperation.
- Crimson Finance, NBFI, with Michael Gold, CEO Note: Crimson Finance is a provider of SME financing to some of the industries covered by the cluster mapping
- Support to Free Movement of Good Project. Vitomir Fister. Deputy TL, to discuss quality infrastructure and the extent to which it constitutes part of the eco-system for support to industries and clusters.
- Innovation Centre Kosovo, Mr Uranik Begu, Manager, to discuss the role of the ICK in supporting innovation, and potential role as an innovation services provider to industry clusters.
- Kosovo Association of Wood Processors (SHPDK). Ms Arieta Vula-Pozhegu, as an example of a notably successful association.
- PePeKo, (Association of Vegetable Processors), Alban Ibrahimi, Manager, as an example of an important industry within Food Processing, namely vegetable processing.
- Meeting with Mr Nikolaus Roloff, GIZ / Como Consult, Consulting on establishment of Renewable Energy Metal Cluster, which is being undertaken in collaboration with Department of Industry and KIESA.

The following key points emerged:

- **MTI Department of Industry** stated that whilst they played a key role in cluster policy development, KIESA should take the lead in acting as a facilitator of cluster development. Members of DoI team opined that clusters in targeted industries ought to form cluster organizations that would be the recipients of State support, similar to those seen in Italy, and that that cluster support should be delivered through associations.

- **USAID EMPOWER** projects is focused on 5 sectors (ICT, Tourism, Textiles & Apparel, Wood processing & furniture, Renewable Energy). Our interlocutor agreed that there was a lack of cooperation culture but provided an example of how the EMPOWER project had been successful in forming a group of SMEs in the solid wood furniture industry, including representatives of each stage in the value-chain from timber mills to traders, and these had been successful in promoting themselves to export markets, particularly in Germany. The group is informal and is indicative that a common-purpose can unite enterprises in Kosovo. Furthermore, the Kosovo Wood Processors Association is considered to be one of the country's strongest and is developing a range of services for the industry.

  The project is currently in the process of facilitating the formation of an Apparel Marketing Association for the clothing manufacturing industry. Our interlocutor believed that the prospects to tackle in the near term are for uniform and underwear manufacture (due to its lower sensitivity to design) whereas the production of fashion-wear for big international buyers would require significant up-scaling in an industry dominated by very small enterprises with low capacity.

- **USAID AGRO** project is focused on food processing industries in Kosovo, and is particularly involved in diary processing, soft fruit, vegetable and medicinal and aromatic plants. There is a good example of the formation of a diary producers association (CAMP), which has become financially sustainable on the basis of membership dues and small levies on milk produced paid by farmers. The association has played in a key role in improving the quality of suppliers of milk by introducing an effective and efficient system of testing, thereby overcoming the problem of regular payments by processors to farmers caused by uneven quality of milk supplies. This, it is said, along with the Wood processors association and the Kosovo ICT association, is considered to be amongst Kosovo's better examples of successful enterprise cooperation.

  The project has helped to form a National Raspberry Growers association, which will unite five regional associations and tackle the problems in the value chain. The project anticipates that this will be ultimately transformed into a Kosovo Soft Fruit Association, including strawberry and blueberry growers. The challenges facing soft fruit growers include adherence with international standards for the industry as well as various technology challenges that will require investment in modern storage facilities. Another example of inter-enterprise cooperation are the Kosovo fruits and vegetables association PePeKo and the medicinal and aromatic plants association ORGANIKA, both of which will be receiving capacity building support from the project to become viable associations. Our interlocutor believes that with the value-chain improvements needed combined with direct marketing and promotion to target markets, the soft fruits, vegetable, and MAPs industries could make a very significant contribution to Kosovo's exports. It was felt that there was a degree of stove-piping in how manufacturing industry's problems were being tackled and that a coordinated approach was necessary involving the relevant ministries including the ministries of trade & industry, agriculture, foreign affairs (for international promotion) and economic planning.

- **PPSE** interlocutors provided similar information to that received from AGRO, especially in relation to PePeKo and ORGANIKA, since both projects cooperate and PPSE has helped to promote these industries products through international events such as ANUGA. PPSE project agrees that there is a lack of collaboration culture amongst enterprises and that consequently forming cooperative initiatives, whether through associations or clusters was a challenge. Our interlocutors remarked on their cooperation with KIESA, saying that some

improvements could be achieved through a standardized approach to preparing associations and members in preparation for such events i.e. "how-to" manual. Another suggestion was that rather than canvassing donors on what the industry problems were, the MTI ought to work more closely with KIESA and get close to the enterprises to understand their difficulties. The impression was that typically, government would invite donors to discussions without private sector present.

Given this project's involvement in Tourism, we briefly discussed this service industry and its challenges, given that it too could be subject to State support to cluster or association activities. Our interlocutors at PPSE informed us that there was no strong tourism association and current endeavors to promote the industry were being undertaken under the auspices of a West Balkans regional tourism initiative.

- **USAID REG project**. The purpose of the Regional Economic Growth Project (REG), funded by the USAID Europe and Eurasia (E&E) Bureau in Washington, is to promote broad based, inclusive and sustainable economic growth in the E&E region through greater intraregional economic integration and harmonization in the E&E region and other markets. Project activities focus on improving competitiveness and increasing financial sector stability by promoting economic integration within the region and building economic linkages to the EU and other markets. The project's sector focus includes ICT, Tourism and Agribusiness/Food processing. The project has worked with companies from the Kosovo foods sector and ICT. It is open to the idea of collaboration with clusters in these areas that are seeking opportunities for establishing regional linkages in countries covered by the region. It does not provide any grants.

- **Crimson Capital.** Our interlocutor generally concurred with information obtained as reported above, and referred specifically to the Renewable Energy metal cluster initiative being undertaken by GIZ. The investigations into these opportunities had indeed shown opportunity for developing metal-working enterprises to produce products for the renewable energy market but this was unlikely to come to fruition until the State at least doubles its allocation for power feed from renewable energy sources (which currently stands at 10%). Thus, the State could enable the emergence of this cluster by an administrative decision.

- **Innovation Centre Kosovo.** The purpose of this meeting was support to innovation in Kosovo as part of understanding the cluster development ecosystem, the role of ICK in this, sectors "ripe" for innovation, need for State support. Our interlocutor stated that there is little innovation in Kosovo because of the lack of true entrepreneurship, but rather much business imitation instead. Furthermore, government procurement programmes provide sufficient income to many companies in sectors like IT, which provides them with a comfort zone and removes incentive for innovation. Additionally, there is insufficient education to teach entrepreneurs to think critically, develop solutions and work in teams for this purpose; there is practically no funding for R&D. Small companies are reluctant to encourage innovation amongst employees for fear of losing them to spin-off companies; Kosovo has an innovation strategy, but it is not being implemented. Nevertheless, ICK has good experience of taking groups of individuals, providing them with entrepreneurship training and churning out entrepreneurs, some of whom are accommodated in the incubator and provided with small grants. However, there is a lack of funding for post-start stage and the State has a role to play in setting up a source of funding for graduates from the incubator for seed capital. The majority of entrepreneurs that benefit from ICK are working in the IT sector although there are examples of hardware development e.g. 3-D printer. The ICK sector is ready to work with

other sectors and has already facilitated contacts between small ICT businesses and manufacturing industries as a way of exploring the latter's needs for IT solutions although there are no examples yet of this being done (although there is an IT company providing design solutions for furniture manufacturers in foreign markets i.e. design of interior and furniture for disabled). Our interlocutor believes in the importance of primarily developing a Knowledge Economy that develops knowledge intensive skills and businesses, particularly when applied to services and modern digital based industries. ICK is ready to collaborate on supporting development of innovative solutions for Kosovo industries, by providing links between industry clusters and experts in knowledge intensive services.

- **EU Support to Free Movement of Goods Project.** The purpose of this meeting was to discuss the availability of quality infrastructure for testing, calibration and certification of products manufactured by Kosovo industries in compliance with target market requirements. Our interlocutor expressed the view that Kosovo was unlikely to need to develop the infrastructure required for all its industries since it would be too expensive to establish for financially sustainable operations. For example, Slovenia had only established about 10% of the infrastructure available in large EU economies for this very reason. Kosovo would most likely establish even less though it was important to take advantage of opportunities (such as World Bank funding) to set up facilities that could be operated sustainably on a regional basis. At present conformity assessment is carried out with support of infrastructure based outside the country, but steps were being taken to build local capacity (example: inspections of locally installed lifts were building up experience for inspection of newly manufactured lifts produced in Kosovo).

- **GIZ project supporting formation of metalworking cluster in renewable energy.** The project on renewable energy potential has been ongoing for 3 years after a study into target sector possibilities that also included ICT, Tourism. GIZ is supporting the establishment of a pilot project for setting up a renewable energy cluster. There are a number of companies including producers of metal parts for solar energy systems, hydro power systems, small energy generating companies. Links have been established with the University in Pristina, which has equipment that could be used for testing purposes. The project is in its early stage.

The purpose of the meetings with the following associations was to get a general impression of the stage of development of the association and industry needs that could be tackled through collective actions and activities.

- **Association of Wood Processors**: Formed with donor support in 2010. Currently 110 wood processors and furniture makers from around the country. Association is funded from members dues and service fees. 60% of members pay fees.

Majority manufacurers are in Pristina, Ferizaj, and Mitrovica. Locations of industries have historical origins e.g. Peja is a heavily forested area and traditionally there was wood processing there during Yugoslav times, whereas Gjakova was then known for production of windows and doors. Following the war there was a lot of work and it was a business that did not require much investment to start in on a small scale.

The association represents value chains from timber mills to supply of raw materials and industrial inputs, to design and production, to trading of finish product.

Major challenges include size of companies (some relatively large but many small), production capacities, financing, certification of final products, especially in cases of markets

requiring certification of origin from sustainable forests (as required for solid wood). Illegal felling is a problem in Kosovo in winter time when people cut trees for heating.

Association has received some support from EMPOWER, namely grants for fairs, though typically 50% of costs covered by companies participating. KIESA does its best to provide support, which is limited by its capacity constraints. It has provided some funding support for fair participation in the EU and the region.

Regulatory issues are a big challenge. Raw materials and inputs for furniture production are supposed to be imported duty free but in reality this does not cover all needed inputs because the list of exempted goods is improperly defined. The association has been tackling this for some time but the problem has not been eradicated. The association is currently striving for membership of the National Economic Development Council so that it could present its case more effectively at a high level forum.

Collaboration takes place with other sectors, namely textiles for covers for furnishing. Apart from association membership some firms have established good collaborative initiatives, namely a group of about 8 solid wood manufacturers who share information and exporting know-how, transport together, and promote products to EU markets (Stuttgart group). Furniture is often produced according to models provided by buyers.

There is a lack of specialized consultants in the wood and furniture industry.

The association members received queries for export orders but frequently are unable to meet them because of capacity restrictions, since the orders are often for several truck-loads per month. Some companies have large output but this is mainly for local markets and not solid-wood.

There is no joint production. Companies tend to work individually. The association has considered opportunities for joint facilities and received a proposal from an Italian company to establish a common use facility equipped with machines to serve member companies.

Key challenges at the moment that require support are in the establishment of market links with international markets, export guarantee scheme, investment in machinery, policies that would stimulate increase of working capital and investments.

- **PePeKo.** The association was formed about 5 years ago on basis of Law of Associations comprising 6 companies processing 7-8,000 tons product per annum. Currently there are 11 members from all over Kosovo including Prizren, Gjilan, Podujeve, Drenica, Mitrovice, Djakovo. Represent the majority of companies in the business. Member services include lobbying & advocacy, trade fairs, research for members. The association is situated in the value chain in the stage between farmers or aggregators and buyers. Products include processed apples, plumbs, raspberries, blackberries, apricots and of other fruit, as well as vegetables such as gherkins, red peppers, tomatoes, and potatoes.

  Problems in each value chain similar i.e. small quantities throughput, process reliability, quality control, packaging, financing, legislation issues. In relation to the other, existing that would otherwise promote the sector not laws not being implemented e.g. VAT applying to packaging. Most packaging is imported because it would not be cost effective to produce in Kosovo, and this is one of the main weaknesses of the sector.

The sector needs to develop a strategy for sustainable growth that would involve identifying the most profitable processes for the industry as well as diversification opportunities. To date insufficient has been carried out for the purpose of strategic analysis. There is room for growth. Many farmers produce product, which they cannot identify buyers for. An enabling environment has to be created with components including: certification, external market identification, FDI to attract capital into sector.

Members participate at fairs but support from KIESA does not have capacity to provide sufficient support. The association has received technical assistance from Swiss Contact to take part in ANUGA foods exhibition. The association has tried to raise its concerns about challenges facing the sector that could be tackled with help from the State but the forums for discussion are ineffective due to large groups of participants that raise individual issues rather than strategic ones. Thus, there has been little impact from public private dialogue.

