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**TASK E: GEORGIA COMPETITIVENESS INITIATIVE – CLUSTER ASSESSMENT  
BASELINE AND CONSTRAINT REPORT**

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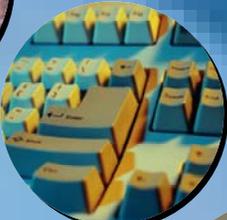
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**MARCH 31, 2004**

# Georgia Enterprise Growth Initiative



Tourism



Information Technology



Wood & Furniture



Advanced Technologies



Design Services

Labeling & Design



Financial Services



Transport Corridor



Textiles



Metals & Minerals

## CGI Baseline and Constraint Report

## Task E: Georgian Competitiveness Initiative – Cluster Assessment



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## EXECUTIVE SUMMARY

This report summarizes the work of a team from SRI International which is part of the USAID funded Georgia Enterprise Growth Initiative (GEGI) project led by BearingPoint. The SRI team's work is focused on the Cluster Competitiveness Initiative (CGI) of the GEGI project.

During this first phase of Cluster Competitiveness Initiative (February-March 2004), the study team reviewed a group of nine different Georgian industry clusters. The review utilized a set of criteria in order to make recommendations about candidates for support in subsequent phases of the *Cluster Competitiveness Initiative*.

### Initiative Objectives

The Industry Cluster Competitiveness Initiative has three principal goals:

- Identify clusters with strong potential for generating employment, exports, and investment in Georgia.
- Establish effective public/private partnerships organized around a common set of challenges and opportunities.
- Define a consensus vision and actionable strategies for increasing cluster competitiveness and accelerating growth.

### Initiative Approach

The approach taken by the SRI/BearingPoint team is as follows:

- Conduct cluster selection driven by comparative and competitive advantages.
- Encourage and facilitate Georgian stakeholder participation in the cluster development process.
- Identify actions that can generate sustainable employment opportunities and tangible results quickly.
- Create a sustainable process that can be replicated for other clusters by stakeholders in Georgia.

## Cluster Selection Framework

Nine different potential clusters have been examined by the SRI/BearingPoint team for future cluster development possibilities. The nine potential clusters were identified on the basis that they were thought to hold competitive promise or that they were historically important to the Georgian economy. The team developed a set of assessment criteria to determine whether the clusters are good candidates for having a major positive short-term impact on the Georgian economy and for continued work with the cluster competitiveness initiative.

- ***Growth Potential*** – Does the cluster offer a clear promise for future growth, leading to expanded and new investments in productive Georgia enterprises;
- ***Commitment of Stakeholders*** – Do potential leaders and organizations linked to the cluster show an interest in the competitiveness approach and a commitment to supporting such an initiative?
- ***Critical Mass of Companies and Support Services*** – Has the cluster developed a critical mass of firms and support structures?
- ***Georgian Comparative Advantages*** – What comparative advantages are unique to Georgia?
- ***Job Creation Potential*** – In a country struggling with reconstruction and high unemployment, it will be important that clusters offer the prospect of creating large levels of employment in the short to medium term.

Under usual circumstances, undertaking such an assessment could involve a time-consuming, detailed investigative and analytic process. Fortunately, however, USAID and other international donors such as the World Bank have conducted industry-level surveys of most of the clusters under consideration. We have been able to take advantage of this existing body of work to accelerate our work, focusing research efforts on resolving remaining unknowns and those issues specific to cluster projects.

## Initial List of Clusters

The team developed an initial “long-list” of clusters for the initial analysis based on exploratory interviews. These clusters were chosen because of several factors – their historical importance to the Georgia economy, preliminary views as to their competitive potential, or their nature as emerging or forward looking clusters. The initial long-list<sup>1</sup> for analysis includes:

- Tourism
- IT
- Design Services
- Wood & Wood Furniture
- Advanced Technologies

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<sup>1</sup> Following the advices of USAID/Georgia, agribusiness was not included on the “long-list” of potential industry clusters since it is the focus of another major USAID funded project (SAVE). USAID/Georgia would like to ensure there is no duplication of missions between the CGI of GEGI and SAVE.

- Financial Services
- Transportation Corridor
- Textiles and Apparel
- Metals and Minerals

### Cluster Recommendations

After carrying out the above described analysis and scoring exercise, the SRI study team recommends that *Tourism*, and, if resources permit, *Design Services* clusters for support in Stage II of the cluster competitiveness initiative. The following table summarizes the aggregate results of the cluster assessment scoring.

