

The CCPF Cluster Capacity Building Initiative

Prepared for the
Inter-American
Development Bank by:
Roberta Rabellotti and Elisa Conz

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MAINSTREAMING THE CLUSTER APPROACH IN THE CARIBBEAN REGION

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EXECUTIVE SUMMARY*

In the Caribbean region, clusters hold tremendous potential because of the preponderance of small and micro enterprises, weak involvement in value chains and limited pools of specialized inputs. An approach focused on joint action, sharing knowledge, and specialized inputs, along with common access to global markets, suits the region and can help Caribbean countries address some of their long-standing challenges, such as their very small size economies, fragile economic environments, the constant threat of natural disasters, and the impact of climate change. Notwithstanding its potential for addressing some key questions, the adoption of the cluster approach in the Caribbean is very recent, and has only a decade-long history.

The Compete Caribbean Partnership Facility (CCPF) has backed a capacity-building campaign for the cluster approach with the aim of mainstreaming cluster interventions in the region. This was structured in three steps. In the first step, the CCPF provided an evaluation exercise for 10 business support organizations (BSOs). This was followed up with a cluster training program involving 143 participants from several local institutions. Finally, in the third step, which is still in progress, the CCPF funded the implementation of six cluster development plans put forward by some of the local BSOs involved in the training program and earmarked in a competitive selection process.

This study relies on primary information collected by way of two complementary methodologies: (i) qualitative in-depth semi-structured interviews with key respondents and (ii) a survey submitted to participants in the cluster development training program, to which 33 participants responded. The findings are benchmarked with international experience in cluster development programs.

In the Caribbean context, the BSOs are small, non-specialized institutions, with, in most cases, no previous experience in managing cluster projects. Thanks to the CCPF cluster institutional capability-building project, they have taken on a key role in coordinating and managing cluster activities and promoting them, thereby supporting effective collective projects. BSOs have played a key role by

* The authors would like to thank Sylvia Dohnert, Annie Bertrand, Victor Gamarra, and the project development officers at the Compete Caribbean Partnership Facility for sharing their knowledge about clusters. Deep gratitude also goes out to all the people interviewed during the fieldwork phase.

engendering a collaborative culture amongst clusters. One of the main achievements in implementing cluster programs is the increasing cooperation between clusters.

The clusters under implementation have initiated several collective activities, such as information sharing and lobbying, joint training, marketing, and internationalization. For this they receive support from cluster organizations which provide specific services and create connections with skills and competences available locally, in the region, and internationally.

Among the BSOs, there is general agreement over the usefulness of monitoring the cluster implementation when taking informed decisions, but the collection of information is also challenging and, in some cases, too rigid and with little attention to the specificity of the industries and companies involved in the cluster projects. BSOs actively involve different organizations in cluster programs through participation in the steering committees of the clusters, as well as numerous collaborations with ministries, NGOs, research institutes, universities, and standard-setting bodies in the various collective projects promoted by the clusters. Nonetheless, in the Caribbean region there is no systematic coordination with the broad local development agenda and cluster policies do not yet represent the core of industrial development policies in the countries researched.

The potential for a more regional approach to cluster mainstreaming has surfaced in interviews. Some respondents underlined that the opportunity to learn from other cluster experiences in the region is an indirect effect of the training program while others pointed out the importance of the circulation of knowledge, thanks to the regional experts and institutions involved in some of the cluster initiatives. This is an important area for the mainstreaming of the cluster approach in the Caribbean, but which is not yet systematically addressed within the CCPF cluster program. Policy recommendations for introducing and promoting the mainstreaming of a cluster approach in the Caribbean region should take a three-pronged approach that focuses on (i) cluster organizations, (ii) national ecosystems, and (iii) regional ecosystems.



INTRODUCTION

1

Clusters can be defined as a geographic agglomeration of firms operating in the same, or closely related, industries (Giuliani, Pietrobelli, and Rabellotti, 2015). They have proven to be an effective form of organizing economic activities, enabling even the smallest firms to jointly achieve the economies of scale required to build competitive advantages in global markets around cooperation, advocacy, knowledge sharing, division of labor, and innovation. The premise, underpinning the cluster approach, is that individual firms, especially small and micro companies, often face constraints that can be more easily overcome through participation in clusters.

During the past three decades, clusters have proven their ability to drive growth in many OECD countries as well as across Latin America and the Caribbean (LAC), Asia, and Africa. Consequently, the cluster approach has been widely embraced by international organizations and there is now extensive empirical research that corroborates its effectiveness (Maffioli, Pietrobelli, and Stucchi, 2016; Pietrobelli and Rabellotti, 2007).

In the Caribbean region, clusters hold tremendous potential because of the predominance of small and micro enterprises, their weak link in value chains and the scarcity of specialized inputs. An approach focused on joint action, knowledge and specialized inputs-sharing, together with common access to global markets, suits the region and can help Caribbean countries address some of their long-standing challenges, such as the very small size of their economies, fragile economic environments, constant threat of natural disasters and the impact of climate change, as well as shocks such as the COVID-19 pandemic, which has made even more plain the need to reduce dependence on a very narrow basket of products and services, diversifying specializations and markets (World Bank, 2021).

Notwithstanding its potential for addressing some key questions, the adoption of the cluster approach in the Caribbean is very recent and has only a decade-long history. Recognizing the potential for the development of clusters in the region, the Compete Caribbean Partnership Facility (CCPF) in 2012¹ launched a private sector

¹ The CCPF was born as a partnership between the Inter-American Development Bank (IDB), the United Kingdom Department for International Development (DFID), the Caribbean Development Bank (CDB), and the government of Canada (GAC). It operates in 13 countries: The Bahamas, Barbados, Belize, Guyana, Jamaica, Trinidad and Tobago, Suriname, Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines.

development program in two phases—Phase 1 from 2012 to 2016, and Phase 2 from 2017—including clusters among its main areas of intervention to enhance productivity and innovation within the private sector.²

After providing support to several cluster initiatives in the first phase, in Phase 2 the CCPF promoted a capacity-building campaign on the cluster approach with the aim of mainstreaming cluster interventions in the region. This offered local institutions a 3-step program. As part of the first step, the the CCPF provided an evaluation exercise for 10 business support organizations (BSOs). The second step consisted of a cluster training program with 143 participants from several local institutions. In the third step, still under way, the CCPF authorized and funded the implementation of six cluster development plans put forward by the local BSOs involved in the training program and who were identified via a competitive selection process.

This report explores how the process of mainstreaming the cluster approach is taking shape among the BSOs participating in the training exercise, and who are currently involved in the implementation of the cluster projects, as well as in the national ecosystems where the clusters are located. The study addressed these questions: (i) Have the BSOs improved their capacity to identify, design, and implement sustainable cluster initiatives? (ii) Is the cluster approach becoming mainstream in the Caribbean region? Specifically, the study aims to determine whether the BSOs have improved their knowledge and basic skills about the cluster approach, as well as the necessary knowledge and skills for identifying and implementing sustainable and potentially successful cluster programs, with the end goal of institutionalizing the cluster approach in the Caribbean region.

The report is based on the findings from in-depth qualitative interviews with 10 BSOs and several key informers, such as the CCPF project development officers assigned to supporting the implementation of cluster development plans. In addition, an online survey was carried out, with responses from 33 participants involved in the capacity-building campaign. It was undertaken in Phase 2 of the CCPF development program.

The paper is organized as follows: Section 1 summarizes the main topics which emerged from analysis of the experience of cluster development programs worldwide, using this as a benchmark to better understand the cluster capability-building process currently in development in the Caribbean region. Section 2 illustrates the characteristics of the CCPF cluster capability-building initiative, and Section 3 describes how the information has been collected and analyzed. Section 4 presents the findings collected both from qualitative interviews and the survey. Section 5 discusses the findings of the empirical analysis and compares them with international studies. This last section provides policy recommendations.

² With the aim of delivering innovative solutions to stimulate growth, increase productivity and foster innovation and competitiveness, CCPF has two main pillars. The first is aimed at enhancing productivity and innovation in private firms to support projects in four areas: clusters, innovation funds, technology extension services, and entrepreneurship. The second is aimed at enhancing the business and innovation climate. For more information see competecaribbean.org.