Joint facilities would be a good service to members, particular in such areas as classification of product. There is an example of a classification machine for apples that was bought by a company that had to be re-sell it. This machine is currently used by another company, which makes it available to other producers. Thus, as illustrated by the aforementioned examples, there are many areas of improvement that could be tackled through collaborative initiatives within an effective association.

4. Analysis of Data on Sectors and Sector Distribution

4.1. Sectors

4.1.1. Analyzing and Prioritizing sectors

Prioritizing industries and targeting support provides greater economic development benefits than an unfocused effort to support manufacturing sectors and to upgrade their industries. Criteria used by governments for prioritizing sectors and industries usually takes into account a number of factors that are weighted according to national goals. These may include combinations of the following macro level data and other factors:

- The sectors (or specific industry's) performance measured by macroeconomic and microeconomic indicators and prospects for growth e.g. contribution to GDP, GVA; sales growth, wages growth, workforce growth);
- Relative size of the workforce in the national economy, abundance of skills and growth prospects;
- Natural resource abundance and potential for exploitation to provide inputs to potentially profitable industries;
- Comparative advantage: For example, Revealed Competitive Advantage indicator, which indicates whether a country is an assessment of the relative advantage or disadvantage of a country in a certain class of goods or services as evidenced by trade flows. The relationship between the goods and the producing sector provides an indicator of the latter's importance;
- Export performance and growth prospects;
- Import substitution potential to reduce trade imbalances whilst tapping into high domestic demand for the industry's outputs;

- Foreign investment potential, namely attraction of foreign industrial players and investors into green-field or brown-field investments;
- Supply chain potential to develop industries that can provide inputs to large buyers based in-country or in the region;
- Value chain linkages between industries from different sectors that are important for effective development;
- Emergent by industries, namely support to the establishment of new industrial value chains or transformation of new ones leading to new products/services with higher value added;
- Tackling of priorities to meet national priorities in areas like energy conservation and renewables, clean environment, health and education, regional inequality.

A shortcoming of sector targeting is the difficulty of "picking winners". A prerequisite is the identification of future national competitive advantage based on the past labor force characteristics, resource availability and unique attributes, proximity to input and product markets, and then identifying industries that best fit these criteria. Furthermore, targeting approach must assess industry prospects for growth and potential local economic impacts. This is complicated by the volatility of markets and today's fast growth sectors may be tomorrow's declining industries. Targeting is not an exact science.

4.1.2. Simple sector prioritization based on statistical data

Sector assessment and cluster selection based on all the factors listed above was not undertaken due to the scale of the task as well as unavailability of data. For example:

- Looking at comparative advantage requires good trade flow data between different geographic international regions. However, this indicator is not that useful at this stage since base metals and minerals apart, exports have not achieved their full potential to reveal comparative advantage e.g. there are many markets that are unaware of the opportunities offered by trade with Kosovo, which continues to be viewed as a highly risky partner.
- The assessment of local value-chain breadth and depth may be informed by reference to NACE 4 industry codes providing more detail on local activities than the NACE 2 level activity descriptions.
- Assessment of growth prospects of industries requires a range of historical data with information on growth in the sizes of industries, workforce, productivity (particularly based on value-added rather than turnover) etc.;
- Information on inter-enterprise linkages and cooperation (other than buyer-supplier relationships) requires a micro-level of analysis that is beyond the scope of our investigations. (However, in cases of some sectors, we have heard opinions and anecdotes from meetings with stakeholders than have helped us form views).

Nevertheless, we have adopted a simplified approach based on the information available using the following:

- Data (2015) on relative size of the workforce in the national economy. The logic is that a sector with a large workforce is important in the foreseeable time since it provides employment. This data was provided by the Department of Industry.

- Data (2015) on output in terms of Total Sales in industry. Sales alone are not the best indicator and value-added for the sector is much better for measuring its contribution to wealth. However, for the point of this analysis it is assumed that the larger the output, the more significant the sector is in the foreseeable future. This data was provided by the Department of Industry.

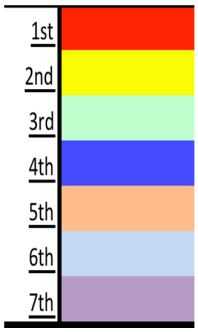
- 2015 Trade Flow data. Exporter importance and Import substitution. Exporting potential of a sector has been examined by looking at the trade flows of specific goods between EU and Kosovo. Whilst this is not a complete picture of foreign trade (which includes exchanges with CEFTA and other parts of the World, it is useful to look at EU trade flow given the high demands and competitiveness of this nearby market. This data indicates the goods leading exports, as well as providing data of the largest imported categories, which is useful in gauging categories that could present import substitution potential. However, it should be noted that this data would need to be further refined by looking a sub-categories of goods to get a better understanding of both the export potential as well as import substitution opportunities. The data is taken from Eurostat.

4.1.3. Results of sector analysis

The results of the analysis for the size, sales and trade-flow data are presented in the tables below.

HS category	Goods exported to EU	Value exports (million euro 2015)	% Export	Value imports from EU miiion euro 2015)	Import/Export
XV	Base metals	41	39.1	49	1.2
V	Mineral products	14	13.4	24	1.7
VII	Plastics and rubber & articles	9	8.3	53	5.9
VIII	Raw hides and skins	8	7.3	2	0.3
XIV	Precious Metals	6	5.4	0	0.0
II	Vegetable products	5	4	22	4.4
IV	Foodstuff, beverages, tobacco	5	5.3	136	27.2
XI	Textiles & textile articles	5	5.3	21	4.2
XVI	Machinery & Appliances	4	4.1	143	35.8
VI	Chemical Products	1	1.2	80	80.0
XII	Footwear	1	1.1	7	7.0
IX	Wood, cork articles	1	0.9	26	26.0
XX	Miscellaneous (inc.Furniture)	1	1.1	21	21.0
	Total	101	96.5	584	
	% of total	96%		76%	
		83	77.5		

NACE Code	Industry	Total Sales (millions euros) 2015	Workforce size 2015	Productivity (1000s euro/worker) 2015	EU Productivity (EU-28 2013) Eurostat
24	Metals	99.3	1075	92.372	
23	Minerals & non-metalic products	176	3815	46	
22	Rubber & Plastics	104.3	2221	47	178
15	Leather & leather products	4.4	295	15	118
10	Food processing	160.3	5201	31	232
11	Beverages	78.7	1388	57	
13	Textiles	15.5	899	17	124
14	Clothing	5.4	535	10	70
28	Machinery & devices	0.4	90	4	213
20	Chemical Products	35	691	51	94
12	Wood & wood products	31.5	1178	27	123
31	Furniture	4.6	1747	2.633	94



The data above has been marked in different colors to ease visual comparison, from top red 1st, to purple 7th ranking. The first table comparing goods exported to EU with imports also includes an import/export ratio to draw attention to areas that display particularly high trade imbalances. The second table provides information on total sales and workforce size based on data provided by the Department of Industry. The table includes calculations of productivity (sales/employee), which have been compared with 2013 data for the EU-28. Notwithstanding whether the figures are accurate, they reveal the huge differences between productivities in Kosovo and the EU. Note: this data would be more meaningful if productivity was measured on the basis of value-added, which account for the differences in costs of labour between EU-28 and Kosovo, resulting in potentially lower input costs for Kosovo and, subsequently, a reduction in differences between Kosovo and EU-28 productivities calculated on the value-added basis.

The industries in the above tables have been categorized by calculating quartile values for sales, exports, workforce size, and productivity, with the values equal or above the upper quartile denoted as HIGH, the median denoted as MEDIUM and at the lower quartile or below as LOW. Note: these

designations are relative to the ranges of domestic values for the criteria considered. The quartile approach is a subjective approach adopted in this report to differentiate the sectors.

See the table below, in which goods have been correlated with sectors (which is an approximation as is clear from comparing the 2015 total sales of the machinery & devices sector NACE 28, and 2015 exports of machines and applies under the HS code trade flow table; raw skins and hides was highly valued at under in the trade flow table, whereas leather & leather products total sales are half this output; vegetable products under trade flow table is assumed to be mainly included in the food processing). The green colored sectors have no less than three HIGHs for the categories total sales, exports, sales, workforce size. The table also includes observations on some of the sectors e.g. potential for import substitution.

Industries producing traded goods	**Comparison of industries** (high - upper quartile, medium- median, low - lower quartile) **and Observations**
Metals	High total sales; High Exports to EU; Medium sized workforce; High Productivity
Minerals & non-metalic products	High total sales; High Exports to EU; High workforce; High Productivity
Rubber & Plastic	High total sales; High Exports to EU (?); High Workforce; High Productivity
Leather & leather products	Low total sales (?); High exports; Low workforce; Low productivity. Potential for import subsitution of shoes (?).
Food processing & beverages	High total sales, High exports; High workforce; Medium-High productivity (?); Low workforce; Low productivity. Good potential
Textiles & Clothing	Low total sales; Medium exports to EU; Medium workforce; Low productivity. Potential for import substitution of clothing?
Machinery & devices	Low total sales (?); Medium Export to EU (?); Low workforce; Low productivity
Chemical Products	High total sales; Low exports to EU; Low workforce; High productivity
Wood & wood products, and Furniture	Medium total sales; Low exports to EU; High workforce; Low-Medium productivity. Potential for import substituion of furniture

The above approximate analysis points to the following, primary group of traded manufacturing sectors as being particularly significant for the economy (HIGH appearing ≥0):

- Metals
- Minerals and no-metallic products
- Rubber & Plastic
- Food processing & beverages

A secondary group (1<HIGH appearing<3) includes:

- Wood & wood products, and furniture
- Chemical products
- Leather and leather products

A tertiary group (HIGH appearing<0):

- Textiles and clothing
- Machinery & devices

4.2. Clusters

4.2.1. Analyzing and Targeting clusters

Cluster analysis is a combination of quantitative and qualitative methods to produce an assessment of clusters in a specific area.

Statistical cluster mapping methodologies are used map industry concentrations with regards to the following:

- Size: The more enterprises in an area and the greater employment, then the more probably it is that meaningful cluster effects either exist or could be achieved. A small number of companies and workforce does not provide many options for establishing functioning networks.

- Dominance: This measures the share of the industry in the areas overall employment. If high, then, the spillover effects and linkages may be stronger. Dominance is calculated by the ratio of (Workforce size of industry N in a region A/Total workforce in all industries in region A).

- Specialization: If an area is more specialized than in an industry than in the entire country, this is likely to be an indicator that the area has characteristics and strengths that have attracted the industry to this area and that the opportunities for spillovers and linkages are greater. Specialization is usually measured with respect to workforce size since this is more meaningful than referring solely to numbers of enterprises. The larger a workforce, the greater the regional activity. (Of course it is possible to have a large workforce size due to a huge employer). Specialization is measured by location quotients, which are calculated as follows:

Specialization location quotient = (Workforce size of industry N in administrative area A/Total workforce in all industries in administrative area A)/(Workforce in industry N in entire country/Total industry workforce in country)

The statistical data alone is insufficient to provide a conclusive basis for cluster selection, and a complete analysis leading to the identification of industry clusters would include the factors listed below, which is an extensive exercise requiring access to data and information about activities in the area under consideration. Usually this is sourced from direct interaction with enterprises and institutions in the area under consideration. Our analysis of clusters is based only on statistical mapping supplemented by information obtained from reports and interlocutors. Any further studies of cluster potential should include consideration of these factors.

Factor	Description	Measures (examples)
Business Infrastructure	Industrial parks as location and services to local cluster	Number of facilities
Competitiveness of Enterprises in location	Value chain(s) input-output analysis; governance of value chain	Costs of inputs & outputs of value chains (compared with competition)

Entrepreneurship	Dynamics of business formation in region	New start-ups in cluster; Enterprises attracted to cluster
Innovation	New technology development; New technology adoption; New products launched	Number of patents; Investment in new technologies; Number of new product launches.
Internationalization	Connections with foreign markets & networks	Participation in international trade events; Participation in international projects and business alliances
Large enterprises	Presence of large buyers powering the local economy and acting upstream of local small businesses	Details of large enterprises; Links with local small businesses.
Networks and Organization	Inter-enterprise networking events; Formal cooperation in joint projects; Organized structure for management of networking	Numbers of event; Number of joint projects
Research & Development	Availability of R&D and specialist know-how	R&D expenditure in cluster
Supplier availability	Availability and accessibility of primary and secondary suppliers, materials	Local supply chain structure; Numbers of suppliers at various tiers
Specialized services	Public and private sector services including: intellectual property specialists, technology transfer, design, export assistance	Details of specialist services; Numbers of specialists working with cluster;
Workforce skills and availability	Availability of workforce with skills matching cluster needs.	Numbers of relevant training programs; Numbers completing training; Graduates intake into cluster

4.2.2. Method applied to statistical mapping regional sector for NACE sectors

The initial statistical cluster selection is made for the regional industry distribution NACE code 10 to 33 on the basis of the 2015 data (Appendix 2). The statistical cluster analysis is based on a coarse 2 digit code rather than 4 digit NACE, which would allow a finer differentiation of industries within sectors.