Cluster	Growth Potential	Readiness	Georgia-Specific Factors	OVERALL SCORE	OVERALL RANK
Tourism	+	●	+	+	1
Design Services	+	+	●	+	2
Wood & Furniture	+	-	●	●	3
Transportation Corridor	+	-	●	●	4
Information Technologies	+	●	-	●	5
Financial Services	●	●	-	●	6
Advanced Technologies	●	-	-	-	7
Metals and Minerals	●	-	-	-	8
Textiles and Apparel	-	-	-	-	9
<b>Scoring System:</b>			+	●	-
			Highest	Neutral	Lowest

According to these criteria, we recommend the following clusters for support in subsequent phases of the cluster competitiveness initiative:

- ➔ **Tourism Cluster.** Endowed with a varied natural landscape conducive to sports and adventure activities; a wide range of cultural, historical and religious sites; and other unique resources (e.g., mountains, Black Sea, wine country, and thermal waters), Georgia is well positioned to compete in the growing worldwide travel market. The cluster, while fragmented and suffering from infrastructure deficiencies, also appears to be ready for action. Many industry players are enthusiastic to engage in efforts to develop the industry. Successful tourism development will bring jobs and income opportunities to many regions of the country, and will support and perpetuate a positive image for the country. Targeted assistance could help address unmet needs in the cluster, yielding large economic impacts in the short term.
  
- ➔ **Design Services Cluster.** The study team has reviewed the performance and economic potential of the Design Services cluster in Georgia. We believe that Georgia has very good creative design capabilities to build upon, based partly on a long tradition of artistic creativity in the country. Innovation and creativity are important skills to possess in the New Global Economy, and they are often rewarded with high wages, and are a very source of competitive advantage in world-class clusters. The challenges facing cluster firms is to link up their strong design capabilities with larger production firms or offshore companies that can pay commercial wages to access this talent on an ongoing basis. Based on these factors, we believe this Georgian cluster has very good potential for the future growth. This cluster should be included for support in Phase II, if there are sufficient project resources available.

### **Clusters Not Recommended for Support at this Stage**

While the other cluster exhibited some competitiveness potential and potential gains from collaborative development, the study team does not recommend them for further cluster development support at this time unless additional project resources were identified.

Based on these factors and conditions, at this stage the study team does not recommend the following clusters for Phase II support:

- ➔ **Wood and Furniture Cluster.** Although Georgia's potential for export of wood products is good, the country's political and economic changes over the past decade have marred the once established markets. The cluster's key structural problems – which include limited access to financing for capital upgrades, high transportation costs, a complex regulatory environment, and a focus on lower value added products are impediments to growth. At current levels of funding, the study team does not recommend the wood and furniture cluster for inclusion in the industry cluster competitiveness program.

Given Georgia's rich wood resources coupled with its local talents of furniture designers, the cluster, however, may merit a re-evaluation in the future. This is contingent upon

several factors which include an improvement in the forest management system to ensure that a proper forest certification and management better forestry stewardship could be achieved. This would ensure a source of high-quality, locally-available inputs for advancement of finished products production for both domestic supply and export.

- ➔ **Information Technologies/Telecommunications Cluster.** The study team believes that IT/Telecommunication cluster in Georgia has relatively good potential for the future growth of the cluster that is linked directly to the economic growth in other sectors of economy. Certain components of the cluster, such as telecommunication infrastructure, require significant capital investment. Brain drain is another major challenge facing the cluster, as is cost of Internet access. The cluster is small and emerging. Many of these issues could not be best addressed through cluster development framework. As such the study team does not recommend the IT/Telecommunication cluster for the inclusion in the cluster competitiveness program unless funding were increased and relative priorities changed.
- ➔ **Financial Services Cluster.** This cluster is relatively modern and is moving forward without a cluster development framework. Inter company linkages are not developed. Some members of the cluster have already entered and are working to enter various adjacent markets such as banking, pension and insurance, leasing to be able to provide clients with full scope financial services. The cluster's key structural problems – such as undercapitalization of banks, inadequate court ruling and enforcement, short term lending, high interest rates and collateral requirements on loans, insufficient protection of shareholder rights, imperfect regulatory environment could not be addressed by the cluster development initiative by rather by other more traditional financial sector development programs.
- ➔ **Advanced Technology Cluster.** Although Georgia has a long history of innovation, mostly developing technologies for the Soviet regime, Georgia's Advanced Technology cluster is relatively unstructured. At the current moment, Georgia's advanced technology does not have the capacity to compete with countries that have established a robust high-tech development foundation. Georgia lacks the financial, regulatory, and physical infrastructure. In addition, while the newly developed technologies, while innovative, are still at a prototype stage. Before a robust industry can be established and compete globally, issues such as IPR; product development; technology transfer; and, the links between entrepreneurship, R&D and innovation have to be addressed. Currently, such measures are just now being reviewed. As such, the study team does not recommend the Advanced Technology cluster for inclusion in the industry cluster competitiveness program.
- ➔ **Transportation Corridor Cluster.** While the cluster shows great potential serving as the transit hub for the transportation and transshipment of goods along the East-West Corridor from the Caspian Sea to Eastern Europe, infrastructure issues poses a significant barrier to transit trade. Road and port rehabilitation and development are key. The main avenue for development will involve large investments of capital for infrastructure. This is beyond the scope of an USAID funded cluster development