CLUSTER PROGRAMS: THE INTERNATIONAL EXPERIENCE

2

Success Factors

The baseline definition of clusters has two main characteristics: (i) the concentration of firms in a spatially delimited area and (ii) their specialization in the same or related industries. Clusters presenting both characteristics exist in many developing countries, with a large variety of well-documented cases in the LAC region (Pietrobelli and Rabellotti, 2007). In the Caribbean region, Rabellotti and Giuliani (2017) document the presence of several groups of firms specialized in agriculture and agro-processing as well as in manufacturing, notably rum production and jewelry, and services such as tourism, business services, and creative industries. Moreover, they underline the existence of different levels of development among the existing Caribbean clusters, proposing a typology based on three categories:

- Rising clusters include emerging and growing clusters in the early stages of their life cycle, specialized in industries relatively new to the Caribbean, such as animation and multimedia, or exploiting new market segments, such as eco-tourism in Grenada, Guyana, and Suriname.
- Innovative clusters share some similarities with the rising clusters (i.e., high openness) and are characterized by a high level of implicit and explicit cooperation and by an optimum capacity for innovation, being specialized in sectors such as oil, business, financial, and maritime services, as well as aquaculture in Guyana and Belize.
- Sluggish clusters differ significantly from the two previous groups and are less active and dynamic, with, on average, a low degree of cooperation, very weak innovative capacity, and a low degree of openness, often serving only the domestic market. Some examples are the pottery and retail clusters in Trinidad and Tobago and the gold jewelry cluster in Guyana.

Considering the characteristics which make clusters successful, Rabellotti and Giuliani (2017) conclude that the rising and innovative clusters in the Caribbean share some common key features, which are the following:

- Openness to foreign markets via multinationals or involvement in global value chains (GVCs), through which clusters can gain access to key knowledge and technologies, avoiding the risks of lock-in effects.
- Strong external economies and cooperation, including a specialized labor market, collective projects for sharing transportation costs, adopting international standards, introducing environmental best practices or jointly selling products in the international markets.

Conversely, the sluggish clusters are rather closed systems, often lacking connections to external channels or access to international markets, and are also characterized by limited internal linkages and poor innovative capacity. Other key factors of success for clusters are identified in the Smart Guide to Cluster Policies by the European Commission (2016):

- A critical mass of actors which allows specialization at company and skill level, as well as competition, putting pressure on firms to be productive and innovative.
- A critical mass of leading companies and visionary and motivated entrepreneurs who invest time and resources in collaborative initiatives at the level of the cluster.
- A critical mass of related industry companies within the value chain which allows companies to engage with suppliers, service providers and other partners.
- A trusting and cooperative environment, facilitating collaboration among companies who must overcome suspicion surrounding collective action, frequent in clusters where firms tend to think: “Why should I collaborate if the benefits of doing so accrue to others or depend on their actions?”

Rabellotti and Giuliani (2017) point to a further key difference between the most dynamic, open and collaborative clusters in the Caribbean region and the sluggish, more passive clusters: the innovative clusters have generally been supported by cluster policies, while more backward ones have received very limited policy sustain.

Policies for sustaining cluster development belong to a large family of public policies, aimed at promoting local development and strengthening linkages among economic actors. They have a long tradition and a large diffusion, both in developed and developing countries. Notten et al. (2019) reveal rich empirical evidence of national and regional cluster support programs in the EU, as well as in several non-European countries. As to the LAC experience with cluster development programs, a very broad and useful empirical account is presented by Maffioli, Pietrobelli, and Stucchi (2016).

In most cases, clusters are not created by policies but emerge spontaneously when companies invest, succeed and grow in specific locations, and in so doing generate a cumulative process where the success of one firm paves the way for others. However, cluster evolution and growth are not automatic. Cluster programs can help clusters to attain a higher level of performance, by strengthening cooperation and

facilitating the emergence and the implementation of collective projects. In the rest of this section, we focus on the international experience in cluster programs.

Objectives of Cluster Programs

Although in different countries and regions cluster programs are characterized by different rationales and visions, according to Notten et al. (2019) they all have a common goal to promote economic development. Consequently, they are greatly in line with all other policies and strategies at the regional, national, and subnational levels pursuing the same general objectives.

Based on a survey of 30 national cluster programs in 20 EU and non-EU countries, the European Observatory identifies three main objectives of cluster initiatives: (i) strengthening the cooperation between companies, as well as between other industry or research actors; (ii) increasing the competitiveness of small and medium-sized enterprises (SMEs); and (iii) supporting international activities. Other key objectives are enhancing the visibility of clusters and fostering their R&D and innovation capacity. On the other hand, objectives focused on entrepreneurship and promotion of startups and promotion of a solidarity-based initiative for local development strategies did not rank highly in the survey. Many cluster programs pursue several objectives at the same time, but there are also programs that are very focused on specific objectives such as, for instance, internationalization and increasing visibility.

Considering the effective measures implemented, in line with the objectives identified above, the results of the online survey indicate that the three most common aims are to support: (i) SMEs' participation in clusters; (ii) international cluster collaboration; and (iii) internationalization of cluster activities. Measures also considered important are: supporting the further development of cluster organizations and providing technical assistance such as consultancy, training, and cluster management to these organizations. Conversely, the establishment of new organizations is not indicated as a key measure to implement. Among other mechanisms which are ranked low in the survey are measures which aim to promote entrepreneurship and startups as well as those encouraging eco-efficiency.

The Evolution of Context-specific Cluster Policies

The objectives and measures indicated in the previous section are of general relevance for a large variety of clusters, but it is important to stress that their implementation needs to consider the specific contexts in which clusters are located. A best practice for one cluster is not necessarily a best practice for another in a different region or country (European Commission, 2016). The major factors of specificities are the size and the stage of economic development of the cluster, as well as the context in which it is embedded. For instance, in the case of the EU, cluster programs in Estonia and Germany should allow for differences in market size, just as the Danish cluster program would address different aspects to the cluster policies in Romania

or Bulgaria, given that the problems, as well as the private and public institutions involved, differ from country to country.

This is also one of the key lessons that emerged in the analysis by Casaburi and Pittaluga Fonseca (2016), of several clusters in Argentina, Brazil, Chile, and Uruguay that specialize in industries as varied as agriculture (i.e., avocado, blueberries, fresh fruits), services (i.e., tourism and education), and manufacturing (i.e., footwear and ceramics). They conclude that for clusters going through different stages, the supporting policies need to adapt to the different circumstances. They stress that in emerging, still immature clusters, cluster development programs should concentrate on supporting firm improvements, while more mature clusters benefit from initiatives aimed at addressing firm weaknesses and reconfiguring their competitive advantages.

The differing relative maturity of the context also determines the extent to which other industrial policy tools are available to cluster's firms. In countries where firms' support is limited, cluster policies tend to be broader. In more advanced countries, there is less need for common public inputs, such as laboratories or technological centers and here, cluster policies concentrate on more sophisticated services for internationalization or innovation. In general, a cluster program works in line with the broader local development agenda and must be flexible enough to reshape and respond to the possible evolution of local, regional, and national policies (Casaburi and Pittaluga Fonseca, 2016).

A final point concerns the need to account for not only the heterogeneity among clusters, but also for the heterogeneity within them, and to adopt an inclusive cluster approach that reflects the different priorities of the various stakeholders. Casaburi and Pittaluga Fonseca (2016) use the example of a Brazilian footwear cluster, Jaú, where one of the key causes of the scant commitment on the part of private actors in the cluster development program was the introduction of a one-size-fits-all strategy, which did not take into consideration the multiple challenges faced by firms of different sizes. The program aimed at adapting the cluster's market strategy to focus on fast fashion, proposing measures that were already well known by the more advanced firms and too sophisticated for the average small firm.

To account for the different visions and interests of actors involved, cluster programs often promote the creation of some form of public-private advisory board and in their empirical analysis, Casaburi and Pittaluga Fonseca (2016) find that, although the collaboration between private and public actors increased in many clusters, its scale and scope was lower than expected. They conclude that cluster policies do not yet represent the core of industrial development policies in LAC countries, and that public actors are governed by short-term political considerations, which are ill-matched with long-term cluster policies.

Cluster Development as a Long-Term Goal

It is widely recognized that the development of clusters is a long-term project and, according to Notten et al. (2019), flexible cluster support should be provided—with

the assistance of stable cluster organizations—on a long-term basis for at least five to ten years. Based on their analysis of several LAC clusters, Casaburi and Pittaluga Fonseca (2019) also stress the importance that cluster programs be long-term, since a period of awareness-raising activities is always necessary for the broad scope of mainstreaming the cluster approach, as well as for aligning it with other local interventions. Using the examples of clusters in São Paulo, Brazil and Rio Negro, Argentina, they show how problems related to bureaucratic issues may create long delays between design of the initial program and the first outlay of funds, thereby generating disillusionment among cluster actors. Therefore it is common that cluster projects, especially in the early stages, can be very slow to take off.