The cluster selection is based on an adapted “star” mapping approach, of a type that has been frequently adopted in cluster mapping methodologies (in US and European Cluster Observatory). We have applied the following criteria in our analysis:

- Dominance is allocated a “Star” if it is in the top quartile for the range of values in the region. (Note, the quartile approach is a subjective choice. Some cluster mappings have adopted

different measures such as using the top 10% values rather than a top quartile, which allows for finer differentiation).

- Specialization is allocated a "Star" if it exceeds 1.5 for the location quotient.
- Size (number of enterprises), which is allocated a "Star", if its size characteristics it is in the top quartile for the range of values in the region, and there is information that other factors are present that could contribute to effective clustering such as, for example, existence of leading enterprises within a clustered group or presence of a relatively well developed association.

Note:

- The strongest statistical clusters are provided with 3 stars, and progressively weaker until 1 star.
- Although a 1 star cluster is the weakest, upon further investigation it may nevertheless prove to be an effective organized cluster by virtue of its participants having got together to implement joint projects based on common needs and goals.
- Zero star does not mean that there is no potential for developing the industry but rather suggests that this ought not to be pursued by regionally based clustering.

4.2.3. Results of regional cluster mapping analysis

The set of tables at the end of this section show:

- Dominance (top quartile values marked yellow);
- Location quotient (> 1.5 values marked yellow);
- Enterprise numbers (top quartile values marked yellow), a table of enterprises distinguished as top performers based on KIESA criteria as additional information (since such companies can sometimes be good leaders in cluster initiatives), and, lastly:
- Statistical cluster "map" showing star allocations to clusters for different industries based on the star allocation system described above.

The sector headings on all the tables include table cells marked in green to distinguish traded industries from local industries. The statistical cluster map shows the starred clusters categorized by three, two and one star, which are listed below with reference to the sector targeting groups described in the preceding section 4.1.

Traded manufacturing industries:

Primary group of sectors (based on sector targeting criteria for traded industries):

- Foods (NACE 10): 3 star (Mitrovice); 2 star in all other regions
- Beverages (NACE 11): 2 star (Gjakovo, Gjilan, Peja), 1 star (Ferizaj)
- Rubber & Plastics (NACE 22): 2 star (all regions except Peja), 1 star (Peja)
- Minerals & Non-Metallic (NACE 23): 2 star all regions.

Secondary group of sectors:

- Wood & Wood Products (NACE 16): 3 star (Mitrovice), 2 star (Gjakovo, Gjilan, Prizren), 1 star (Pristina, Peja, Ferizaj)

- Chemical Products (NACE 20): 2 star (Peja, Mitrovice)
- Furniture (NACE 31): 2 star (Gjilan, Peja, Ferizaj, Mitrovice)

Tertiary group of sectors:

- Textiles (NACE 13): 1 star (Pristina, Prizren)
- Apparel (NACE 14): 3 star (Gjakovo), 1 star (Prizren, Peja)
- Machinery & devices (NACE 28), 1 star (Gjakovo)

Note:

- Although all the statistical clusters for these industries have been placed under traded industries, note that the majority of enterprises are very small and as such many will, in reality, be currently trading within their regions and only some nationally and in external markets.
- Some clusters marked with a "+" sign in cases where there are strong associations including cluster members. See Wood Products & Furniture.
- Some of the sectors above have clusters covering all regions. This is an example of where the use of a narrow criteria than using top quartile e.g. top 10%, would have yielded a "finer" differentiation of industrial agglomerations rather than the "coarse" one adopted here. However, it is questionable whether such an analysis would have been more valuable given that this analysis is coarse enough already due to the use of NACE 2 digit codes rather than 4 digit.

Local manufacturing industries

- Printing and Recorded Media (NACE 18): 3 star
- Other 2 and 1 star clusters in: Paper & Paper Products, Production of Metals, Fabricated Metals, Electric devices, and some other sectors less relevant to clustering activities.

		Food	Beverages	Tobacco	Textile	Apparel	Leather and leather products	Wood & wood products	Paper & paper products	Printing & recorded media	Coke & refined petroleum	Chemical products	Pharmaceutical	Rubber & Plastics	Mineral & non metallic	Production o metals	Fabricated metal products	Computers and Electronic products	Electric devices	Machinery & devices	Motor vehicles and trailers	Other transportation vehicles	Furniture	Other production	Repair & installation of machinery
Dominance = Ers/Er																									
District		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Gjakovo		0.24	0.13	0.00	0.04	0.07	0.00	0.07	0.00	0.01	0.00	0.01	0.00	0.09	0.17	0.02	0.09	0.00	0.04	0.01	0.00	0.00	0.02	0.01	0.00
Pristina		0.27	0.02	0.00	0.06	0.01	0.00	0.05	0.02	0.06	0.00	0.02	0.01	0.08	0.11	0.15	0.08	0.01	0.00	0.01	0.00	0.00	0.05	0.01	0.00
Gjilan		0.16	0.12	0.04	0.04	0.02	0.00	0.07	0.00	0.02	0.00	0.02	0.00	0.13	0.14	0.00	0.13	0.00	0.01	0.00	0.00	0.02	0.07	0.00	0.00
Prizren		0.25	0.04	0.00	0.06	0.02	0.04	0.04	0.03	0.01	0.00	0.02	0.00	0.15	0.21	0.01	0.07	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00
Peja		0.15	0.13	0.00	0.00	0.05	0.03	0.05	0.00	0.02	0.00	0.09	0.00	0.06	0.14	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.16	0.01	0.00
Ferizaj		0.16	0.05	0.00	0.02	0.01	0.00	0.04	0.01	0.01	0.00	0.03	0.00	0.08	0.27	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.16	0.01	0.00
Mitrovica		0.34	0.00	0.00	0.02	0.01	0.02	0.09	0.00	0.02	0.00	0.05	0.00	0.07	0.17	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.13	0.02	0.00

		Food	Beverages	Tobacco	Textile	Apparel	Leather and leather products	Wood & wood products	Paper & paper products	Printing & recorded media	Coke & refined petroleum	Chemical products	Pharmaceutical	Rubber & Plastics	Mineral & non metallic	Production o metals	Fabricated metal products	Computers and Electronic products	Electric devices	Machinery & devices	Motor vehicles and trailers	Other transportation vehicles	Furniture	Other production	Repair & installation of machinery
Specialization (Location Quotient)																									
District	NACE CODE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Gjakovo		1.038	2.149	0.000	0.928	2.797	0.130	1.295	0.128	0.545	0.000	0.416	0.000	0.924	0.993	0.339	0.957	0.000	5.181	3.410	0.000	0.000	0.198	0.808	0.000
Pristina		1.207	0.338	0.039	1.454	0.594	0.168	0.912	1.166	2.133	2.286	0.644	0.052	0.350	0.468	0.641	0.338	0.022	0.019	0.029	0.000	0.002	0.202	0.031	0.010
Gjilan		0.696	2.050	9.108	0.963	0.671	0.000	1.407	0.276	0.658	0.000	0.653	0.002	0.551	0.625	0.012	0.588	0.000	0.051	0.007	0.000	0.080	0.320	0.019	0.011
Prizren		1.096	0.610	0.000	1.490	0.806	3.115	0.697	2.258	0.517	0.000	0.773	0.002	0.675	0.928	0.034	0.309	0.007	0.018	0.005	0.011	0.000	0.133	0.041	0.013
Peja		0.668	2.116	0.000	0.072	2.259	2.111	1.002	0.341	0.558	0.000	3.000	0.000	0.266	0.599	0.020	0.468	0.000	0.002	0.009	0.000	0.000	0.695	0.036	0.000
Ferizaj		0.698	0.749	0.000	0.453	0.236	0.048	0.745	1.030	0.411	2.480	0.885	0.007	0.340	1.179	0.042	0.640	0.001	0.003	0.001	0.007	0.000	0.716	0.046	0.015
Mitrovica		1.511	0.073	0.000	0.413	0.567	1.658	1.761	0.056	0.821	0.000	1.757	0.000	0.308	0.746	0.032	0.169	0.003	0.006	0.000	0.000	0.000	0.577	0.071	0.003

		Food	Beverages	Tobacco	Textile	Apparel	Leather and leather products	Wood & wood products	Paper & paper products	Printing & recorded media	Coke & refined petroleum	Chemical products	Pharmaceutical	Rubber & Plastics	Mineral & non metallic	Production o metals	Fabricated metal products	Computers and Electronic products	Electric devices	Machinery & devices	Motor vehicles and trailers	Other transportation vehicles	Furniture	Other production	Repair & installation of machinery
No enteprises																									
District	NACE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Gjakovo		149	24	0	15	35	2	78	3	11	0	9	0	52	45	18	69	0	9	5	1	0	14	3	0
Pristina		342	9	2	33	52	7	98	30	93	4	31	9	126	97	34	139	12	17	8	1	3	67	27	14
Gjilan		100	12	1	10	24	1	80	4	12	0	11	1	56	55	8	77	0	3	3	0	1	35	5	3
Prizren		315	9	0	19	50	14	82	26	21	0	16	2	98	128	19	98	3	4	1	1	0	39	12	8
Peja		108	10	0	8	11	7	58	6	7	0	7	0	35	66	5	71	1	1	1	0	0	33	20	1
Ferizaj		140	7	0	13	17	2	58	18	19	2	20	1	68	80	18	86	1	5	2	1	0	134	7	2
Mitrovica		114	4	0	5	14	2	48	1	9	0	12	0	33	31	9	35	1	3	0	0	0	25	4	3
	Totals	1268	75	3	103	203	35	502	88	172	6	106	13	468	502	111	575	18	42	20	4	4	347	78	31

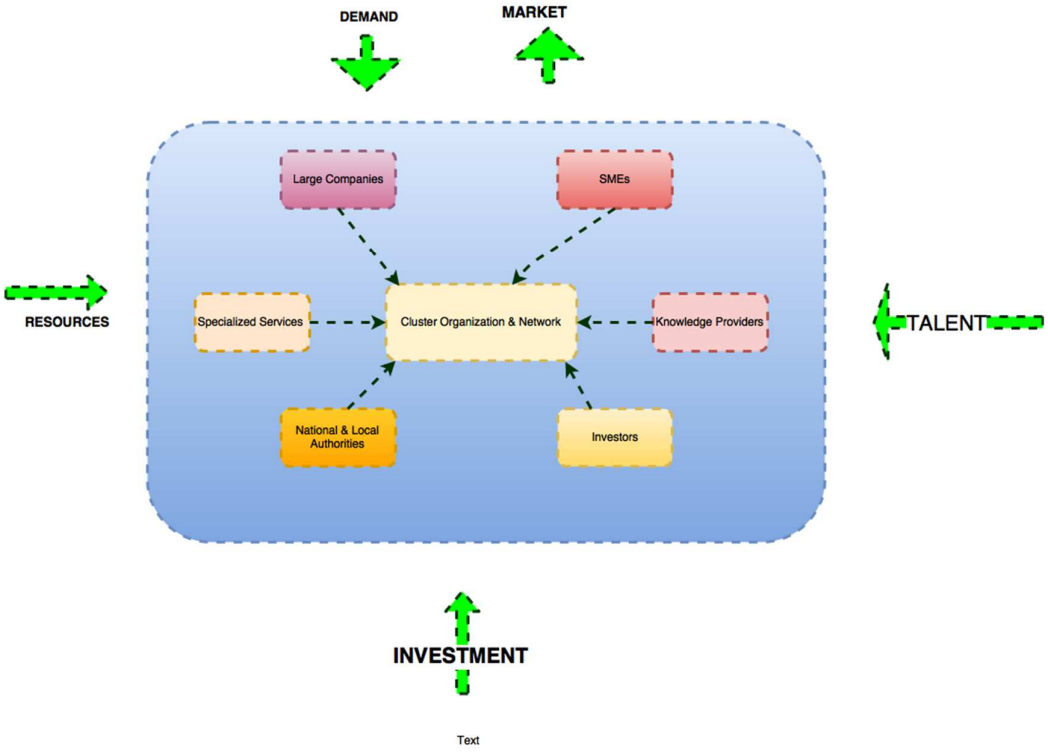
	Food	Beverages	Tobacco	Textile	Apparel	Leather and leather products	Wood & wood products	Paper & paper products	Printing & recorded media	Coke & refined petroleum	Chemical products	Pharmaceutical	Rubber & Plastics	Mineral & non metallic	Production o metals	Fabricated metal products	Computers and Electronic products	Electric devices	Machinery & devices	Motor vehicles and trailers	Other transportation vehicles	Furniture	Other production	Repair & installation of machinery
Top Performing companies																									
Gjakovo	KonSoni																								
Pristina	Euro Food, Kamila, Pestova													M-Technologie											
Gjilan	Fluidi	Fluidi						Tefik Canga, Palma, ABC Design						Protech											
Prizren	Euro Food, Kamila, Pestova	Stone Castle	Frutex					Berto						Xhara Plast			Galvazink								
Peja	Kamila, AMO, Agro Product,	Birra Peja															Bakali Metal								
Ferizaj																									
Mitrovica	Pestova,							BiNNI																	
STATISTICAL CLUSTER MAP																									
Gjakovo	2 star	2 star			3 star		2 star						2 star	2 star		2 star		1 start	1 star					
Pristina	2 star			1 star			1 star +		3 star	1 star			2 star	2 star	1 star	2 star								
Gjilan	2 star	2 star	1 star				2 star						2 star	2 star		2 star						2 star +		
Prizren	2 star			1 star	1 star	1 star	2 star +	1 star					2 star	2 star		2 star								
Peja	2 star	2 star			1 star	1 star	1 star +				2 star		1 star	2 star		2 star						2 star +		
Ferizaj	2 star	1 star					1 star +			1 star			2 star	2 star		2 star						2 star +		
Mitrovica	3 star					1 star	3 star				2 star		2 star	2 star		1 star						2 star +		

5. Cluster Ecosystem

5.1. The structure of a cluster development ecosystem

In analyzing the opportunities for organized clustering activities, it is important to look at whether environmental conditions exist for effective inter-firm to take place. This not only depends on enterprise's willingness to collaborate but requires the existence of a supportive ecosystem. An ecosystem is a system of interconnected elements, whose interaction and development is determined by the characteristics of the environment within which they exist. Thus, a cluster ecosystem is the system of interconnected enterprises and supporting institutions for stimulating and enabling inter-enterprise. The diagram below depicts an ecosystem.