program. As such, the study team does not recommend the transportation corridor cluster to be included in the next stage the cluster initiative.

- ➔ **Textiles and Apparel Cluster.** The study team does not recommend the textiles and garments cluster to be included in the next stage the cluster initiative. Georgia's apparel cluster in does not have the competitive advantages required to survive and thrive in the current international market environment, and the domestic market is extremely small and disintegrated. In-country cluster linkages are practically non-existent. Under the predominant contracting manufacturing operation, where producers import materials from overseas and export their products, most producers are more integrated into a global supply chain than an in-country supply chain.
  
- ➔ **Metals and Minerals Cluster.** The study team does not recommend the metals and minerals cluster for inclusion in the industry cluster competitiveness program. The current status of cluster is in a weak competitive position, with antiquated equipment, and limited prospects for reaching the investment levels needed to improve productivity. Mostly the sector needs investment attraction for extraction or processing activities. This is not the major focus of a cluster development program.

# I. GEORGIA CLUSTER EVALUATION & RESULTS

## A. Cluster Development Methodology

In order to raise standards of living, leverage its resources, tap into new markets, and attract sustainable business investment, Georgia needs to focus on *increasing the competitiveness of its key economic sectors*. The last decade has been a difficult one for the region and Georgia. During the Soviet era, Georgia was a relatively wealthy economic entity. However, the country suffered economic disruptions as a result of the break-up of the Soviet Union and its internal civil wars. While the economy is contending with post-conflict instability and mismanagement, the private sector has a high level of talented entrepreneurs eager to resume or expand economic activities.

However, globalization has dramatically transformed the trading environment over the past decade; markets have become more competitive, supply chains more efficient, and consumers more discriminating. Georgia must rapidly adapt to this evolving environment or will be left behind. Georgia must begin to come to terms with current competitiveness practices and take the necessary steps in each industry to identify its strengths, address its weaknesses, recapture former markets, and enter new ones. Georgia stakeholders must come together to identify and implement strategies to improve their ability to compete effectively in regional and global markets.