As regards the long-term campaign, the process of cluster selection becomes key, and should encompass competitiveness, development potential, local capacity, as well as potential for spillover to the rest of the economy. The selection of clusters with high development prospects should be able to guarantee a high return on public investments, in terms of both an economic and a social impact. Casaburi and Pittaluga Fonseca (2019) stress the importance of a rigorous selection process, based on a blending of hard economic data to assess the development potentiality, and on a more qualitative assessment of local capacity, in order to coordinate actions among the firms with the public sector, and align different interests in the private sectors.

The Role of Cluster Organizations

Cluster programs are often run by specific units or agencies, which can be referred to as cluster organizations. These organizations support the implementation of the cluster approach by strengthening the collaboration among actors, facilitating collective actions, networking and learning within the cluster, and providing specialized and customized business services to cluster members (Christensen, Lämmer-Gamp, and Meier zu Köcker, 2012). Cluster organizations can also play an important role in connecting cluster members with policy makers, serving as a node for collecting and communicating needs and for identifying corresponding initiatives. In the case of the EU, three models of organizational structure have been identified (European Commission, 2016):

1. Quasi-private organizations in the public sector providing firms in the cluster with a one-stop access to all relevant policy measures, co-funding their activities with funds coming from the private sector (the Austrian model).
2. Cluster organizations funded by public money with the main aim of strengthening networking within the cluster in addition to other programs aimed at specific activities, open either only to cluster organizations or to all business organizations (the Scandinavian model).
3. Organizations publicly funded in a specific policy field, such as innovation, in which a proportion of the funding for specific actions is allocated to coordination (the German and French model).

All three approaches have strengths and weaknesses and show a trade-off between control and potential impact, with more government control leading to more certain but also more limited results (European Commission, 2016). Each country needs to select the model that best manages this trade-off, given its local environment and level of maturity. For instance, in mature clusters with strong and stable organizations, a long-term commitment of large investments may pay off.³ Conversely, in emerging clusters, financial and technical assistance should also be directed towards developing the capacity of the cluster management organizations, aiming at a flexible and agile structure with short evaluation cycles, clear exit strategies, and less funding for each single initiative. When considering the funding of cluster organizations, Notten et al. (2019) indicate that public funding is the most common source, followed by membership fees (e.g., from firms) and provision of fee-based services to members.

Lämmer-Gamp, zu Kölker, and Nerger (2014) research the broad types of services provided by cluster organizations in the EU, stressing the important role of activities aimed at facilitating collaboration between cluster members, which can spark collaborative behavior among companies and other cluster stakeholders. Among the services provided by EU cluster organizations, they emphasize the importance of: (i) market intelligence, aimed at identifying market opportunities; (ii) matchmaking for finding partners in related industrial sectors; (iii) project development for translating market intelligence and matchmaking into product innovation; (iv) technology transfer for accessing knowledge and upgrading technological capacity; and (v) vouchers for funding innovation.

The Brazilian experience of local productive arrangements (*arranjos produtivos locais* or APLs)⁴, researched by Garone and Maffioli (2016), is a further confirmation of the key role played by cluster organizations in a new context. They identify two phases characterized by different roles for cluster organizations. The first is aimed at fostering cooperation between cluster members and identifying local leaders responsible for pushing collaborative projects. The second phase is directed at improving the performance of cluster members through the offer of specific services for promoting exports, training, and technology transfer, and for creating sector-specific club goods such as technology centers. Garone and Maffioli (2016) underline that the APLs researched are characterized generally by some level of preliminary collaboration amongst firms, other organizations, and local government authorities. Nevertheless, cluster activities are limited, through lack of managerial and coordination skills, in their ability to promote effective collective projects. They also lack the

³ In European Commission (2016), the Swedish innovation agency Vinnova is mentioned as a case in point of a long-term initiative with a large and stable annual budget of around US\$230 million. For more information see [Vinnova](#).

⁴ Since the early 2000s, [SEBRAE](#)—the Brazilian Service to Support Micro and Small Enterprises—has supported the development of APLs defined as clusters of firms located in the same administrative area (e.g. municipality) with a specific economic specialization. APLs have been extensively investigated. See for instance Cassiolato et al. (2003).

technical skills and knowledge to identify new markets, new areas for innovation, and new business models. Hence the support provided by SEBRAE combines three core areas: (i) technical assistance; (ii) training; and (iii) trade promotion. The study also finds that the institutional strengthening is a key result of the support provided to APLs, since public and private actors, in particular cluster organizations, need to be prepared and trained for cluster interventions, and this often implies a break away from previous policy measures. The building of coordination capacity, as well as the learning-by-doing process and the mainstreaming of the cluster approach, are some of the beneficial effects of cluster projects, over and above the support received by cluster members, and explains the need for adequate resources to ensure its continuation throughout the cluster program.

Monitoring and Evaluation

Monitoring and evaluation are key for the success of cluster programs, therefore it is essential to include periodical monitoring exercises and evaluations at various intervals, planning them from the very outset of the initiative. Evaluation is crucial to maximize the impact of very limited public resources and ensure accountability, as well as to help policymakers learn how to improve program effectiveness and take corrective actions when needed. Several studies present models of monitoring, indicators, benchmarking, and impact assessments of cluster programs.⁵

A common problem, and evident in the literature, is the need to find a monitoring system that can balance the need for obtaining detailed information, with the need to keep the burdens for beneficiaries participating in evaluation to a minimum. According to Christensen, Lämmer-Gamp, and Meier zu Köcker (2012) a strategy for monitoring and evaluating cluster program should consider the impact at three different levels:

1. Cluster organizations focusing on the activities they undertake (i.e., services provided, workshops organized) and how these are undertaken.
2. Cluster actors considering objectives such as building cooperation, technology transfer, internationalization.
3. Economic and social system covering general areas such as job creation, gender inclusion, environmental impacts.

At the EU level, an important tool is the cluster mapping exercise provided by the European Cluster Collaboration Platform.⁶ It includes information on the profiles

⁵ See Christensen, Lämmer-Gamp, and Meier zu Köcker (2012) for a focus on EU clusters and for a comprehensive analysis of the cluster experience in LAC countries, see Maffioli, Pietrobelli, and Stucchi (2016).

⁶ The European Cluster Collaboration Platform is the European online hub for cluster stakeholders. More information is available at clustercollaboration.eu. The mapping tool is available at reporting.clustercollaboration.eu.

of the cluster organizations, disaggregated according to the interest in a specific type of cluster, specific region or industry. The Platform provides opportunities for collaboration and knowledge exchange among European cluster organizations, and organizes match-making events in the EU and non-EU markets to promote business opportunities and set up partnerships in strategic fields of mutual interest. Besides this, it also organizes events involving cluster organizations active in different industries, with the aim of promoting cross-sectoral collaboration, thereby playing their part in strengthening value chains within the EU. In the EU experience, collaboration and networking across clusters in different regions and countries fosters learning from best practice examples and improves the effectiveness and efficiency of cluster programs and organizations.

Under the umbrella of the European Cluster Collaboration Platform is the European Cluster Partnership for Excellence program, a follow-up to the European Cluster Excellence Initiative. The latter was launched in 2009 to develop a European cluster benchmarking methodology for improving cluster organizations' management processes and the quality of services offered to their members. The European Secretariat for Cluster Analysis has been bestowing awards for European cluster excellence since 2012. In 2020, a total of 1,383 cluster organizations in EU and non-EU countries were awarded for European cluster excellence (1,141 bronze awards in 46 countries, 132 silver awards in 20 countries, and 110 gold awards in 18 countries).⁷ In 2017, a second phase of the initiative was launched under new governance and with revised quality indicators.⁸ In the most recent initiative in 2020, 69 organizations from 21 European countries are currently involved in the ClusterXchange scheme which supports short-term exchanges among cluster organizations, and is aimed at promoting cooperation between clusters in Europe to facilitate peer learning, networking, and innovation.⁹

⁷ For more information see [European Secretariat for Cluster Analysis](#).

⁸ For more information see [clustercollaboratio.eu](#).

⁹ For more information see [clustercollaboration.eu/clusterxchange](#).

THE COMPETE CARIBBEAN CLUSTER PROGRAM

3

The CCPF, established in 2012 and followed up in a second phase in 2017, is a development program with the goal of fostering sustainable economic growth and enhancing the competitiveness of the private sector in the Caribbean (see Footnote 1). The CCPF provides technical assistance grants and investment funding to support productive development policies, business climate reforms, clustering initiatives, and small and medium size enterprise (SME) development activities in the region. There are two main pillars in the program. Pillar 1 provides technical assistance for projects aimed at enhancing productivity and competitiveness of Caribbean businesses in four main areas: (i) clusters; (ii) innovation funds; (iii) technology extension services; and (iv) entrepreneurship. Pillar 2 offers technical assistance for activities, aimed at enhancing the legal, institutional, and regulatory framework, and undertakes studies on the possible constraints to competitiveness, productivity, innovation and job creation. It also offers sector-level capacity assessments and provides expert advice on the implementation of policy reforms to improve business and innovation climates.