DIAGRAM 2: Cluster development ecosystem



The ecosystem described above is consistent with the Triple Helix model in which Industries-Academia-Government interact to create conditions for innovation and subsequent development, and is not unlike that for supporting entrepreneurship and SME growth in general. It also includes factors included in the Porter Diamond paradigm popularly used for assessing the competitiveness of an environment. The above characteristics can be used a checklist in looking at the eco-system for cluster support to manufacturing in Kosovo.

1. Market Demand: A vibrant market for the products and services creating an arena for completion and the stimulation of innovation

2. Vibrant competing and networking firms: A large number of competitive enterprises, ranging from large to small, including industrial input suppliers and producers, with relevant and up-to-date know-how, access to resources and technologies, management and production capacities to be competitive
3. Knowledge providers such as academia, vocational schools, and R&D institutions to support innovation and acquisition of industrial know-how
4. Specialized services providers such as design, testing, calibration and certification bodies, business consultants, business support infrastructure such as incubators, industrial parks etc
5. Investors (business angels, venture capital) and financing institutions
6. National and local government: Supportive national and local public institutions to enabling improvement of the business and operational environment, and to support enterprises in business development eg. SME agencies, national and local investment promotion agencies,
7. Cluster Organization/cluster development broker: Institutions or agents facilitating strong networking, which may include: leading enterprises, cluster organizations, associations, regional development agencies etc

5.2. The cluster ecosystem applied to Kosovo

The above described model is applied to make a cursory assessment of the cluster eco-system in Kosovo.

1. Demand for manufactured products

Summary: Demand conditions exist for expansion of enterprises.

Notwithstanding demand from domestic consumers for foods, beverages, clothing and household items and consumables, domestic demand for manufactured goods in Kosovo has been driven by considerable public expenditure on infrastructure and demand for industrial and office space, and housing, as well as development of services such as hospitality, restaurants etc

The construction sector in particular has been a driver for construction materials and inputs (mineral products and construction materials, rubber & plastic, wooden articles, chemical products, furniture etc). Some of these materials, for example, plastics, have found markets in foreign markets in the region and outside.

Domestic demand for the manufacturing industries cannot be entirely met by local industries due to a combination of constraints on productive capacity and technical characteristics (quality, design and specification, functionality), and consequently large volumes of goods are imported into the country, resulting in a large trade imbalance in manufactured goods.

International demand has been a key driver of metal and minerals product producing industries. However, though Kosovo is rich in these resources, they are yet to be developed to semi-products that could be used as industrial inputs for the production of high-value added manufactured products, such as finished, metal goods.

Kosovo is a small country (1.8 million) and thus the growth in output of various industries will be limited by the size of the market. However, given the huge trade imbalance, there are opportunities for increasing industry growth by increasing domestic market share through products substituting imports.

Thus, the demand conditions exist for considerable expansion of Kosovo businesses in the types of products referred to above, though this poses a range of formidable challenges for local enterprises. The implication from a clustering standpoint is that this situation should be conducive to spurring extensive improvement and innovation in the local industries in order to compete more effectively with imports as well as to increase exports. Such improvements could be attained through better collaboration between enterprises, as well as through individual activities.

It may be surmised that demand competitions in Kosovo are adequate to enable companies to grow if they weree able to scale up and become more innovative to meet market requirements and compete with imports.

2. Firms, structure and rivalry:

Summary: The current structure of SMEs and the way they tackle markets prevent the development of an environment with vibrant networking firms. Kosovo enterprises are inexperienced in collaboration (other than through buyer-seller relationships) and generally reluctant to do so.

The following discussion is of a qualitative nature. Ideally it would be supported by research involving discussions with groups of enterprises. The comments hereunder are based on study of literature and discussions with industry representatives (namely associations) and donor projects, as well as on our experience in cluster development in other countries.

The landscape of Kosovo manufacturing enterprises is dominated by micro-enterprises, with the remaining shared between small, as well as some medium and few large. Practically all the industries include micro and small businesses. Many of these enterprises are family businesses. Thus, there is considerable fragmentation with regards to industry structure of industries. This is illustrated by the table below, which provides a comparison of average sizes of enterprises in NACE sectors in comparison with EU-28 averages. (Note, the averages are taken over a range including all enterprises from large to micro, and does not mean there are no sizeable firms in Kosovo, though they are far and few between).

		Av.size of Kosovo companies 2015	Av.size of EU companies EU-28 (2013
NACE Code	**Industry**		
24	Metals		
23	Minerals & non-metalic products		
22	Rubber & Plastics	5	26
15	Leather & leather products	8	12
10	Food processing	4	15
11	Beverages		
13	Textiles	9	10
14	Clothing	3	8
28	Machinery & devices	5	10
20	Chemical Products	7	109
12	Wood & wood products	2	6
31	Furniture	5	8

Small enterprises in manufacturing are severely limited in expanding production or in innovation for a variety of reasons including lack of know-how, lack of capital for investment and problems in accessing finance, problems in recruiting workforce etc. Many business owners are resigned to remaining in business for survival. This could create powerful arguments for them seeking economies of scale through cooperation or even merger. (Policy implication: Consider incentivizing enterprises to merge or acquire other enterprises). Having said this, we are conscious that experiences of cooperatives during the Yugoslav period has caused prejudices against the notion of cooperation and it is not unusual to hear remarks that cooperation is not the way Kosovo enterprises like to work. (Policy implication: There is a need to generate awareness about the benefits of inter-firm

collaboration). A negative aspect of the prevalence of microenterprises, is that it may prove difficult to engage attention of firms other than small and medium sized enterprises for participation in cluster initiatives.
It is generally known that management skills need to be upgraded in the majority of Kosovo enterprises, including strategic planning and implementation. One of the characteristics of Kosovo enterprises is that they often result from a "me-too"/imitation approach in which there is a high degree of replication of business models rather than through product differentiation and innovation. Although this is often said in relation to trade and services, it is not unreasonable to assume that it also affects manufacturing. Although a large number of companies doing similar things could result in considerable rivalry between companies, particularly when located in the same towns and regions, local demand and the limited production capacities likely limit the intensity of competition.

It may be surmised that firm's structure and the way they operate are a major weakness.

3. Knowledge and Innovation Service Providers:

Summary. There has been little development in the availability of knowledge providers. There is a need to develop the educational systems for providing a supply of skilled workers qualified to meet industry needs and the same applies to universities. Collaboration between R&D and industry is practically non-existent.

Vocational Training Schools:
57 vocational schools in 26 main towns in Kosovo and a total of 7 sectors of competence are being planned for a range of occupations. Skills gap analyses carried out for some sectors (for example, construction, ICT, wood-processing) point to the need for workforce with skills and enterprises in all industries report challenges in recruiting skilled workforce. At the same time, general and youth unemployment remain high.

Academia:
Main developments in the sector of Higher Education have been characterized by a significant increase of the number of public higher education institutions in Kosovo over the past years. Today, higher education in Kosovo consists of 7 public universities and about 25 private higher education institutions (including colleges, institutes and higher vocational schools), providing over 400 academic programmes for about 120,000 students. One of the main challenges is the lack of research or analyses of labour market needs in defining study programmes. The budget for higher education remains quite small and insufficient for the implementation of necessary reforms.

Research and Development:
Research and innovation are marginal areas in Kosovo. There is lack of even basic research and technological of even basic research and technological statistics. There is no functional system of research and innovation. Investment in science in Kosovo is small and insufficient, while still there is a lack of incentive policies for supporting scientific research. There is a very small number of institutions in Kosovo that do scientific research. Research activities are sporadic, uncoordinated and based on individual initiatives, rather than institutional. Universities are primarily focused on teaching and have limited capacity to undertake research activities. The demand for scientific research from the industry is low and the cooperation between local and international research institutions and economic operators leaves much space for improvement. Research institutions face numerous challenges, to mention: lack of funding, inadequate capacity for research, very few centres for managing projects, insufficient and outdated collection of books and journals in university libraries, lack of courses on scientific research methods. Kosovo participated in only a few projects within the European Union FP7 Program. The Kosovo Strategy for Innovation 2013-2020 has been

approved but we understand that little has been done to implement it.

4. Specialized Service Providers:

Summary: Specialized services exist though limited in the depth of expertise that can be provided. There has been some success in supporting start-ups, specifically in the IT sector, with the Kosovo Innovation Centre providing valuable support to innovative enterprises.

Business Advisory & Innovation Centres:

The number of institutions supporting business, technology and innovation has grown over recent years, widening the range of support available to new and existing entrepreneurs throughout Kosovo (see Table below). However, the performance of many of these centres and their effect on the business environment remains unknown, due to the general absence of performance reviews and audits. The Innovation Centre Kosovo (ICK) in particular has played an important role in enabling young start-up entrepreneurs in developing innovative services and products, predominantly in the ICT sector. This is very important because the ICT is an enabling technology that can be applied to across industries to improve competitiveness, including most of the industries referred to in this report. However, this is not yet being done on a significant scale.

Centre	Principal activities
The Business Advisory Centre (BAC) Mitrovica North	Education and services to companies such as business training programmes, consultancy services, business registration support, micro-credit, logistics support, provision of office space and capacity building.
Business Advisory Centre (BAC) Mitrovica South	Services to entrepreneurs free of charge, including educational training, business registration, consultancy, micro-credit designed for start-up companies and networking services.
Business Advisory Centre (BAC) Zvecan	Consultancy and advisory services, start-up loans and training, aimed at new graduates, entrepreneurs and unemployed persons wishing to start their own business.
Business Support Centre Kosovo (BSCK)	Support to unemployed youth, graduate students and young start- ups in establishing their companies, offering practical training courses, consultancy services and access to micro-loans.
Genesis Technology Centre	Practical training in electronics and manufacturing, applied technology research and technology business incubation. The centre currently operates as a training institute but aims to widen its business activities with business incubation services in the future.
Innovation Centre Kosovo (ICK)	Incubator services, mentoring, consulting and training to entrepreneurs and managers in business planning, accounting, - finance, product/service development, marketing/ sales, human resources, technology development and transfer and matchmaking with local, regional and international businesses.
Innovation Lab Kosovo	Support youth to transform innovative ideas into actionable projects and implement them. The Design Center of the Innovation Lab directly designs and implements technological innovations for Kosovo institutions that work on behalf of children and young people.

Industrial zones and Business parks:

Kosovo is planning expansion of industrial parks. At present there are no industrial parks focused on specific industries other than the ZINKUNIE industrial park in Prizren that is focused on metal-processing. Others include business parks in Drenas (on highway linking Pristina – Peja), Mitrovice, and a techno park in Shtime. There are plans for expanding industrial parks and creation of free economic zones, which could provide a good basis for encouraging co-location of enterprises in key industries and support to regional clusters.

Design Services:
The construction sector has stimulated the development of design services from architects and interior designers, and the country is acknowledged to have some outstanding fashion designers, though these tend to work for bespoke customers.

Quality Infrastructure Service Providers:
Manufacturing industries that need to show compliance with market requirements currently need to use services of accredited testing, calibration or inspection services in developed foreign countries. Given the small size of the Kosovo market, it remains to be established, which services of this type could be established in Kosovo on a sustainable basis and there will be some reliance on externally outsourced services in the region.