### *What Are Industry Clusters?*

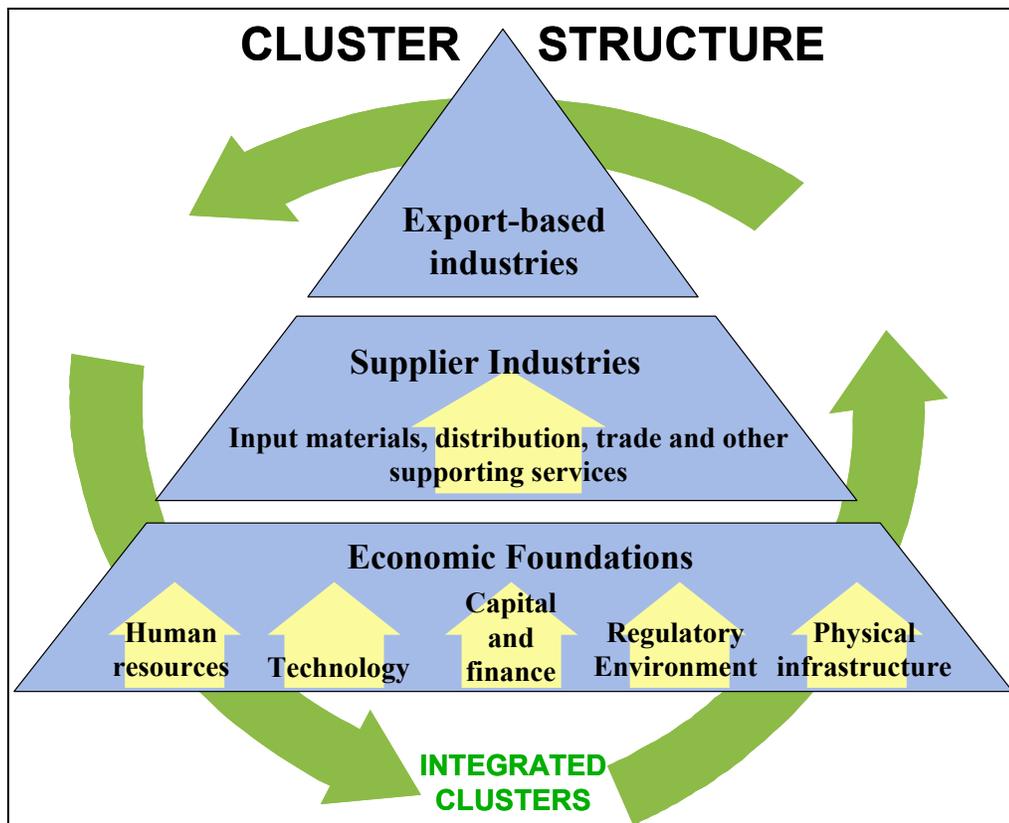
Industry clusters can be defined as agglomerations of firms in similar or related fields that grow within or are attracted to a region/nation. They rely on an active set of relationships among themselves to ensure individual and collective efficiency and competitiveness:

- **Buyer and Suppliers.** These relationships encompass the core companies that produce goods and services that are sold to final customers. They also include companies at an earlier stage of the value-adding chain that supply the inputs – raw materials, intermediate goods and services – that are used in the assembly of final goods and services. Distributors of final goods and services, where separate from the producers, are also considered part of these clusters.
- **Competitors and Collaborators.** They consist of companies that produce the same or similar goods and services at a specific level in the value chain, and they exist because competitors frequently share information (often unintentionally) about product and process innovations, and market opportunities. These companies may, in fact, formally collaborate in mutually beneficial strategic alliances. While there is cooperation in some areas, there must be rivalry among firms in order to create global competitiveness, and promote innovation and excellence.

- **Shared Resources.** These relationships exist when firms rely on the same sources of raw materials, technology, human resources, services, and information, even though they may use these resources to produce goods and services for very different markets.
  
- **Critical Mass of Competitive Factors.** Industry clusters represent critical masses of information, skills, relationships, and infrastructure in a particular field. Having a critical mass of these competitiveness factors provides the foundation for a strong and viable cluster.

Competitive advantage is not created within a single firm alone. Efficiency in internal operations is a necessary, but not sufficient condition to compete globally. Factors external to the business, but internal to the regional economic foundation, are increasingly important for creating and sustaining competitive advantage. These foundation factors include:

- Skilled and adaptable human resources;
- Availability of financial capital to support business expansion and new investment;
- Support of physical infrastructure for transportation, communications, energy and water, and waste-handling;
- Access to technologies on which new products and processes are based;
- A responsive regulatory and taxation structure that balances business competitiveness with other policy goals;
- A high quality of life that attracts residents and businesses to stay in a region.



Industry clustering is a powerful framework for regional economic development because it captures economic relationships among specific industry sub sectors, and it provides a set of tools for analysis, policy formation, and organization of competitiveness enhancement strategies and initiatives. It is particularly useful in defining medium-term strategies for retaining, establishing, and growing regional industry, and in organizing key stakeholders for action.

### ***What Is a Cluster Competitiveness Program?***

Cluster competitiveness programs are processes whereby industry stakeholders (firms, industry associations, economic development agencies, education and training institutions, community representatives, etc.) identify challenges and opportunities that can be addressed more effectively by cooperative actions rather than individual efforts.

Cluster initiatives bring stakeholders together to:

- Construct a shared, fact-based vision of the current and future competitive position of the industry.
- Identify obstacles to competitiveness and opportunities for future business growth.
- Develop and implement cluster-level actions aimed at addressing those obstacles and opportunities.

### ***What Are the Objectives and Goals Of the Georgia Cluster Competitiveness Initiative?***

The principal objective of the cluster competitiveness initiative is to create a framework and process for productive change. This initiative will not only facilitate the development and communication of shared vision on competitiveness but will also create a process to ensure that actions are taken to build an enabling business environment. It will achieve this through working groups to disseminate the latest thinking on industry clusters, and on building competitive advantages at the firm and industry levels. This produces a *cluster analysis*, which informs the competitiveness debate and provides the selected cluster and others with a springboard for taking strategic action.