Within the framework of Pillar 1, the CCPF identifies cluster initiatives as one of the key means to overcome barriers related with economies of scale and competitiveness, these being amongst the main challenges faced by the private sector in the Caribbean region. In the first phase of the program from 2012 to 2016, the CCPF supported seven cluster initiatives out of 15 cluster competitiveness plans developed, delivering measurable results. Based on the most recent information available, as summarized in Figure 1, over 5,595 jobs were created (nearly 80 percent for women), the revenue of those firms and clusters which were supported increased by 40 percent over the baseline, and six clusters developed new or improved products or services. Overall, the program recorded a 23 percent increase in exports estimated at US\$37 million.

The end-of-program evaluation identified two critical success factors for the fostering of collaboration and ensuring the sustainability of cluster initiatives in the region: (i) they must be anchored and driven by a national/local institution, and (ii) facilitation and project management skills are essential to ensure effective cooperation, progress, monitoring, and evaluation (Technopolis and Nathan Associates, 2016).

According to the evaluation report, evidence of the poor quality of the cluster/value chain project concept notes received during Phase 1, particularly those from the most vulnerable countries, pointed to a lack of capacity concerning cluster

Figure 1

**Results Achieved with CCPF Cluster Programs
2012–2016 (as of 31st January 2017)**



Source: [Compete Caribbean](#).

management among local institutions. Thus, in the second phase of the Compete Caribbean Program, a capacity-building effort by local institutions emerged as necessary to enable clusters and value chains as drivers of economic growth in the region (Technopolis and Nathan Associates, 2016).

Accordingly, in the second phase of the Program, launched in 2017, Compete Caribbean established a process of institutionalization of the cluster methodology based on three steps. In the first step, 24 BSOs responded to an initial call and 10 were selected for participation in a capacity enhancement plan (Table 1). The plan was based on a diagnosis of their competencies around cluster/value chain identification, project design, and implementation. Mesopartner (2018) carried out an assessment of nine BSOs (Table 2) finding that knowledge and experience about the cluster approach was rather limited. It also determined that, although each BSO was different and had specific needs, there were several areas for joint capacity enhancement and therefore a joint training program would make sense.

The second step, initiated in 2019, consisted of a cluster development training program delivered by the Cluster Competitiveness Group to fill gaps in knowledge

Table 1

Participants in the Cluster Development Training Program (2019)

Countries	Total participants	Total participants from BSOs included in the current analysis	Total participants from other stakeholders	Total certified participants
Barbados	2		2	1
Belize	15	BELTRAIDE: 8	7	13
Dominica	26	DEXIA: 9	17	17
Grenada	20	GIDC: 7 GHATA: 2	11	14
Guyana	11	THAG: 1	10	6
Jamaica	16	JMEA: 7	9	12
St. Lucia	16	TEPA: 5	11	12
St Vincent and the Grenadines	19	CED: 4	15	14
Suriname	2	CUS: 1	1	2
Trinidad and Tobago	3	TTCSI: 3		2
Regional stakeholders	6	CTO: 4	2	4
CCPF	7		7	7
Total	143	51	92	107

as identified in the assessment exercise on the BSOs.¹⁰ To mainstream the cluster approach in the region and raise awareness that the BSOs involved are small and with limited resources available, the group opened the course to participants from other institutions in the 10 countries. There was a total of 143 participants, 84 of them obtaining a certificate of completion (more than 80 percent of attendance to the whole program) and 23 received a certificate of participation (more than 50 percent of attendance). Among the participants, 51 were BSO staff members, 7 from the Compete Caribbean team, and 92 from different institutions such as ministries, other public entities, business associations, private firms, and regional organizations (Table 1).

The training program was built around three main objectives: (i) identifying and prioritizing local clusters using market-driven criteria; (ii) facilitating private sector-led cluster initiatives with the development of two cluster development plans (CDPs); and (iii) supporting clusters in improving processes and linkages across value chains to increase revenues and reduce costs. The participants were provided with basic information on several relevant approaches and methodologies, such as cluster economics, industry analysis, value chain analysis, project management, and gender gap assessment.

¹⁰ For more information, see [Competitiveness.com](https://www.competitiveness.com).

Table 2

BSOs Involved in the Different Steps of the CCPF Cluster Initiative

Country	BSO	Included in Mesopartner (2018)	Included in the Cluster Development Training Program	CDPs presented to Investment Panels	CDPs in progress
Barbados	BIDC	NO	YES	Sauces and spices	NONE
Barbados	CTO	YES	YES	6 CDPs on community tourism development*	3 community tourism development clusters
Belize	BELTRAIDE	YES	YES	Music festivals Seaweed	Seaweed cluster
Dominica	DEXIA	YES	YES	Cocoa Arts and crafts	Cocoa cluster
Grenada	GHTA	YES	YES	Floriculture	Floricultural industry cluster
Grenada	GIDC	YES	YES	Chocolate	NONE
Guyana	THAG	YES	YES	2 tourism clusters	Essequibo tourism cluster
Jamaica	JMEA	YES	YES	No CDP	NONE
St Lucia	TEPA	YES	YES	Honey	Bee City cluster
St Vincent and the Grenadines	CED	YES	YES	(i) Agro-processing (ii) Concert and events	NONE
Suriname	Competitiveness Unit Suriname	NO	YES	Tourism Seafood	North Commewijne Tourism
Trinidad and Tobago	TTCSI	NO	YES	Business tourism	NONE

Source: Mesopartner (2018) and Compete Caribbean.

Note: The six CDPs were presented to a different investment panel with a focus on tourism activities.

At the end of the three training phases, with assistance from an external consultant, the BSOs elaborated two cluster development plans in their respective countries. They then submitted CDPs to Compete Caribbean for funding and presented pitches to an independent investment panel, composed of private and public actors. Three rounds of the selection process took place in July 2019, February 2020, and February 2021. In the third step, which is still in progress, several projects received funding (listed in the last column of Table 2). These projects, in different stages of development, are currently in the implementation phase, supported by BSOs.

METHODOLOGY

4

This study investigates how the process of institutionalization of the cluster approach is taking place for the BSOs involved in the different steps of the CCPF-supported cluster support programs, including BSOs who have participated in the training program and, in some cases, are currently involved in the implementation of a cluster development plan. The study addressed two main research questions:

1. Have BSOs improved their capacity to identify, design and implement sustainable cluster initiatives? Specifically, the study sets out to determine whether the BSOs have acquired knowledge and basic skills in a cluster approach as well as those needed for identifying and implementing a sustainable and potentially successful cluster program, whose goal is to institutionalize the cluster approach in the Caribbean region.
2. Is the cluster approach becoming mainstream in the Caribbean region?

The study relies on primary information collected by using two complementary methodologies: (i) qualitative in-depth semi-structured interviews with key respondents, and (ii) a survey submitted to participants in the Cluster Development Training Program.

Between April and June 2021, staff members from 10 BSOs were interviewed based on a common protocol. Each interview lasted an average of 90 minutes and involved several respondents. The following are the main topics discussed in the interviews (see Table A.1 for more detailed information):

- Acquisition of knowledge and basic skills for the cluster approach
- Acquisition of knowledge and skills needed to identify sustainable and potentially successful cluster programs
- Adoption of a value chain approach
- Integration of gender and climate change considerations into the cluster development process
- Impact of COVID-19 on the implementation of the cluster approach
- Involvement of other local stakeholders in the cluster approach
- Assessment of the cluster training program

In July 2021, semi-structured online interviews were carried out with CCPF project development officers assisting clusters in their implementation phase. The objective of these interviews was to collect further information for complementing and crosschecking the evidence at the BSO level. Table A.2 provides the list of respondents for each cluster under implementation and their respective BSO. All interviews were recorded and transcribed using NVIVO, a software program for qualitative data analysis.

To further complement and crosscheck the information collected from the qualitative interviews and enlarge the potential universe of respondents beyond the BSOs staff, in the timeframe June to July 2021, an online survey with closed questions was distributed to all participants in the Cluster Training Program.¹¹ The main topics addressed in the survey were: (i) knowledge about the cluster approach; (ii) knowledge acquired through the cluster training program, with specific reference to practical tools for the development and implementation of clusters, and monitoring skills; and (iii) capacity of the cluster approach to address economic and social challenges such as job creation, internationalization, gender bias, and climate change. The number of responses totaled 33, with an excellent response rate of 24 percent.