Local Consultants & Business trainers:
Donor projects over about 15 years of technical assistance by international donors to the Kosovo private sector have created a group of experienced consultants and some consulting companies, though these tend to be focused on donor projects with the exception of services such as accounting & IT services. The business consulting services tend to be of a general nature with few consultants that are truly industry experts, (although considerable progress is said to have been achieved in the development of expertise for agriculture). Current donor projects supporting private sector development include our own, ICEP (focused on institutions), USAID AGRO and EMPOWER focused on private sector institutions such as associations and enterprises, PPSE Swiss Contact focused. The EBRD provides technical assistance to enterprises under its SME Business Advisory Services program.

5. Investors:

Summary: Enterprises challenged in accessing funds even though the banking system is highly liquid. The market for equity funding is undeveloped.

The market for business start up finance and venture capital is undeveloped, which is a major limiting factor on growth of established and start-up businesses. Commercial loans are available from banks to enterprises meeting requirements including track-record, records, collateral, which are difficult to meet for many companies, which are unable to access funds though the banking system is highly liquid. The existence of NBFI loans, through financing institutions such as Crimson Finance, provides some enterprises with the capability of sourcing funding through supplier finance, which few banks are offering.

6. National & Local Government Institutions:

Summary: National and local public institutional support for enterprise development is weak.

The MTI Department of Industry is currently addressing the issue of how the State can enable industry upgrading through cluster policies. The national provider of support services to enterprises is KIESA. Whilst KIESA has provided some support to enterprises in trade promotion through participation in fairs and exhibitions, and has been involved in supplying consulting services through donor funded grant schemes, it is still in a state of flux and has yet to develop to become an effective

and efficient SME support agency. It would need to develop cluster development skills to provide facilitation and advice to clusters in bottom-up initiatives. The Department of Industry and KIESA have not interacted much on cluster development policies and have not been involved in discussions on programmes.

Local development institutions are weak. Although the Regional Development Institutions achieve in name, they do not have the capacity to function as catalysts for local economic development and to provide a modicum of support to enterprise collaborative initiatives.

7. Cluster development/business network development agents:

Summary: Support to business networking and establishment of associations has largely the result of international donor support. There is no model in place for developing cluster initiatives.

Cluster development initiatives have been initiated in various economies by enterprises themselves ie. bottom-up, perhaps with involvement of associations, or with strong top-down involvement in which the initiators have been public institutions such as ministries, SME agencies, local or regional development institutions. In many instances there have been hybrid approaches with a enthusiastic bottom-up approach facilitated and supported by public institutions whether at national or local level.

In Kosovo, past and the existing USAID EMPOWER and USAID AGRO projects have taken a sector focus and work with individual enterprises as well as with groups. Both ongoing USAID projects work on developing associations in the areas of manufacturing. AGRO works with primary producers and foods processors, whereas EMPOWER is engaged with sectors including wood processing and furniture, apparel & leather, ICT, Renewable Energy related activities, and Tourism. Whilst these projects may not be typical for cluster support programs, they have played an important role in facilitating inter-enterprise collaboration on a formal as well as informal levels.

One other project that aims to support cluster development is the GIZ one on establishing a group of metal processing companies for producing equipment and components for production of renewable energy, for example, wind, solar. A number of metal processors are working with GIZ consultants and collaborating with the technical university in Pristina. This initiative is at an early stage of development.

Apart from the above, there are no other support structures or projects in place for catalyzing or supporting cluster initiatives in Kosovo.

General conclusion: If a cluster development program is to be initiated, the above deficiencies will need to be tackled to provide sustainability and ensure success. These need to be considered in the development of a cluster support framework and programs in Kosovo. Clearly they cannot all be tackled at once and solved within a similar timeframe. Thus a pragmatic approach is needed over the medium term.

6. Findings and Conclusions

The following is a table summarizing findings from our analysis.

Findings	Conclusions
• Inter-enterprise collaboration is still in its early stages and there are few effective associations in place. • Enterprises in sectors have common problems, many of which can be tackled through collaborative effort. • The majority of enterprises are very small and need to be scaled-up to become more competitive and productive • There is no effective cluster support eco-system that would assist regional cluste initiatives over a cluster's development. • The analysis indicates regional industry agglomerations but this analysis should be refined by the MTI be more useful for the identification of specific sub-sector (industry) and cross-sector clusters.	• A regional cluster support program at this stage is premature. • The focus should be on promoting and facilitating the establishment of sector oriented associations and business networks. • Future near-term (in coming 12-24 months) pilot programs for regional cluster initiatives should address the needs of proven inter-enterprise collaborative networks such as functioning sector associations. There are sufficient common problems to make this a reality. • Sector focused regional cluster/national association support measures should only be developed in parallel with horizontal programs aimed at addressing key challenges such as scaling-up and putting together the components of a proper eco-system for enterprise and cluster support. • The MTI should continue to develop capability in both assembling, expanding and analyzing industry data. Analysis should extend to relevant services forming parts of industry value chains.

7. A Cluster Support Framework

A program of State promoted cluster development support in Kosovo needs a framework within which public institutions and their private partners will act. This framework would be established to implement cluster development policies. This section proposes cluster development policies and looks at how to organize to oversee and manage their delivery. It also provides an example of the mechanism for their delivery and an indication of the funding that may be required per intervention. A conclusive set of recommendations should be based on a more extensive study than has been possible by this assignment so we have provided ideas that could form the basis for further discussion.

7.1. Cluster Policies

Our section on policies begins with those that have found to be generally applicable and are widely applied within an EU context. It is followed by some discussion on policies that are specific to Kosovo given the circumstances in this country.

7.1.1. General cluster policies based on best practice

Develop clusters by building on existing strengths
Resist the temptation to follow the trends by trying to establish clusters in industries where there are no existing strengths. Focus on existing sector and industries, which have a proven track-record and which have good prospects for development and improvement in the foreseeable future.

Focus on activities undertaken by groups
Clustering is an instrument that focuses support on groups including enterprises and supporting institutions. It should not be adopted to support the needs of individual enterprises.

Support initiatives in line with regional specialization
Regional specialization occurs for specific conditions that attract enterprises to establish operations in that area, whether availability of natural resources, traditions and availability of workforce, proximity of markets etc. Focus of support should be on those regions that exhibit specialization that can be shown to be sustainable in the foreseeable future.

Support inter-industry linkages
There may be opportunities in creating linkages between separate though related industries to capitalize on economies of scale of delivering support and to stimulate innovation through collaboration. Sometimes the linkages are not obvious at first glance but become clear on looking at the value chains. Examples are food & beverage or textiles & apparel, electronic equipment & software engineering, leather and furniture, footwear and apparel.

Integrate cluster development into other SME and industry programmes
Examine how programmes designed for individual SME support can be used to provide support to enterprises in clusters rather than designing special programmes for clusters. For example, a programme for co-financing technology upgrading could be offered to enterprises in clusters, though not exclusively thus strengthening the cluster as a whole

Support clusters with an international outlook
Economies operate in the global marketplace and are subject to competitive pressures from outside. By focusing on markets beyond their borders, enterprises learn to become more competitive domestically as well as internationally. This is particulary important with small countries with small domestic markets. Considerable weighting should be given to industries trading internationally.

7.1.2. Cluster policies for Kosovo

Focus initial support on association development
Inter-enterprise cooperation on areas other than supplier relationships is weak in Kosovo. Associations are weak too, with few truly effective and sustainable ones. Thus, the ground is not fertile for cluster initiatives, and experience in transition economies shows that cooperation between enterprises that may even be competitors is a difficult to grasp and the lack of benefits leads to

discouragement. For this reason it is better to take a national outlook at promote, encourage and incentivize cooperation in sector associations rather than targeting regional cluster initiatives. Once formed, such associations can be drivers for regional initiatives. As things stand at the moment, the only associations that would be able to qualify for this type of support by virtue of their current state of development would be, for example, Association of Wood Processors, ICT Cluster (STIKK), PePeKo (subject to further development). Others that appear in the manufacturing sector, such as Apparel Marketing Association, would depend on progress in building sustainability.

Focus support on groups of enterprises that include relatively larger enterprises with resources and capacity to play a key role in cluster initiatives

The size of most enterprises in Kosovo is so small that it is difficult to expect a micro-business employing a handful of people to become active in clustering initiatives. This is particularly true for manufacturing. It is beneficial if groups include relatively larger enterprises with larger staff and higher stage of development that are able to grasp the potential benefits from devoting time and energy to a cluster initiative.

In case of regional clusters, focus support on those operating in locations with good local supporting institutions

Groups of enterprises will become very discouraged if they are unable to source accessible support in tackling common goals identified in their joint plan for developing as a cluster. For example, the presence of a training school or university with direct interests in the industry can be very important, as can be support from a local development agency or municipality. However the aforementioned would be generally difficult to find in Kosovo, which is why the ecosystem is not sufficiently well developed to deliver significant results from programs. For this reason cluster support has to be linked to progress in other national policies and programs, such as development of vocational education or building capacity of regional government and agencies.

7.2. Managing & Delivering Programmes

National models for governance and management of the delivery of State cluster development programmes depends on many factors including level of economic development, size of country, strength and degree of autonomy of regional administrations, existence and capacity of organizations for supporting industry and enterprise development, accessibility to EU structural funds etc . Models may be described as either centralized or decentralized. In most European countries, the cluster policies developed at national level are implemented by one or more agency organized under different ministries. The following are examples:

- **Bulgaria:** The national cluster support program is co-funded by EU structural funds under the national Operational Programme for Competitiveness, which is the responsibility of the managing body Ministry of Economy, with the Bulgarian SME Agency as the intermediate body. The OP Competitiveness addresses a wide range of enterprise development issues and cluster development is covered by one of its measures. In formulating the cluster development program the government has consulted with the Bulgarian Association of Clusters, which represents a number of industry clusters from around the country.

- **Czech Republic:** Cluster development has been supported under Operational Programmes co-funded by EU structural funds for industry and enterprise. Industrial policy is the responsibility of the Ministry of Industry and Trade. The Investment and Business Development Agency has played a leading role in the management of cluster support programmes.

- **Poland:** Cluster development has been co-funded by EU structural funds under a number of Operational Programmes for innovation and enterprise development in the regions. The Polish Agency for Enterprise Development takes a lead role in cluster development.

- **Ireland:** The Ministry for Jobs, Enterprise and Innovation is responsible for cluster policy. Programs are currently implemented by the Irish development agency, Enterprise Ireland in collaboration with city and county enterprise boards. Enterprise Ireland Enterprise Ireland is responsible for the development and growth of Irish enterprises in world markets.

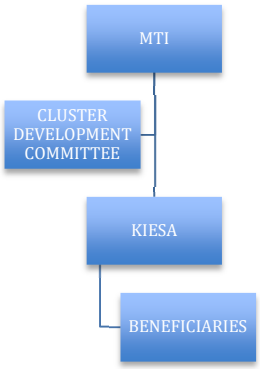
- **Croatia:** Industrial development policy is the responsibility of the Ministry of Economy. Cluster development is implemented by the Agency for Investment and Competitiveness.

- **Italy:** This country has a number of regional agencies responsible for cluster development.

- **Austria:** Austria has a national cluster collaboration platform coordinating the activities of a number of regional cluster groupings.

The Kosovo government is at the beginning of the development of support to industrial clusters and business networks. It does not yet elaborated anything other than a very general description of its approach. The institutions involved in analysis, policy making, goal setting, planning, implementation, monitoring and evaluation, need to build capacity and marshal the funds and resources needed to launch a cluster development program, namely MTI Department of Industry (policymaker for industry) and KIESA (implementing agency). A simple diagram showing the lines of communication between policymaker, the implementer and beneficiaries (clusters) is shown below.

DIAGRAM 3: Cluster development communication model



The diagram also includes a Cluster Development Committee. This would discuss and advise the ministry on policies, goals, programs, aspects of implementation, review progress and outcomes and impact. We advise that it is composed of public institutions with responsibility for areas relevant to economic development and the development of a functioning cluster ecosystem as well as independent experts and representatives of the private sector. Thus, public institutions might include the Ministry of Science, Education and Technology, and the Ministry of Economic Development given the importance of these institutions in developing innovation support systems and ICT.

The Committee could have permanent participants invited on an ad hoc basis. For example, the Ministry of Agriculture, Forestry and Rural Development should be invited to participate in the case of specific discussions on issues related to the Food and Wood Processing industries given responsibility for policies affecting primary agricultural inputs for foods and timber for the wood processing and furniture industries.

The involvement of representatives from such bodies would ensure the absence of stove piping in which institutions deal with their areas of responsibility alone without adequate horizontal inter-institutional consultation on issues that ought to be of common interest.