By generating critical or strategy information that will allow the public and private sectors to adopt timely public policies and competitive business strategies, Georgia will be able to improve its competitive assets and enhance its relative competitive position based on the use of reliable data and solid analysis. Such strategy information and analysis will allow the improvement in the competitiveness of national industry clusters and regional economic inputs.

At the cluster level, tools and methodologies will be applied to identify challenges, limitations and opportunities of major industry clusters that are key to the country's economic future. Further, this initiative will point out implications of its development in terms of policy improvement, export development, investment promotion, infrastructure enhancement, and human capital development.

At the regional level, analysis will be undertaken to identify what is needed to build the economic advantage of the current regional inputs or creating new ones to sustain existing companies and attract new ones.

At the policy level, this initiative will involve and empower stakeholders in the design and implementation of a national competitiveness strategy. This strategy will represent an agenda for action that will enhance national competitiveness and contribute to rapid and sustainable growth, with broad dissemination of the benefits of growth.

The specific approach for implementing a Cluster Competitiveness Program in Georgia under GEGI has the following goals:

- Identify key clusters with a strong potential for generating employment, exports, and investment.
- Establish effective public/private coalitions organized around a reasonably defined, common set of challenges and opportunities.
- Identify key policy and institutional constraints and opportunities to growth, and specify practical means to address constraints and exploit opportunities.
- Define a consensus vision for industry clusters and economic growth. On the basis of that vision, help develop actionable strategies to simulate the growth of viable industry clusters that will, in turn, be a key engine for sustainable business investment for Georgia.

The success of the Cluster Competitiveness Program ultimately depends on the commitment of stakeholders to translate the strategy and action plans developed through this process into results. For this reason, the cluster team's approach seeks to maximize interaction and collaboration with key stakeholders and obtain their buy-in from the very beginning.

## **B. Georgia Cluster Selection Framework**

The purpose of the cluster selection process is to identify those clusters in Georgia that hold the most promise in terms of their ability to contribute to the development of the country and being well positioned to take advantage of a cluster competitiveness project such as this. After identifying an initial list of potential clusters, the team carried out an assessment of each cluster based on the following criteria:

- ***Growth Potential*** – Does the cluster offer a clear promise for future growth, leading to expanded and new investments in productive Georgia enterprises;
- ***Commitment of Stakeholders*** – Do potential leaders and organizations linked to the cluster show an interest in the competitiveness approach and a commitment to supporting such an initiative?
- ***Critical Mass of Companies and Support Services*** – Has the cluster developed a critical mass of firms and support structures?
- ***Georgian Comparative Advantages*** – What comparative advantages are unique to Georgia?
- ***Job Creation Potential*** – In a country struggling with reconstruction and high unemployment, it will be important that clusters offer the prospect of creating large levels of employment in the short to medium term.