Qualitative data¹² was analyzed along the lines of a systematic abductive approach¹³ (Gioia, Corley, and Hamilton, 2013; Kvale, 1994). Initially, by reviewing all the information collected in the interviews, it was possible to “enter the field,” gaining an understanding of the respondents’ points of view and making sense of the data. Subsequently, through coding the transcripts, it was possible to identify the main topics emerging from the interviews. For instance, when informants discuss the main constraints to cluster implementation, the sentence was coded as a cluster development barrier and then sub-codes were added to identify the origin of the constraints such as financial, cultural, or human resources.

The coding dictionary evolved throughout the data analysis and new codes and subcodes have been added and iteratively renamed throughout the coding process. Transcripts have been coded several times, allowing current topics and themes to emerge. From the analysis, 14 main topics and 81 subtopics emerged. Based on this systematic coding exercise, it has been possible to organize the findings in a manner consistent with the research question. The software NVIVO helps in coding the large volume of qualitative information. The results are illustrated in the form of a narrative, coupling information obtained from the qualitative interviews with data collected in the survey. The qualitative information also features representative quotes from the interviews.

¹¹ There were 136 participants of the cluster training program invited by e-mail, with several repeated invitations. There were seven participants from the CCPF team in the survey.

¹² This data includes 14 interview transcripts that were 30 pages on average (single-spaced line).

¹³ Abductive reasoning is useful when there are many possible explanations for a phenomenon and research is aimed at identifying different patterns and meanings.

THE CCPF CLUSTER CAPACITY-BUILDING CAMPAIGN: MAIN FINDINGS

5

In this section we present the empirical evidence collected from the qualitative interviews, together with the findings from the survey. We discuss how clusters are understood and implemented, the role played by the BSOs, and the ongoing process of mainstreaming the cluster approach in the Caribbean region.

Clusters and their Importance in Local Economic Systems

The survey shows that there is a general understanding of what is defined as a cluster and a cluster approach; over 80 percent of respondents stated that they have a good or excellent general knowledge about clusters (Table 3). Throughout the qualitative interviews there was overall agreement that a cluster is a group of people working together to reach common goals based on a sense of commonality, from which all members could benefit by generating value-added at the level of the country, industry, cluster, and firm.

In the interviews, all respondents have defined clusters on the basis of the co-existence of two main characteristics: the concentration of firms in a spatially delimited area; and their specialization in the same or related industries. Specifically,

Table 3

Competence and Knowledge
about Clusters (in percent)

	Poor	Limited	Good	Excellent
General knowledge about the cluster approach	0.0	18.2	72.7	9.1
Ability to stay updated on industry trends, key figures and facts about the clusters	6.1	45.4	42.4	6.1
Ability to assess the growth potential of local clusters	3.0	42.4	45.5	9.1
Ability to select and frame new cluster initiatives	0.0	45.5	48.4	6.1
Ability to monitor clusters' progresses and results	0.0	42.4	48.5	9.1
Ability to monitor and assess cluster contribution to local and national economic development	3.0	51.5	42.4	3.0

Source: Authors' elaboration.

most interviewees emphasized spatial proximity as key to the formation of the cluster, which in the case of the Caribbean region refers to the country level, given their very small size, and the specialization of firms in the same, or related industries.

I understand now that a cluster basically would be like an interconnection of either businesses or suppliers or any institution with the same product (BELTRAIDE).

How I interpret it is as a group of businesses that work in a specific geographic area, within a particular industry (TTCSI).

I see the cluster as a group with a common purpose in which the businesses look at the idea of what they call coopetition, where they're c-cooperating (GHATA).

In the survey, the respondents were asked to provide a personal assessment of their competences about clusters. The three areas where over 50 percent felt very confident were the monitoring of results and progress of cluster programs, the selection of new cluster initiatives, and the assessment of the growth potentiality of clusters. Meanwhile, the weakest area of competences—in which over 50 percent of respondents believed they had little or limited knowledge—was the ability to assess clusters' contribution to local and national economic development.

According to the results, the cluster approach is perceived by over 80 percent of respondents to be very or extremely instrumental in increasing SMEs' competitiveness and fostering job creation. Over 75 percent of respondents considered that clusters could improve gender equality, further the sharing of a quality culture among SMEs, and foster innovation. Meanwhile, respondents were more skeptical about the role of clustering in addressing climate change, perceived by 45 percent of respondents as moderately useful (Figure 2).

Benefits of the Cluster Approach

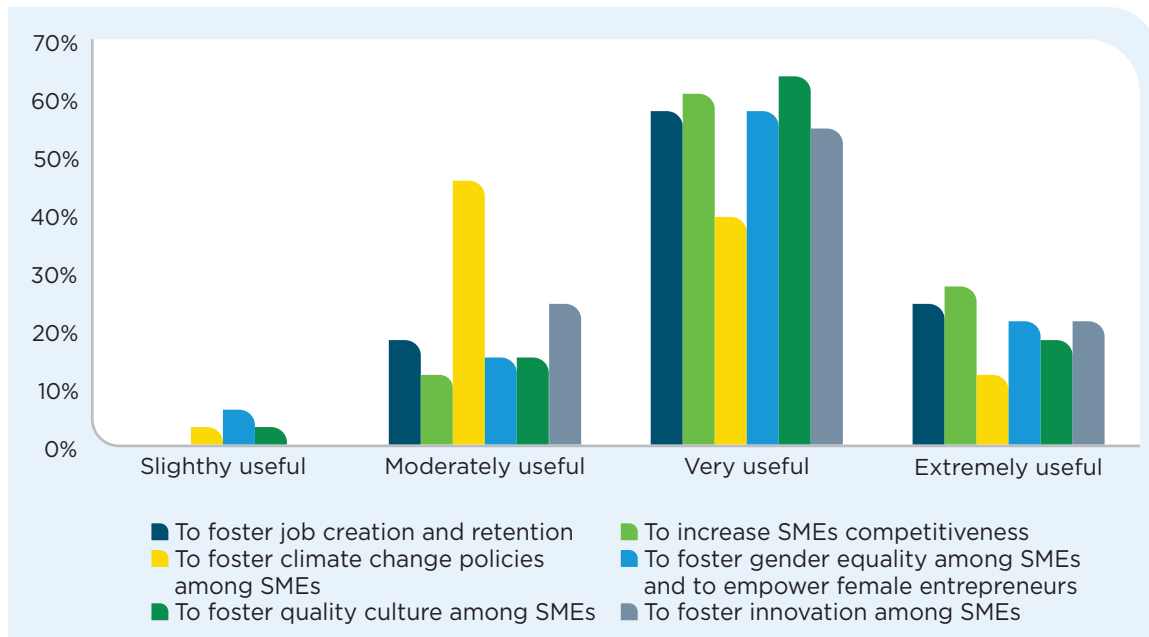
This section discusses the benefits of the cluster approach as identified by the respondents, based on their experience in implementing cluster development plans. Analysis of the information collected from the qualitative interviews shows that there are five main areas where the cluster approach offers clear advantages to cluster members: (i) knowledge and information sharing; (ii) common activities in the production phase; (iii) joint marketing; (iv) joint internationalization, and (v) lobbying.

Knowledge and information sharing

One of the key benefits of the cluster approach is an increase in knowledge and information sharing among cluster members. With the support of regular meetings and training activities promoted by the BSOs to share ideas and build knowledge, the

Figure 2

The Importance of the Cluster Approach



Source: Authors' elaboration.

exchange of information within the clusters has become more frequent, structured, and focused on key issues such as new agronomic techniques, new markets, and quality standards. This result is of particular importance given the frequently cited lack of collaborative culture that exists in the region.

The importance of knowledge sharing is mentioned in the interview with BELTRAIDE where the opportunity for learning and knowledge exchange among different cluster members is highlighted. In the case of the seaweed cluster, for instance, farmers new to the industry can learn from already established seaweed farms. This knowledge exchange helps *build an identity* as a cluster, generating benefits for the economic development of the country.

I think that this is super important, not just for us, but also for those learning to identify that: “we are a cluster”. We could work together, we can move ahead independently, but also together and helping the country (BELTRAIDE).

It is emphasized that the cluster approach *brings everyone and their minds together in a room*, as asserted in the interview with DEXIA, thereby underlining the importance of a continuous exchange of ideas and discussion among cluster members in the face of market challenges in production and sales of cocoa.