Expertise on clustering ought to be provided by specialists from either academia or economic development organizations or projects. The participation of an organization representing the views of industries could also provide useful inputs. Some countries have associations of business clusters. Another possibility to be explored is the chamber of commerce.

The following table provides a brief summary of the roles of MTI, KIESA and the Cluster Development Committee.

MTI	KIESA	Cluster Development Committee
• Research & Analysis • Policies • Goals • Programme Fiche Development • Sourcing funding • Evaluation & Programme adjustment	• Support in Research & Analysis (through direct contact with industries and enterprises) • Programme Elaboration • Publicity & Promotion • Implementation of Programme • Progress Monitoring • Participation in Evaluation • Evaluation & Programme adjustment	• Review and comment policies and programmes • Advise on cluster development • Review progress of programmes • Review evaluations

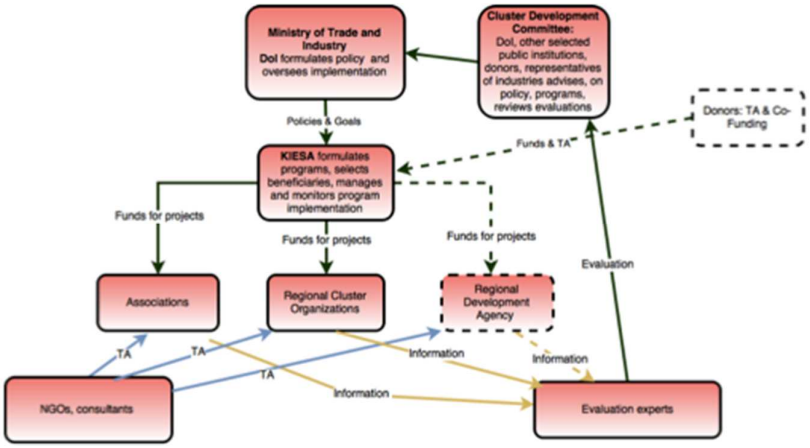
The following figure provides a simple illustration of the mechanism of delivery of support to clusters. It follows that adopted in most countries in which State funds are allocated to cluster programmes and implementation is managed by dedicated SME and industry support agencies.

Funds are provided to beneficiaries (cluster organizations, associations) to contribute to the costs of eg. specialist services, purchase of equipment, promotional activities, management system certification, innovation projects, trainings etc. Independent evaluators are used to collect and assess data and information on outcomes and impacts of cluster development programmes.

Consulting services to associations or clusters would be provided by experts in this area. We would envisage KIESA playing the role as advisors and experts as and when it builds capacity to do this.

The diagram shows an option in which funds are provided via a regional development agency for establishment of services and support to enterprises in a regional cluster. However, we do not believe this is unrealistic in Kosovo at this stage due to the need to first develop capacity of local development bodies. In the first instance, we would envisage the roll out of support programmes to associations, which would develop the service and distribute the benefits of programmes to members. The programme would be provided to national rather than regional associations with the objective of promoting and enabling inter-enterprise cooperation on projects with a nationwide focus.

DIAGRAM 4: Cluster funding model



7.3. Types of Support throughout the cluster lifecycle

Cluster support needs vary as they move through subsequent stages of development. It is observed that industrial clusters follow a development cycle, which is not unlike that of the industry in which they find themselves, although it may not necessarily be concurrent since industries may live on whilst industry clusters may extinguish for a variety of reasons, which we shall not discuss hereunder but rather refer to the lifecycle for the purpose of understanding its needs at different stages of development. The following diagram depicts an industry life cycle and the table below it refers to the type of support that is typically needed to help sustain its development as well as examples of the supporting organizations working with the cluster.

DIAGRAM 5: Industry life cycle

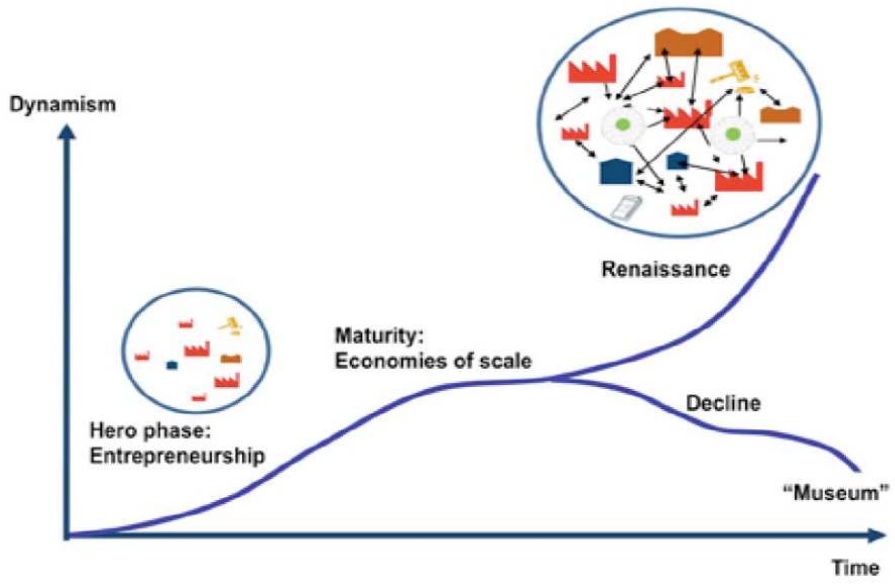


Table: Description of industry development stages

	Latent	Birth (several months duration)	Growth (several years)	Maturity duration depends on industry lifecycle & regional development	Decline	Rebirth / Renaissance
Number of enterprises and actors involved	Statistically dominant and specialized	Small no. players involved including a supporting institution	Growing to critical mass and working with supporting institutions	Large	Reducing	Growing
Networking and Cluster Management	No networking	Low level. Organized cluster.	Increasing as trust grows. Cluster management running a range of support activities and projects	Intensive and cooperation on value-creating activities	Reducing as enterprises leave industry (may become a "museum" piece	Increasing as cluster transforms on redefining or reinventing its business
Market characteristics	Attractive for growth	Attractive for growth	Growing as enterprise cooperation strengthens value chains and competitiveness improves	Stable	Shrinking	New market
Support needs	1)Promotion of clustering; 2)Networking support e.g. B2B	1) Strategic planning; 2) Formation and registration; 3) Training on cluster management and development of services; 4)Implementation	1)Development of professional cluster management systems and procedures. 2)Accreditation (eg. European Secretariat for Cluster Analysis, Gold, Silver, Bronze	Joint innovation projects leading to incremental or radical innovation. Evaluation and achievement of higher label of excellence.	Support in strategic planning	Support in adapting to new markets

		of networking and joint projects (e.g. training for enterprises, cluster promotion to members)	labels) 3) Joint investment (e.g. Common Uses Facility) 4) Internationalization support			
Form of support from public institutions/ state operational programmes	Technical assistance in collaboration with local institutions.	Technical assistance. Low value grants.	Co-funding of projects.	Co-funding of projects for accredited innovation clusters.		
Examples of Supporting industries and institutions working with cluster	SME Agency, Local economic development agents/municipality, business consultants/cluster brokers	SME Agency Local economic development agents/municipality, business consultants/cluster brokers	VET, Academia, designers, Conformity assessment services, incubators, Investors	Academia and R&D institutions, other innovation service providers		

A programme of support to Kosovo's associations (or national clusters) would initially be focused on the birth and growth stages and include support to activities including:

- Technical support on strategic planning
- Promotion of clustering to prospective members
- Development of management systems (in accordance with best practices, subsequently leading to organizational excellence certification)
- Training of cluster management
- Training to members on industry topics
- Quick win events such as joint trade missions, participation in exhibitions
- Cluster investment in a joint use facility eg. for training, design, production operations, testing etc.

7.4. Support to national associations v support to regional clusters

Although cluster initiatives can differ from national associations in many respects, such as: geographic focus, regional goals, local partnerships, intense inter-enterprise projects, there are many similarities, which is why cluster organizations are often registered as associations in the EU and transition economies. We suggest that at the very early stages of cluster development, the Department of Industry includes both national associations and regional clusters, were any to be established, under the same program and treats them on equal terms.

7.5. Sources & Scale of Funding

Funding of cluster activities in transitional economies is usually supported by programmes established at national level as well as with the support of international organizations. EU cluster support is co-funded by a number of programmes, national and regional, financed from a combination of national budgets and EU structural funds. Our understanding is that Kosovo is planning a nationally supported programme but is also counting on the launch of grant schemes by multilateral or lateral development aid projects, including one planned by the EU Delegation in Kosovo.

The following table shows examples from some programs funded by EU and two national programs (Republic of Ireland, Serbia). A new grant scheme for Kosovo clusters or associations should be designed following discussions with potential beneficiaries. Its focus should be to finance activities bringing concrete member benefits linked to existing needs rather than to financing cluster management, which ought to be funded from member services and membership dues. Our experience shows that cluster start-up schemes that finance manager and office running costs are likely to be of very limited success at the best.

We understand that Kosovo now has access to COSME as an instrument for financing cluster projects, though this would not be applicable at the early stages of development since it finances projects with inputs from international cluster networks in the EU and beneficiary countries.

Establishing a support programme would take at least a year to set up, including design, planning and resourcing, with a launch no earlier than 12 months after commencing the programme design. Programmes could be launched at yearly intervals to take into account lessons learned from ongoing ones, and to provide opportunities for beneficiaries to apply for follow-up grants to continue

development. Programmes of this type usually provide funding on a competitive basis with potential beneficiaries submitting applications for funding and technical assistance.

Country (year)	Programme	Grant size & Cluster contribution to project cost
Bulgaria	PHARE Support to clusters development 2008-9. 7 enterprises. For consulting, investment, training, innovative projects	50 – 100,000 euro, 100% of project value, 2 years
Bulgaria	"Support for clusters development in Bulgaria" co-financed by the European Union through the European Regional Development Fund and the Operational Programme "Development of the Competitiveness of the Bulgarian Economy" 2007-2013, Priority Axis 2. For cluster management systems; promotion; joint-projects between cluster members.	Max 1 million euro, 50% of project value
Ireland	Enterprise Ireland 2016 cluster grant scheme. Minimum 5 members.	100,000 euro, 50% max of project value, 2 years
Poland	Cluster development funded by Operational Programmes at national & regional level. Minimum 6 members.	> 1 million euro, 70 % max project value, 3 years. Second project intensity 40%.
Serbia	Ministry of Economy Cluster Grant Scheme 2012 to support clusters in (administered by National Agency for Regional Development) for early stage of development and innovative clusters. Minimum 12 members including supporting institutions. 60% SMEs.	New clusters 2,000-20,000 euro (approx. equiv to dinar) Established innovative 10,000 – 60,000 euro. 100% grants.

8. Summary and Concluding Remarks

In summary:

- The cluster mapping analysis points to the existence of regional concentrations of enterprises in traded sectors (including industries with capability of trading beyond Kosovo's borders). These have been differentiated on the basis of a "star" award system, with top, 3 star, clusters characterized by being dominant in a region (defined with reference to the territories of official Kosovo regional districts), with a high degree of specialization, and a large number of enterprises. The clusters include:

  Primary group of sectors (based on sector targeting criteria for traded industries):

  - Foods (NACE 10): 3 star (Mitrovice); 2 star in all other regions
  - Beverages (NACE 11): 2 star (Gjakovo, Gjilan, Peja), 1 star (Ferizaj)
  - Rubber & Plastics (NACE 22): 2 star (all regions except Peja), 1 star (Peja)
  - Minerals & Non-Metallic (NACE 23): 2 star all regions.

Secondary group of sectors:

- Wood & Wood Products (NACE 16): 3 star (Mitrovice), 2 star (Gjakovo, Gjilan, Prizren), 1 star (Pristina, Peja, Ferizaj)
- Chemical Products (NACE 20): 2 star (Peja, Mitrovice)
- Furniture (NACE 31): 2 star (Gjilan, Peja, Ferizaj, Mitrovice)

Tertiary group of sectors:

- Textiles (NACE 13): 1 star (Pristina, Prizren)
- Apparel (NACE 14): 3 star (Gjakovo), 1 star (Prizren, Peja)
- Machinery & devices (NACE 28), 1 star (Gjakovo

- The cluster support eco-system is insufficiently developed to support regional cluster programs, and considerable progress needs to be made on providing private and public institutional support to industries in the areas in which enterprises are clusters. This includes educational establishments, as well as local development institutions that could provide support as and when needed.

- A good indicator of cluster readiness in Kosovo is the maturity of sector associations in Kosovo. This is partly due to a lack of cooperation culture and a lack of successful association initiatives that would lead to widespread member support. Few are sustainable, though there are some good examples including the Wood Processors Association and the ICT association. We believe that it is important to promote and support associations since they will form a basis on which enterprises will learn to cooperate with one another. This should be the priority and programmes could be directed initially at eligible national associations or national clusters. The differences between the two are not that important at the early stages of development since the goal will be to promote and develop good inter-enterprise cooperation.