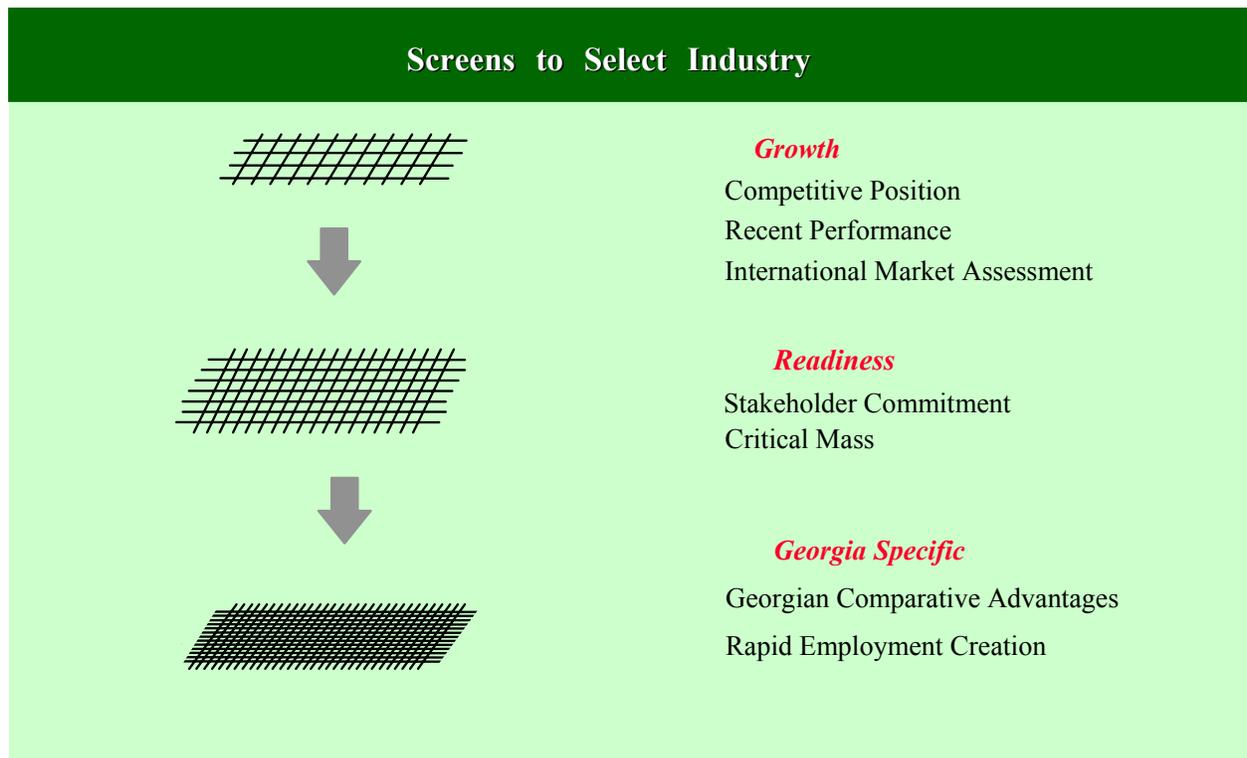
### ***Initial List of Clusters***

The team developed an initial “long-list” of clusters for the initial analysis based on exploratory interviews. These clusters were chosen because of several factors – their historical importance to the Georgia economy, preliminary views as to their competitive potential, or their nature as emerging or forward looking clusters. The initial long-list for analysis includes:

- Tourism
- IT
- Design Services
- Wood & Wood Furniture
- Advanced Technologies
- Financial Services
- Transportation Corridor
- Textiles and Apparel
- Metals and Minerals

## *Selection Criteria & Rationale*

Each cluster was analyzed according to three broad selection criteria described below and illustrated in the following graphic.



## **Growth Potential**

The cluster should offer clear promise for future growth, leading to expanded and new investments in productive Georgian enterprises. Growth potential is one of the most critical factors in cluster analysis. Experience in many regions has shown that high-growth industries often become higher-wage industries, as sustainable competitive advantages in those industries builds. A cluster's growth potential is determined based on the following three factors:

- **Competitive Position** – Every cluster operates in a unique international market affected by new developments in technologies, demographics, demand, and supply chains. The team developed a tailored set of international “drivers” for each cluster encompassing the critical factors that a cluster must have to be competitive internationally. Clusters were then analyzed based on how well they fit the profile.
- **Recent Performance** – While past growth may not concretely predict long-term future growth, it is nevertheless one of the best sources of revealed competitiveness of the clusters. In other words, if a cluster has been growing well in the recent past, as long as the industry has not dramatically shifted, this is a good indicator that the cluster has at least some of the characteristics needed to compete successfully in the market.

Georgia presents special challenges in this regard as its economy was closely tied to the centrally planned economy of the former Soviet Union. Before the collapse, most of Georgia's industries have witnessed growth, but this is likely more a testament as to how intertwined the Georgian economy was to the Soviet Union.

Available data on performance in the post-independence years through 2000 has been used to inform our analysis. Despite having to rely on more qualitative assessments, the team focused on the most recent performance, 2000-2003, as this period is more likely to be indicative of underlying competitive potential.

- ***International Market Assessment*** – Even a cluster with an extremely competitive position and that has been growing quickly, may not have a large potential for future growth if it is in a dying industry. This segment seeks to where the international market is going in the products each cluster specializes.

### **Cluster Readiness**

To maximize the impact of the cluster competitiveness project, selected clusters must have demonstrated a certain minimum level of interest, organizational capacity, and dynamism to ensure that the cluster is able to absorb or take full advantage of the initiative. While the cluster approach is a very flexible and pragmatic one, it is not suitable for all sectors. In examining cluster readiness, the team analyzed the following aspects:

- ***Commitment*** – Do potential leaders and organizations linked to the cluster show an interest in the competitiveness approach and a commitment to supporting such an initiative?
- ***Critical Mass*** – Has the cluster developed a critical mass of firms and support structures?