Another interesting case is THAG, which created a WhatsApp group for sharing experiences and learning among cluster members to ensure and maintain a high

level of engagement, including throughout the pandemic. According to THAG, the exchange of knowledge and information within the cluster is slowly bringing about a change in mentality, helping members to take full responsibility for their activities, without the customary wait for public support from the tourism industry. THAG works on empowering cluster members, leading them to be more responsible for the development of their communities.

What we've been trying to do is show them ways to improve their product, build capacity, but at the same time ensure that this project and the work that we're doing is sustainable (THAG).

Common activities in the production phase

All of the respondents recognized that a key advantage of the cluster approach is the undertaking of joint activities in the production phase, such as sharing testing facilities, jointly developing quality standards, and importing inputs from abroad for sharing logistic costs and possibly achieving better price conditions. In the agro and food industries, critical issues—which find a collective solution at the cluster level—are access to testing facilities and the definition of quality standards. An example of this is the Bee City cluster in St. Lucia, where local honey producers work together to obtain a quality certification in collaboration with the local Bureau of Standards. The local honey was tested in the United States to identify its specific organoleptic and nutritional values. As relayed by the project development officer, cluster members aim to showcase the uniqueness of the local honey as part of developing a marketing strategy for domestic, regional, and international markets. They therefore collaborate to determine the specific and additional tests required for identifying the benefits, uses and properties of St. Lucia's honey and highlighting its unique properties against competing products. The cluster is also collaborative in collectively importing personal safety equipment and glass bottles. The next step of collaboration is building a new communal bottle facility that meets quality standards and certifications. This is an interesting example of tangible collaboration within a shared infrastructure which goes beyond the more common intangible issues, such as knowledge and information sharing, advocacy, or training.

In the same vein, the cocoa cluster in Dominica—in collaboration with the Ministry of Agriculture—has undertaken specific tests on the soil properties of local cocoa fields. Soil samples have been sent to universities in the United Kingdom and Florida to measure the cadmium level which accumulates in cocoa plants and could lead to health problems. In collaboration with the Cocoa Research Center in Trinidad and Tobago, and the National Bureau of Standards, the cluster is also exploring the possibility of setting national standards for cocoa producers.

Another relevant example is the initiative promoted by CTO in the tourism industry in Barbados to promote adoption of digital payments among the small and micro-enterprises which have not traditionally provided the option of digital transactions

to tourists. The diffusion of digital payments beyond large businesses is seen as an opportunity to attract more customers toward small firms and offer tourists a full experience of Caribbean culture, including artisan businesses that are usually excluded from mainstream tourist routes. Another interesting project focused on digital payments is promoted by THAG in Guyana, where hotel guests will be able to pay cashless for buying crafts from local small artisan firms, and be charged on their hotel bills.

Joint marketing

The activities in this area are largely perceived by respondents to be key advantages of clustering, in particular the shared benefits of jointly collecting and preparing information towards clear positioning in domestic, regional, and international markets. For instance, the Bee City cluster in St. Lucia has hired a marketing consultant to design the label and the most suitable packaging for the local honey, with specific attention on glass as a plastic-free option for the international market. Respondents agree that sharing marketing studies among cluster members is cost-effective and facilitates the adoption of a common image, helping to increase product reputation and identify its unique characteristics, especially in the international market.

In Grenada, GIDC is currently taking part in the discussion around creation of a geographic location for chocolate production. This initiative was spurred by several local leading chocolate producers and the Ministry of Agriculture. According to GIDC, this is an excellent initiative which would help to build a brand for chocolate from Grenada, increasing its market reputation and leading to cross-branding opportunities, for instance in collaboration with the tourism industry, contrary to the idea that Grenada is only a cocoa producer.

Another interesting example is to be found in Guyana, where THAG is helping cluster members identify new tourist products and attract more visitors for longer periods, both in coastal and river locations, offering services with common quality standards.

What we hope to do is standardize products and services, raising the bar, bringing all businesses up to a minimum standard and teaching them how to record expenditures and calculate incomes and profit (THAG).

Other clusters, such as the Suriname tourism cluster, the seaweed cluster in Belize, and the cocoa cluster in Dominica are also working together to develop a marketing plan. According to the project development officer of the Suriname tourism cluster, the aim behind requiring a marketing consultancy is threefold: first, to conduct market research to understand how to position the cluster brand in the international market; second, to develop a common brand for small and micro enterprises operating in the local tourism industry; and third, to learn how to sell in the digital market.

Joint internationalization

According to the survey, 85 percent of respondents considered cluster initiatives to be a very useful vehicle for increasing export volume. This was borne out by several initiatives underway in the clusters researched.

Clustering enables the cost sharing of export to foreign markets, by, for instance, splitting the costs of logistics, shipping, and packaging, as reported by GHTA respondents in relation to the floriculture cluster in Grenada. Moreover, GHTA has stressed that clustering provides an opportunity for small firms to learn from larger, more experienced companies about how to enter into foreign markets, identify market segments and establish a clear market position.

I think that the larger members will be able to help smaller firms enter new markets. (GHTA).

This is also the case in Jamaica where JMEA is currently managing an export market program, aiming to support approximately 50 companies to start to export. One of the key pillars is assistance and mentorship provided by large companies to smaller ones, in areas such as legal assistance, distribution channels, and packaging.

Interviews also indicate that clusters jointly invest in a market strategy in order to identify specific market niches, especially in international markets, directed at selling small quantities of high value products. As mentioned in the interview with DEXIA, Dominica is unable to compete with countries such as Ghana or the Ivory Coast in the cocoa export market. Their identification of a market niche started with market analysis; they investigated the entire domestic and international value chain to determine whether they should focus on a niche or the mainstream consumer market. They then analyzed trends and prices in international markets and decided on the approach that was best for them, focusing on niche markets and creating a storytelling strategy about the flavor of Dominican cocoa and their production process which is child labor-free.

Similarly, Jamaica adopted a niche market strategy for castor oil. In the interview, JMEA staff explained that the BSO, in collaboration with the Jamaica Castor Industry Association, provides technical assistance in the process of developing standards for Jamaican Black Castor Oil. The registration of a quality standard could help the industry put a stop to Chinese falsification of the product.

Lobbying

Participating in clusters has a role in strengthening the lobbying and bargaining power of firms. In the interview, TTCSI specified that the cluster initiative served to meet objectives that would not be possible for firms working alone, by strengthening the collective demand for national authorities to improve infrastructures for business and commercial tourist activities.

Collective political pressure is also essential for the development of the seaweed industry in Belize, since extension of the production area depends on permits issued by the Ministry of the Blue Economy. The cluster as a collective entity therefore, has more bargaining power than individual farmers to sustain the extension of the farming area at the national level.

Challenges of the Cluster Approach

This section focuses on the main challenges faced by the BSOs in the implementation of the cluster approach. The main areas identified in the qualitative interviews are: 1) cultural attitude towards collaboration; 2) heterogeneity among cluster members; 3) lack of resources; and 4) difficulties related to COVID-19.

Cultural attitude towards collaboration

What emerges from the interviews is that building a cluster takes time. It is a slow process in which the most commonly cited challenge was the turning around of an individualistic cultural mindset, frequently presented as typical of the Caribbean region. However, this is clearly not unique to the Caribbean, but rather an extremely common attitude elsewhere also, as shown in Section 2. Throughout the qualitative interviews, it was often mentioned that in the Caribbean countries there is no tradition of collaboration among companies, and the widespread lack of trust does not aid the development of a collaborative attitude or implementation of the cluster approach.

There's a lot of cultural things that you just must get people past. I would just add this: I find clusters interesting, especially given that this is a country that had four years of a revolutionary government, where at one point in history there were a lot of cooperatives [...]. Well, we don't do clusters well here in Grenada. And this is because there's this prevalent kind of mindset of studying what the next person is getting and wondering if they are getting the same kind of share. (GHTA).

Respondents report that, in facing this challenge, their primary activity is currently *keeping the group together*, starting with a bedrock of engaged entrepreneurs. It is a widely shared opinion that it is essential to build a critical mass of firms with some previous experience of collaboration. The driving firms work together to achieve common goals and obtain some preliminary results, which could be shown to more skeptical companies to convince them of the potential of the cluster approach. The importance of working towards improving connections and collaboration among cluster members is also corroborated by the survey and most respondents indicated that cluster growth and development was one of the three main objectives of cluster organizations (see Table 8 below).

In the interviews, it was generally reported that the level of trust is increasing and the purpose for collaboration is becoming clearer to most members. This is

happening faster where there is previous experience of collaboration among cluster members, and thanks to the intensive activity of group building, operated by the BSOs and the cluster managers. This is exemplified by the case of the honey cluster in St. Lucia where a cooperative already existed before the start of the project, with many members and where TEPA put in a lot of effort to build a group mindset.