- The National Development Strategy includes cluster development measures and refers to a Cluster Development Agent role. The Ministry's Department of Industry should be responsible for developing cluster policies and programme fiches whereas the implementation should be the responsibility of KIESA. We believe that KIESA should promote the benefits of inter-enterprise collaboration in cooperation with active sector associations, but it should not attempt to

establish such since this is something that needs to be done bottom-up through the initiative of members. In this regard, KIESA would act as a cluster development agent through intermediating in the delivery of State support, though we would envisage the delivery of support through private sector specialists contracted to do this under cluster development programmes. KIESA would play an advisory role once it develops the expertise and capacity to advise associations and clusters.

- We advise the establishment of a Cluster Development Committee to advise the Department of Industry on issues related to cluster development and to participate in evaluation of outcomes and impact of programmes. It should include all ministries that would impact on the development of clusters, cluster development expertise, and ideally representation of targeted industries.

- A cluster – or association – development programme should provide support to clusters depending on their stage of development with the cluster/association development cycle. Early stage support (during birth and early growth) includes promotion of clustering to prospective members, development of management capability through training and introduction of systems, quick-win projects delivering needed outcomes to members. These need not be high value programmes and might typically be in a range up to 100 k euro. If deemed possible, they ought to include a contribution from the clusters (perhaps 10-20%) although at birth 100% grant financing is not uncommon. Preferably, the programmes should finance capacity building and activities, but exclude covering office expenses and management salaries since this tends to impede achievement of sustainability. It would likely take more than one year to set up a programme from start to launch of the programme. The time in-between would be spent on consultations with potential industry beneficiaries, identification of programme goals and development of strategy, sourcing of funds, design of programme, training of Department of Industry and KIESA staff, promotion of upcoming programme etc. It is important for Department of Industry and KIESA to commence close cooperation on areas related to industrial policy and programme planning, whether through horizontal activities, or vertical measures targeting specific industries.

Appendices

Appendix 1

List of Reports reviewed (available in www.invest-ks.org reports archives)
Sector profile on Metal Processing
Sector profile on Wood Processing
Sector Profile on Food Processing & Packaging
Sector Profile of Textile Industry
Sector Profile for Plastics and Rubber
Sector Profile for Chemicals

Note, the above reports mainly based on studies carried out under UNDP Aid for Trade project.

Appendix 2
Data Used in Analysis

Numri i bizneseve aktive sipas komunave per vitin 2015

Numri i bizneseve 2015		Përpunimi i produkteve ushqimore	Prodhimi i pijeve	Prodhimi i produkteve të duhanit	Prodhimi i tekstilit	Prodhimi i veshjeve	Prodhimi i lëkurës dhe produkteve prej lëkurës	Prodhimi i drurit dhe i produkteve të drurit dhe të tapës, përveç mobilieve; prodhimi i artikujve nga kashta dhe materialeve të gërshetuara- thurëse	Prodhimi i letrës dhe produkteve prej letrës	Shtypja dhe riprodhimi i medieve të incizuara	Prodhimi i koksit dhe produkteve të rafinuara të naftës	Prodhimi i produkteve kimike	Prodhimi i produkteve bazë farmaceutike dhe preparateve farmaceutike	Prodhimi i produkteve të gomës dhe të plastikës	Prodhimi i produkteve minerale jometalike	Prodhimi i metaleve	Prodhimi i produkteve të fabrikuara metalike, përveç makinerisë dhe pajisjeve	Prodhimi i kompjuterëve, produkteve elektronike dhe optike	Prodhimi i pajisjeve elektrike	Prodhimi i makinerisë dhe pajisjeve p.k.t.	Prodhimi i mjeteve motorike (të transportit), i rimorkiove dhe gjysmërimorkiove	Prodhimi i mjeteve të tjera të transportit	Prodhimi i mobilieve	Prodhimi ijetër p.k.t.	Riparimi dhe instalimi i makinerive dhe pajisjeve	
KolID	Komuna	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Total
1	Deçani	13				2		23		1				5	10	4	15						1			74
2	Gjakova	90	7		13	29	2	39	1	9		6		28	20	7	34		8	4			11	2		310
3	Gllogovci	18	2		5		1	14	1	2		3	1	23	21	4	10			2			3		1	111
4	Gjilani	62	4	1	10	13	1	25	4	10		6		34	33	4	43		2	1		1	18	3	1	276
5	Dragashi	47			1	2		12		1				5	10	1	13						3			95
6	Istogu	20	3		3	1		12						6	8	1	21						7			82
7	Kaçaniku	16	3		2			6	4	2		3		10	11		13						9			79
8	Klina	14	3		1	1		6		1				16	19		14						1		1	77
9	Fushë Kosova	28			1	2		6	3	3		4	2	17	7	5	15	1				1	7		2	104
10	Kamenica	17	3			5		20				2	1	6	5		8			1			7			75
11	Mitrovica	42	3		2	6	1	26	1	5		6		13	14	5	8		1				8	3		144
12	Leposaviqi	2	1					2		1		2			2		2						2		1	15
13	Lipjani	27	1		1	1		11	2		2	2		11	14	4	7						4	2		89
14	Novo Bërda							1						1			1									3
15	Obiliqi	13				1		5						4	8	1	7		2				2	2		45
16	Rahoveci	46	17		2	4		16	2	1		3		19	15	7	20		1	1	1		2	1		158
17	Peja	74	4		4	9	7	40	6	6		7		13	39	4	36	1	1	1			25	20		297
18	Podujeva	35	1	1	2	8	1	15	1	4		2		20	13	4	25		1				9	1		143
19	Prishtina	210	5	1	24	39	5	43	23	83	2	18	5	47	29	16	72	11	16	4	1	2	37	22	8	723
20	Prizreni	211	5		16	38	13	42	24	17		12	2	63	59	9	55	2	4		1		25	11	7	616
21	Skënderaji	16			1	1	1	5						10	8	1	6						1			50
22	Shtimja	13			1	1		11	1	1		1		7	10	2	11	1	2	1			7	1		71
23	Shtërpca	6	1					2							1				1					1		12
24	Suhareka	35	4		1	9	1	18	1	2		4		20	35	6	24	1		1			7	1	1	171
25	Ferizaji	104	3		10	16	2	39	13	16	2	15	1	51	56	16	62		2	1	1		118	5	2	535
26	Vitia	21	5			6		35		2		3		16	17	4	26		1	1			10	2	2	151
27	Vushtrria	45			2	7		12		2		4		9	6	3	19	1	1				11	1	2	125
28	Zubin Potoku	2						1											1							4
29	Zveçani	3						2		1					1								1			8
30	Malisheva	22			1	1		10	1	1				10	24	3	6						4			83
31	Graçanicë	11				1		3		1		2	1	3	5		2						5		3	37
38	Mitrovic Veriore	4												1									2			7
39	Hani i Elezit	1										1			2											4
	TOTAL	1268	75	3	103	203	35	502	88	172	6	106	13	468	502	111	575	18	42	20	4	4	347	78	31	4774

TABLE OF NUMBERS OF ENTERPRISES INDUSTRY PER MUNICPALITY

NOTE: MUNICIPALITIES MARKED WITH SAME COLOUR BELONG TO THE SAME OFFICIAL REGION

Numri i i te punesuarve sipas komunave per vitin 2015(D-Manufacturing)

Te punesuar2015		Përpunimi i produkteve ushqimore	Prodhimi i pijeve	Prodhimi i produkteve të duhanit	Prodhimi i tekstilit	Prodhimi i veshjeve	Prodhimi i lëkurës dhe produkteve prej lëkurës	Prodhimi i drurit dhe i produkteve të drurit dhe të tapës, përveç mobiljeve; prodhimi i artikujve nga kashta dhe materiale të gërshetuara- thurëse	Prodhimi i letrës dhe produkteve prej letrës	Shtypja dhe riprodhimi i mediave të incizuara	Prodhimi i koksit dhe produkteve të rafinuara të naftës	Prodhimi i produkteve kimike	Prodhimi i produkteve bazë farmaceutike dhe preparateve farmaceutike	Prodhimi i produkteve të gomës dhe të plastikës	Prodhimi i produkteve minerale jometalike	Prodhimi i metaleve	Prodhimi i produkteve të fabrikuara metalike, përveç makinerisë dhe pajisjeve	Prodhimi i kompjuterëve, produkteve elektronike dhe optike	Prodhimi i pajisjeve elektrike	Prodhimi i makinerisë dhe pajisjeve p.k.t.	Prodhimi i mjeteve motorike (të transportit), rimorkiove dhe gjysmërimorkiove	Prodhimi i mjeteve të tjera të transportit	Prodhimi i mobilieve	Prodhimi tjetër p.k.t.	Riparimi dhe instalimi i makinerive dhe pajisjeve	
KoID	Komuna	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	**Total**
1	Deçani	42				19		37		12				66	43	9	20						7			**255**
2	Gjakova	306	27		85	129	4	64		22		25		71	299	10	110		43	15			16	16		**1242**
3	Gllogovici	69	4		3		1	41	9	5		6	1	67	119	883	52			37			4		1	**1302**
4	Gjilani	296	199	90	94	29		36	9	38		39		241	189	4	244		2	2		45	125	8	3	**1693**
5	Dragashi	108			244	1		13						21	28	3	74						2			**494**
6	Istogu	43	44		2	1		32						20	42	8	51						11			**254**
7	Kaçaniku	51	51		21			6	5	1		24		64	68		20						21			**333**
8	Klina	99	23					10		1				63	41		55						1			**293**
9	Fushë Kosova	375			17	10		25	5	22		26	66	101	45	17	157	11					16		2	**895**
10	Kamenica	54	26			2		51				5	1	15	95		12			2			16			**279**
11	Mitrovica	112	6		20	16	1	75	1	25		54		46	94	7	17						36	21		**531**
12	Leposaviqi	6						3		1		3			5		1									**19**
13	Lipjani	153	15		1			19	7		8	9		21	124	20	8						33			**418**
14	Novo Bërda							1									2									**3**
15	Obiliqi	57						7						9	30	1	24			2			1	2		**133**
16	Rahoveci	215	284		2	8		58	4	1		5		77	53	19	84		51	17			13			**891**
17	Peja	232	249		5	129	67	85	11	36		223		66	252	3	156		1	5			177	20		**1917**
18	Podujeva	160	29		3	18		34		2		13		86	79	4	34		1				42			**505**
19	Prishtina	864	85	1	346	60	13	146	78	343	3	54	8	211	250	19	199	22	27	4		3	158	43	9	**2946**
20	Prizreni	878	55		14	78	44	87	126	60		91	2	256	629	20	176	2	18		11		71	41	13	**2672**
21	Skënderaj	84					28	8						15	88	1	9									**233**
22	Shtimja	32			4			33	1			30		14	45	2	40	1	1				26			**229**
23	Shtërpca	4	1					1							1											**7**
24	Suhareka	64	110		3	3	135	36	5	2		13		352	207	8	53	5		5			48	1		**1050**
25	Ferizaji	430	96		33	18	2	85	38	35	6	31	5	174	352	29	414		1	1	5		483	34	11	**2283**
26	Vitia	43	84			8		93		6		5		55	69	3	76		27				40	3	3	**515**
27	Vushtrria	245			2	2		30		4		15		34	42	2	25	1	2				140	1	1	**546**
28	Zubin Potoku	18						4																		**22**
29	Zveçani	1						3							1								1			**6**
30	Malisheva	61				2		24	1					55	76	3	10						14			**246**
31	Rahovec	99				2		31				18	1	21	42		22						44		2	**282**
38	Mitrovic Veriore																						1			**1**
39	Hani i Elezit											2			407											**409**
TOTAL		**5201**	**1388**	**91**	**899**	**535**	**295**	**1178**	**300**	**616**	**17**	**691**	**84**	**2221**	**3815**	**1075**	**2145**	**42**	**174**	**90**	**16**	**48**	**1747**	**190**	**45**	**22903**

TABLE OF NUMBERS OF WORKFORCE PER INDUSTRY PER MUNICPALITY.

NOTE: MUNICIPALITIES MARKED WITH SAME COLOUR BELONG TO THE SAME OFFICIAL REGION.