### **Georgia Specific Factors**

Several aspects key to Georgia have been identified and will be taken into consideration:

- ***Georgian Competitive Advantages*** – Does Georgia offer any competitive advantages to the cluster?
- ***Rapid employment creation*** – In a country struggling with restructuring and high unemployment, it will be important that clusters offer the prospect of creating large levels of employment in the short to medium term.

### ***Information Sources & Methodology***

A typical approach to examining clusters for a cluster competitiveness project involves a somewhat involved process of research and interviews to determine first each cluster's competitiveness outlook, and second, the cluster's appropriateness, or fit, for doing a cluster enhancement project. Assessing a cluster's competitiveness outlook would normally involve a

detailed investigative and analytic process of available data<sup>2</sup> that would reveal competitive strengths (export growth) and weaknesses (benchmarking cost structures with international leaders). This process is challenging and time consuming, even in the best of circumstances.

Fortunately, USAID and other international donors in Georgia have done an extraordinary job of analyzing the outlook of various sectors. This project has been able to take advantage of existing information through:

- ✓ Key selected interviews (see list at end of each cluster assessment of Section II).
- ✓ Readily available sector studies.

### **C. Cluster Scoring & Selection Recommendations**

After carrying out the above described analysis and scoring exercise, the SRI study team recommends the *tourism and design service clusters* for support in Phase II of the cluster competitiveness initiative. This section presents the study team's rationale and cluster scoring results according to selection criteria and procedure described above. Further details on each cluster and the reasons behind their ranking in each criteria and sub-factor can be found in the individual cluster assessments in Section II of this report.

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<sup>2</sup> A special note is needed regarding the reliability of data in Georgia. The project team observed that limited data is available in general, and what is available is typically of questionable reliability, particularly in a country where nearly half of all economic activity is carried out through informal channels.

## Recommend Clusters

The following table summarizes the aggregate results of the cluster assessment scoring.

Cluster	Growth Potential	Readiness	Georgia-Specific Factors	OVERALL SCORE
Tourism	+	●	+	+
Information Technologies	+	●	-	●
Design Services	+	+	●	+
Wood & Furniture	+	-	●	●
Advanced Technologies	●	-	-	-
Financial Services	●	●	-	●
Transportation Corridor	+	-	●	●
Textiles and Apparel	-	-	-	-
Metals and Minerals	●	-	-	-
<b>Scoring System:</b>				
		+	●	-
		Highest	Neutral	Lowest

According to these criteria, and other compelling factors, we recommend the following clusters for support in subsequent phases of the cluster competitiveness initiative:

- ➔ **Tourism Cluster.** Endowed with a varied natural landscape conducive to sports and adventure activities; a wide range of cultural, historical and religious sites; and other unique natural resources (e.g., thermal waters), Georgia is well positioned to compete in the growing worldwide travel market. The cluster, while fragmented and suffering from infrastructure deficiencies, also appears to be ready for action. Many players, are enthusiastic to engage in efforts to develop the industry. Moreover, more than in any other cluster examined, the tourism industry has the potential to advance the common economic space between the two entities. Successful tourism development will bring jobs and income opportunities to many regions of the country, and will support and perpetuate a positive image for the country that will benefit other economic development initiatives such as investment and trade promotion. Neither the national government nor the donor community has focused any major attention on the tourism sector thus far.

Therefore, targeted assistance could help address unmet needs in the cluster, yielding large economic impacts in the short term.

- **Design Services Cluster.** The study team has reviewed the performance and economic potential of the Design Services Cluster in Georgia. We believe that Georgia has very good creative design capabilities to build upon, based partly on a long tradition of artistic creativity in the country. Innovation and creativity are important skills to have in the New Global Economy, and they are often rewarded with high wages, and are a very source of competitive advantage in world-class clusters. Most design services segments in Georgia that we reviewed exhibit strong creative and artistic skills and talents. The challenges facing any of these design services firms is to link up these strong design capabilities with larger production firms or offshore companies that can pay commercial wages to access this talent on an ongoing basis. Based on these factors, we believe this Georgian cluster has very good potential for the future growth.