At the beginning we had a lot of mistrust among cluster members. But now we're very happy in terms of how much collaboration is going on and in terms of how much cluster members talk to each other. There's a lot more of that going on because people have seen the results of the interventions that this project has been trying to introduce. [...] And so trust is building up. There are some areas we still need to work on, but it's not a trust issue anymore. It has more to do more with building capacity for farm organizations. (TEPA).

Therefore, some previous experience of collaboration among a few motivated and leading actors, coupled with some intensive motivation and trust building initiatives, and possibly some results to show the actual benefits of clustering, makes an important combination for convincing even the most skeptical cluster members to get involved in the cluster activities. In this regard, many respondents have stressed the importance of having a few local success stories to share to encourage new companies to get involved and thereby establish a collaborative environment.

Clearly, the COVID-19 pandemic which, in some cases generated long delays in effective launches of cluster projects, has not been helpful for overcoming the disillusionment and skepticism of some cluster members, and has made the effort to build a collaborative environment rather difficult. In the interview with BELTRAIDE, it was reported that, due to the long delays at the beginning of the project activities, some cluster members are reluctant to get actively involved and thus a lot of effort is required to engage them and build a cluster mindset which could foster connections and interactions.

Heterogeneity among cluster members

The high heterogeneity among cluster's members in terms of size and revenues is indicated as a second major challenge that makes the alignment of cluster objectives very difficult. Maintaining the involvement of different types of actors could be quite demanding for BSOs. It is also difficult to communicate the advantages of clustering in ways that are effective and relevant for very different types of companies with different needs.

There are differences. Our [cluster] members vary from people who have very small gardens to people who have seven acres, like me. (GHYA).

In the interview with JMEA, the differences in sizes and goals among cluster's members have been stressed. Where there are large and very small companies in

the same cluster, it proved difficult to convince different actors to join a cluster and work together. Larger companies may have the goal of expanding their exports, while smaller companies are often focused on the domestic market. Thus, with such a discrepancy in terms of objectives, it is difficult to identify a common strategy for the cluster. Nevertheless, as pointed out in the previous section, according to both GHTA in Grenada and JMEA in Jamaica, the coexistence of larger and smaller firms within a cluster could also be an opportunity for learning and mentorship, particularly in internationalization.

Lack of resources

In the interviews, limited availability of financial resources emerges as one of the main constraints of cluster implementation. It is stressed as the main challenge by CED in St. Vincent and the Grenadines, because their cluster development program was not selected for funding and therefore they have not received resources earmarked for the launching of cluster initiatives, and potential cluster members have quickly lost motivation.

It is extremely difficult to maintain enthusiasm without at least the resources needed for establishing the cluster. Some resources would be key to facilitating some of the initial work for the cluster to be able to develop. (CED).

Lack of resources is also affecting the availability of qualified personnel involved in cluster management.

The biggest issue we have relating to cluster development is a lack of money because we only have two people in the office. And when I think about the amount of work we have, I don't know if there are the resources in our office to do it. (GHTA).

In relation to funding, BSOs have also emphasized that one of their main difficulties is getting cluster members to understand that their scope does not allow for any individual funding, nor assistance with applications for funding. In some cases, cluster members do not fully understand the BSO role as a supporting organization, and do not view the technical support provided within the program as a priority. Finally, the lack of technological infrastructures (i.e., web platforms, data centers, internet connections) is also recognized as critical.

The problem for some clusters, and I'm talking generally here, not necessarily just about the floriculture cluster, is that some sort of infrastructure is needed for those businesses to make a difference and for some cluster initiatives. I think that's a key area that could be looked at. (GHTA).

Difficulties related with COVID-19

All the BSOs interviewed agree that the COVID-19 outbreak represented a huge challenge in terms of maintaining cluster cohesion, motivating firms' participation, and keeping them interested in the project. BSOs maintained contact with clusters' members via WhatsApp groups, sharing useful information and trying to keep everyone involved and informed about the progress and activities of the various clusters. Nevertheless, cluster members have gone without face-to-face meetings and complain about the difficult interactions, since most of the clusters began their activities just before the pandemic, when a collaborative environment was yet to be established.

We must keep them engaged. When we send a message to the WhatsApp group, you see that they're reading it, but they're not responding. So we continue to keep them up to date about what's happening, even if they're not responding, so that they are aware and informed. We hope this will improve and hope to be able to meet in-person soon. (THAG).

With COVID-19, important opportunities for accelerating a digital transition emerged. The pandemic is forcing about finding new digital solutions to improve communication in spite of restrictions, both at the level of the BSO and at the cluster level. Some cluster activities, mainly training, have been transferred online. In some cases, webinars have been very successful, allowing large numbers of people to participate, including small entrepreneurs who usually do not have time to attend training courses, and college students, as well as other interested people outside the cluster. Therefore online training has been shown to have clear potential for increasing its impact, even beyond the cluster's members.

I think we were fortunate in the sense that COVID-19 happened. We were able to turn something that appeared to be negative into an opportunity because, rather than just having three weeks of seminars where the consultant would have come in and then leave, we were able to have a very solid three-month webinar program and receive a lot of knowledge, as opposed to what we would have learned if he had just come in for three or four weeks or so. (GHTA).

Another area that started to develop as a result of COVID-19 is e-commerce. In Dominica DEXIA is currently supporting the cluster in the development of a project to sell chocolate online.

I want to highlight that we are also organizing the e-commerce meeting to encourage farmers to adapt to e-commerce. So the pandemic is an opportunity to increase digitalization. (DEXIA).

Of interest is another project, previously mentioned, that was carried out by CTO in Barbados, concerning the digitalization of the tourism industry, and with a focus on digital payments. In Grenada, GHTA is assisting the cluster in the development of an application and a website for the local floricultural industry.

I think one of the key things is the development of the app; the concept is that it could function as a means for farmers to make a daily entry of what they have on sale. [...] Instead of making multiple 'phone calls, they will be able to go to the app, see who has flowers and carry on from there. I think that's probably been one of the most difficult challenges, connecting the grower with the buyer. [...] We also plan to develop a gateway website for the sector. I see the gateway website more as just a way to have a spot where, if somebody does a general search on Grenada, they can see who's growing flowers and reach out to them individually. (GHTA).

Nevertheless, elsewhere, a lack of adequate digital infrastructures and digital culture, as for fishermen in Belize, negatively impacted participation in training activities.

To have a good conversation you must have a good Internet system. So if that is bad, then you already have a big problem on your hands and in some cases, for persons to be able to follow, then you have, you know, a bit of interference that comes in the fluctuating service in particular areas. (BELTRAIDE)

Value Chain Analysis

Value chain analysis is generally considered to be an important tool for promoting the development of the cluster. According to respondents, value chain analysis could lead to identifying new market segments and more suitable products for the domestic, regional, and international markets.

We looked at the whole chain and in fact were able to determine whether we needed to look at the niche market, or focus on a broad market, and whether we should look at a value-added product as opposed to raw beans, for making our presence known in the markets; also whether we should look at regional markets as opposed to international markets, or just domestic markets. We went through the whole process, and we were able to come up with what we feel is the best approach in terms of the final flavor of the cocoa. [...] We did the analysis and confirmed that this was the best approach for us. (DEXIA).

The application of the value chain approach is particularly effective in the tourism industry because it allows different actors to be involved in the same project; hotels, artisans, restaurants, cultural and music performers and sports activity providers can work together in a joint project such as an online platform for digital payments, in the

case of the CTO project. In Trinidad and Tobago, TTCSI has also adopted the value chain approach to identify the existing facilities, skills, and capabilities of cluster members. Through this approach it has come to light that there is an underutilized resource of sports facilities which could be offered in the market.