Qarkullimi sipas komunave per vitin 2015 (D-Manufacturing) (ne Euro)

Qarkullimi 2015		Përpunimi i produkteve ushqimore	Prodhimi i pijeve	Prodhimi i produkteve të duhanit	Prodhimi i tekstilit	Prodhimi i veshjeve	Prodhimi i lëkurës dhe produkteve prej lëkurës	Prodhimi i drurit dhe i produkteve të drurit dhe të tapës, përveç mobilieve; prodhimi i artikujve nga kashta dhe materialeve të gërshetuara-thurëse	Prodhimi i letrës dhe produkteve prej letrës	Shtypja dhe riprodhimi i mediave të inçizuara	Prodhimi i koksit dhe produkteve të rafinuara të naftës	Prodhimi i produkteve kimike	Prodhimi i produkteve bazë farmaceutike dhe preparateve farmaceutike	Prodhimi i produkteve të gomës dhe të plastikës	Prodhimi i produkteve minerale jometalike	Prodhimi i metaleve	Prodhimi i produkteve të fabrikuara metalike, përveç makinerisë dhe pajisjeve	Prodhimi i kompjuterëve, produkteve elektronike dhe optike	Prodhimi i pajisjeve elektrike	Prodhimi i makinerisë dhe pajisjeve p.k.t.	Prodhimi i mjeteve motorike (të transportit), rimorkiove dhe gjysmërimorkiove	Prodhimi i mjeteve të tjera të transportit	Prodhimi i mobilieve	Prodhimi tjetër p.k.t.	Riparimi dhe instalimi i makinerive dhe pajisjeve	
KoID	Komuna	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Total
1	Deçani	585,825				415,251		265,347		329,954				2,264,613	1,976,919	40,390	309,435						69,036			6,256,770
2	Gjakova	8,259,108	243,694		338,645	1,196,150	51,554	1,165,265	5,008	367,646		313,351		1,536,143	5,021,552	54,342	6,046,298		718,584	446,417			121,537	44,998		25,930,292
3	Gllogovci	913,544	144,949		14,315		-	855,607	253,005	-		167,438	1,947	2,369,899	4,666,314	96,315,707	1,114,248			709,467			44,250		18,356	107,589,046
4	Gjilani	3,343,348	18,427,272	-	3,233,242	80,622	618	196,119	879,417	1,835,436		952,019		12,118,448	7,665,906	70,816	6,590,972		70,940	18,825		2,126,552	5,617,966	285,893	20,443	63,534,854
5	Dragashi	4,188,751			5,860,483	1,649		156,257		125				252,167	423,125	8,440	916,057						27,221			11,834,275
6	Istogu	297,283	1,415,821		38,625	620		333,651						355,558	1,268,689	186,234	812,615						43,278			4,752,374
7	Kaçaniku	1,949,610	728,830		175,591			61,238	121,094	449		1,278,936		5,980,906	3,652,842		168,503						616,903			14,734,902
8	Klina	3,056,415	526,111		809	3,644		97,909		-				1,771,525	424,075		1,820,137						8,320		1,534	7,710,479
9	Fushë Kosova	22,052,882			276,294	393,633		694,757	155,736	385,035		1,610,418	1,166,304	9,527,364	2,941,631	390,306	7,966,550	5,988,322				1,165	180,750		-	53,731,147
10	Kamenica	1,445,564	383,677			3,478		620,062				103,835	-	267,428	2,971,310		33,274			24,388			54,414			5,907,430
11	Mitrovica	1,189,013	35,033		1,029,898	97,431	6,857	3,423,938	5,034	764,846		2,339,444		1,829,813	3,255,389	299,551	253,655		3,452				188,686	311,810		15,033,850
12	Leposaviqi	72,580	36,502					56,380		2,490		173,965			89,099		139,506						30,800		45,984	647,306
13	Lipjani	7,613,480	527,195		12,493	388		95,927	479,412		1,215,789	354,365		987,878	17,217,231	666,058	45,568						652,854	8,573		29,877,211
14	Novo Bërda							987						3,710			8,350									13,047
15	Obiliqi	1,988,702				361		109,011						679,304	561,378	18,850	888,295			-			4,620	-		4,250,521
16	Rahoveci	20,482,382	6,332,573		11,939	95,105		1,129,092	354,651	7,571		79,224		3,672,459	1,481,201	258,322	5,887,783		1,352,104	377,054	1,955		613,875	5,826		42,143,116
17	Peja	6,355,846	21,120,675		87,964	1,635,666	1,201,595	1,730,448	310,206	1,003,229		18,776,293		1,796,015	6,273,930	78,466	4,891,751	3,825	-	456,834			19,169,252	424,394		85,316,389
18	Podujeva	7,094,045	3,646,718	17,952	16,693	263,077	732	950,938	6,709	42,762		307,331		7,580,799	1,680,207	23,202	214,444		2,593				377,606	19,842		22,245,650
19	Prishtina	16,645,569	4,591,592	-	3,495,683	289,528	283,859	11,555,611	5,180,237	8,441,700	45,001	1,884,131	32,257	16,279,528	11,894,332	338,865	9,021,955	620,602	1,373,220	36,776	300	218,840	2,842,835	379,585	4,643,988	100,095,994
20	Prizreni	28,408,053	3,259,254		328,362	617,049	368,461	1,255,075	4,408,215	1,320,996		2,858,289	556	8,854,488	22,804,279	180,693	12,159,430	18,505	4,260,185		214,213		1,313,264	1,737,564	554,272	94,921,203
21	Skënderaji	931,698			3,497	474	173,515	329,844						257,103	1,411,136	-	44,056						11,918			3,163,241
22	Shtimja	610,700			2,574	2,019		981,287	-	18,052		1,095,751		96,884	840,293	6,781	3,074,267	-	14,329	2,500			309,374	663		7,055,474
23	Shtërpca	20,747	-					2,850							5,441				1,175					4,656		34,869
24	Suhareka	1,053,995	12,824,792		28,261	36,161	2,260,633	821,271	172,848	-		372,522		12,224,171	10,588,182	83,013	770,022	26,984		183,104			2,401,434	6,148	2,515	43,856,056
25	Ferizaji	6,795,227	3,545,683		514,332	114,415	40,198	1,068,893	689,265	494,914	626,653	1,117,646	-	9,036,236	16,742,619	200,190	21,436,333		1,790	-	152,289		7,037,204	1,122,562	471,410	71,207,859
26	Vitia	557,029	958,550			36,824		2,344,386		3,182		5,478		992,185	1,227,008	10,291	1,554,927		2,695,548	4,930			811,034	280,890	26,242	11,508,504
27	Vushtrria	8,308,840			-	18,261		327,839		30,033		446,265		1,139,007	2,292,598	17,405	315,213	377	-				1,990,119	-	3,394	14,889,351
28	Zubin Potoku	1,392,619						3,645											462,098							1,858,362
29	Zveçani	14,950						12,866		5,149					12,436								1,576			46,977
30	Malisheva	956,028			2,519	20,371		748,453	13,746	800				1,879,981	4,197,406	38,831	157,424						90,564			8,106,123
31	Graçanicë	3,693,888				45,891		101,230		2,300		833,825	-	510,986	3,089,865		1,100,313						1,004,954		109,169	10,492,421
38	Mitrovic Veriore	32,439												847									244,578			277,864
39	Hani i Elezit	5,609										8,724			39,335,654											39,349,987
	TOTAL	160,315,769	78,748,921	17,952	15,472,219	5,368,068	4,388,022	31,496,183	13,034,583	15,056,669	1,887,443	35,079,250	1,201,064	104,265,445	176,012,047	99,286,753	87,741,381	6,658,615	10,956,018	2,260,295	368,757	2,346,557	45,880,222	4,633,404	5,897,307	908,372,944

TABLE OF TOTAL SALES PER INDUSTRY PER MUNICPALITY

European Union, Trade with Kosovo

Trade flows by HS section 2015

Source Eurostat Comext - Statistical regime 4

HS Sections	Imports				Exports			
	Value Mio €	% Total	% Extra-EU	% Growth*	Value Mio €	% Total	% Extra-EU	% Growth*
Total	104	100.0	0.0	9.1	766	100.0	0.0	5.2
I Live animals; animal products					45	5.9	0.2	-1.9
II Vegetable products	5	4.4	0.0	-8.2	22	2.9	0.1	0.6
III Animal or vegetable fats and oils					4	0.5	0.1	-25.3
IV Foodstuffs, beverages, tobacco	5	5.3	0.0	17.4	136	17.8	0.2	6.2
V Mineral products	14	13.4	0.0	74.6	24	3.1	0.0	-27.9
VI Products of the chemical or allied industries	1	1.2	0.0	33.7	80	10.4	0.0	5.8
VII Plastics, rubber and articles thereof	9	8.3	0.0	121.3	53	6.9	0.1	14.9
VIII Raw hides and skins, and saddlery	8	7.3	0.0	-22.4	2	0.3	0.0	18.0
IX Wood, charcoal and cork and articles thereof	1	0.9	0.0	-27.6	26	3.4	0.2	8.9
X Pulp of wood, paper and paperboard	0	0.1	0.0	-35.1	11	1.4	0.0	5.4
XI Textiles and textile articles	5	5.3	0.0	-37.1	21	2.7	0.0	3.2
XII Footwear, hats and other headgear	1	1.1	0.0	291.4	7	0.9	0.1	0.6
XIII Articles of stone, glass and ceramics	0	0.2	0.0	8.5	29	3.8	0.1	7.1
XIV Pearls, precious metals and articles thereof	6	5.4	0.0	84.6	0	0.1	0.0	-11.9
XV Base metals and articles thereof	41	39.1	0.0	-8.4	49	6.4	0.0	3.0
XVI Machinery and appliances	4	4.1	0.0	60.5	143	18.7	0.0	9.2
XVII Transport equipment	1	0.5	0.0	-8.4	71	9.2	0.0	3.5
XVIII Optical and photographic instruments, etc.	0	0.3	0.0	-32.3	19	2.4	0.0	18.0
XIX Arms and ammunition					1	0.1	0.0	211.8
XX Miscellaneous manufactured articles	1	1.1	0.0	92.7	21	2.8	0.1	26.4
XXI Works of art and antiques	0	0.1	0.0	-9.6	0	0.0	0.0	113.5
XXII Not classified	2	2.0	0.0	276.9	3	0.3	0.0	21.7
AMA / NAMA Product Groups								
Total	104	100.0	0.0	9.1	766	100.0	0.0	5.2
Agricultural products (WTO AoA)	17	16.7	0.0	-8.1	205	26.8	0.0	2.9
Fishery products	0	0.0	0.0		2	0.3	0.0	12.8
Industrial products	87	83.3	0.0	13.3	558	72.9	0.0	6.0

% Growth: relative variation between current and previous period

% Total: Share in Total: Total defined as all products

% Extra-EU: imports/exports as % of all EU partners i.e. excluding trade between EU Member States

	Number of enterprises	Number of persons employed	Turnover	Value added	Personnel costs
	(thousands)		(EUR million)		
Manufacturing	2 080.0	29 700.0	6 980 000.0	1 630 000.0	1 070 000.0
Manufacture of food products	263.4	4 059.0	940 000.0	174 000.0	105 000.0
Manufacture of beverages	24.5	:	149 610.4	37 636.4	16 600.0
Manufacture of tobacco products	0.3	41.8	42 604.6	7 121.3	2 182.6
Manufacture of textiles	59.3	604.5	75 000.0	21 000.0	15 000.0
Manufacture of wearing apparel	122.9	975.9	68 341.3	18 763.1	13 250.0
Manufacture of leather and related products	36.2	434.5	51 378.6	13 386.6	8 202.2
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	171.8	967.1	118 849.8	29 584.8	20 100.0
Manufacture of paper and paper products	20.1	639.5	178 695.2	41 281.5	25 766.9
Printing and reproduction of recorded media	123.8	748.9	82 966.8	30 000.0	:
Manufacture of coke and refined petroleum products	1.1	119.6	606 176.5	13 547.3	8 697.5
Manufacture of chemicals and chemical products	28.3	:	:	110 000.0	60 000.0
Manufacture of basic pharmaceutical products and pharmaceutical preparations	4.2	557.7	229 432.4	79 545.0	34 288.2
Manufacture of rubber and plastic products	62.2	1 630.2	290 000.0	82 000.0	54 000.0
Manufacture of other non-metallic mineral products	95.5	1 231.6	201 205.6	59 166.0	41 030.4
Manufacture of basic metals	17.1	1 000.0	340 000.0	57 000.0	43 000.0
Manufacture of fabricated metal products, except machinery and equipment	373.9	3 568.9	460 202.6	159 513.4	111 543.6
Manufacture of computer, electronic and optical products	41.8	1 117.5	274 703.7	75 260.3	53 582.0
Manufacture of electrical equipment	49.0	1 450.0	289 507.2	84 608.9	62 900.0
Manufacture of machinery and equipment n.e.c.	92.0	2 920.0	622 000.0	191 000.0	136 000.0
Manufacture of motor vehicles, trailers and semi-trailers	19.3	2 298.9	867 015.7	158 081.4	110 297.3
Manufacture of other transport equipment	13.8	714.2	177 763.3	53 644.5	37 598.4
Manufacture of furniture	119.9	971.6	91 655.9	28 281.7	20 740.7
Other manufacturing	149.3	870.0	112 403.3	41 612.6	25 415.9
Repair and installation of machinery and equipment	190.0	1 246.5	159 334.8	60 879.2	44 308.9

Source: Eurostat (online data code: sbs_na_ind_r2)