### ***Clusters Not Recommended***

The study team does not recommend the following clusters for Stage II support:

- **Information Technologies/Telecommunications Cluster.** The study team believes that IT/Telecommunication cluster in Georgia has relatively good potential for the future growth of the cluster that is linked directly to the economic growth in other sectors of economy. Certain components of the cluster, such as telecommunication infrastructure, require significant capital investment. Brain drain is another major challenge facing the cluster, as is cost of Internet access. The cluster is small and emerging.

Many of these issues could not be best addressed through cluster development framework. As such the study team does not recommend the IT/Telecommunication cluster for the inclusion in the cluster competitiveness program unless funding were increased and relative priorities changed.

- **Financial Services Cluster.** The study team does not recommend the financial services cluster for inclusion in the industry cluster competitiveness program. Although cluster has good growth perspective, this growth is tied with overall economic growth. To attract investment, the sustainability of government and municipal finances, insurance against risks, it is necessary to develop the country's financial infrastructure.

Inter company linkages are not developed. Some members of the cluster have already entered and are working to enter various adjacent markets such as banking, pension and insurance, leasing to be able to provide clients with full scope financial services.

The cluster's key structural problems – such as undercapitalization of banks, inadequate court ruling and enforcement, short term lending, high interest rates and collateral requirements on loans, insufficient protection of shareholder rights, imperfect regulatory environment could not be addressed by the cluster development initiative.

→ **Wood and Furniture Cluster.** Although Georgia’s potential for export of wood products is good, the country’s political and economic changes over the past decade have marred the once established markets. The cluster’s key structural problems – which include limited access to financing for capital upgrades, high transportation costs, a complex regulatory environment, and a focus on lower value-added products - are impediments to growth. At current levels of funding, the study team does not recommend the wood and furniture cluster for inclusion in the industry cluster competitiveness program.

Given Georgia’s rich wood resources coupled with its local talents of furniture designers, the cluster, however, may merit a re-evaluation in the future. This is contingent upon several factors which include an improvement in the forest management system to ensure that a proper forest certification and management better forestry stewardship could be achieved. This would ensure a source of high-quality, locally-available inputs for advancement of finished products production for both domestic supply and export.

→ **Advanced Technology Cluster.** Although Georgia has a long history of innovation, mostly developing technologies for the Soviet regime, Georgia’s Advanced Technology cluster is relatively unstructured. At the current moment, Georgia’s advanced technology does not have the capacity to compete with countries that have established a robust high-tech development foundation. Georgia lacks the financial, regulatory, and physical infrastructure. In addition, while the newly developed technologies, while innovative, are still at a prototype stage. Before a robust industry can be established and compete globally, issues such as IPR; product development; technology transfer; and, the links between entrepreneurship, R&D and innovation have to be addressed. Currently, such measures are just now being reviewed. As such, the study team does not recommend the Advanced Technology cluster for inclusion in the industry cluster competitiveness program.

→ **Transportation Corridor Cluster.** While the cluster shows great potential serving as the transit hub for the transportation and transshipment of goods along the East-West Corridor from the Caspian Sea to Eastern Europe, infrastructure issues poses a significant barrier to transit trade. Road and port development and rehabilitation are key. The main avenue for development will involve large investments of capital for infrastructure. This is beyond the scope of an USAID funded cluster development program. As such, the study team does not recommend the transportation corridor cluster to be included in the next stage the cluster initiative.

→ **Textiles and Apparel Cluster.** The study team does not recommend the textiles and garments cluster to be included in the next stage the cluster initiative. Georgia’s apparel cluster in does not have the competitive advantages required to survive and thrive in the current international market environment, and the domestic market is extremely small and disintegrated. In-country cluster linkages are practically non-existent. Under the predominant contracting manufacturing operation, where producers import materials from overseas and export their products, most producers are more integrated into a global supply chain than an in-country supply chain.

➔ **Metals and Minerals Cluster.** The study team does not recommend the metals and minerals cluster for inclusion in the industry cluster competitiveness program. The current status of cluster is in a weak competitive position, with antiquated equipment, and limited prospects for reaching the investment levels needed to improve productivity.

Although the international market for certain metals and minerals are growing, Georgia's industry is currently not in a position to compete effectively. The market requires low costs for commodity metals and extraordinarily high degrees of quality for specialized products.

Much of Georgia's metals and minerals industries are dominated by state-owned companies with their hands tied for making strategic investments or working significantly towards the future of the cluster. This further decreases the viability of a cluster-based initiative. Lastly, the industry is challenged by the lack of concrete strategy and policy and some of the functions of the government organizations are decreasing and in poor financial condition.