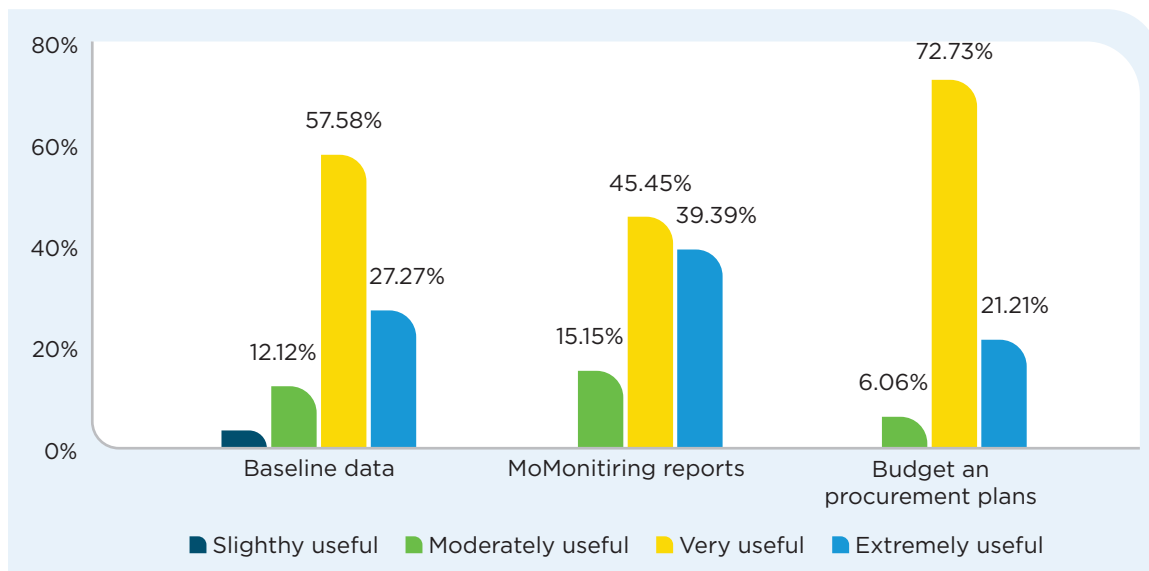
In the interviews, respondents have underlined the importance of a value chain analysis to identify possible bottlenecks in the production process, such as access to specific raw materials or inputs like packaging, as well as specific standard requirements. This is a common problem in many Caribbean countries where many pieces in the value chains are missing, and where domestic producers depend on imports, whereas in clusters there can be joint organization, as in the case of glass bottles in the St. Lucia honey cluster.

The Gender Dimension

According to the survey, over 80 percent of respondents considered cluster initiatives to be very or extremely useful in fostering female economic empowerment. (Figure 3). From the interviews it emerged that there is no perception of a widespread gender bias, and some industries, such as tourism, for instance, are largely dominated by women-owned businesses and female employees. Nevertheless, there is increasing awareness that, despite the strong presence of women, a widespread male predominance is still evident in management positions and a gender bias prevails, especially where wages are concerned. Women are often excluded from managerial responsibilities as, for instance, in tourism, where many outlets are owned by couples and where men usually oversee all administrative and financial aspects.

Figure 3

How Useful are Monitoring Tools for Cluster Implementation?



Source: Authors 'survey.

BSOs have undertaken several actions aimed at increasing awareness about gender inclusion and fostering the presence of women in managerial roles. For instance, BELTRAIDE developed specific training programs designed by women for women, aimed especially at female empowerment in technical skills in an industry such as seaweed production, in which a female presence is still limited. Similarly, in Guyana, THAG organized a training course for female tourist guides, an activity usually dominated by men.

Inclusion of women is something that we wanted from the beginning: having women included in the seaweed cluster and seeing them participating, not just in the production but also in the training and capacity building. [...] I believe that one of the ways women are included is that they are also included in the training of trainers so that they will later transfer knowledge to their counterparts (BELTRAIDE).

In the case of St Lucia, TEPA explained that the existence of a gender bias clearly surfaced when the BSO started to collect information about cluster members and undertook a gender analysis, as learned in the training course. From the analysis of the data collected, it emerged that women had lower wages than men for doing the same job.

In beekeeping, women do the same jobs as men, but they are paid a lower wage. Normally this is part of the culture and it's accepted that women may earn less. But when you do the gender analysis you are forced to ask questions. How much did this woman make, what does she do? So why is she making less than a man? (TEPA).

The Environmental Dimension

Environmental issues are a key concern in the Caribbean region and many of the specialized industries in the clusters under implementation are strongly tied up with the domestic natural environment. Despite the importance of the environment, the survey indicated that the cluster approach is not considered to be particularly useful in addressing climate change issues. This finding is in line with the international data, discussed in Section 2 (see Figure 3).

Nonetheless, there are several activities that clusters are involved in that have a clear, potential impact on the environment. BSOs recognize the strong connection between industries involved in cluster projects and the environment, often addressing environmental issues in the training activities.

There is an increasing recognition of the role of natural environmental resources and how they contribute to the tourism product and experience. We reiterate this in all the trainings to both consolidate a responsible use of resources, and teach how to manage environmental resources (CTO).

This is the case of the Grenada floriculture cluster, where, among the topics addressed in the training activities were: greenhouse construction, organic production techniques, pesticide control, and use of biogas. Another cluster where attention to the environmental impact is very high is the seaweed cluster in Belize, in which the non-profit organization The Nature Conservancy is also involved.

In a sector like seaweed farming, the issue of environmental impact is a very important issue to consider, it's central in our project (BELTRAIDE).

In St. Lucia, the Bee City cluster is also addressing issues related to the environment, given that beekeeping has a key role in the food chain. The industry has a tradition of collaboration with organizations such as UNDP for the development of natural and sustainable apiculture and the cluster is currently collaborating with the Global Environmental Fund on similar issues.

Monitoring and Evaluation

In the survey we collected information on the monitoring tools adopted by the clusters. Budget and procurement plans, baseline data and monitoring reports were generally seen to be very useful tools, as shown in Figure 3. Figure 4 presents further evidence regarding the benefits and challenges of collecting baseline data and writing monitoring reports. Over 60 percent of respondents agree on the benefits of monitoring and regular collection of performance indicators to support an informed decision-making process.

There is a very big gap in terms of data management, data access, and collection of data. This was one of the first areas we invested in since we felt that if we had data, we really could take informed decisions. You need data to make informed decisions (DEXIA).

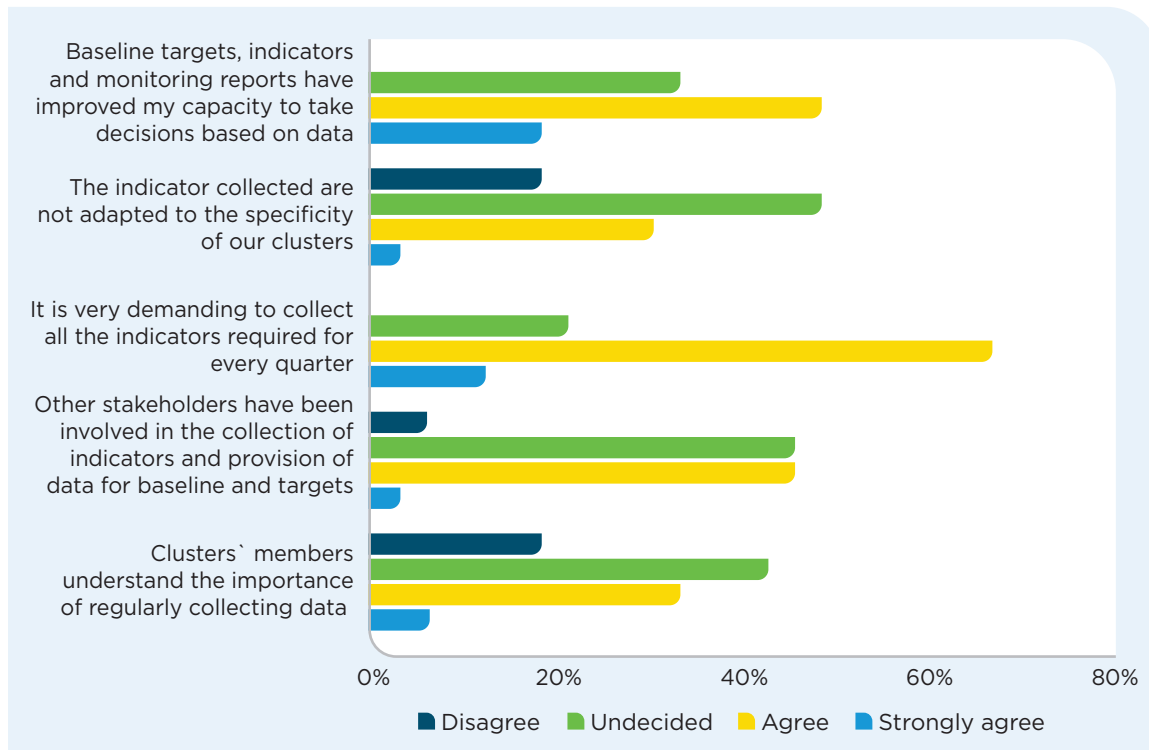
Nonetheless, the process of regularly collecting this information was considered challenging by almost 80 percent of respondents and the interviews also pointed to the existence of specific difficulties. In Belize, the seaweed cluster were critical of the indicators monitored because they do not account for the seasonality of the industry, which makes it particularly difficult to guarantee the requested supply of information on a regular, quarterly basis. Another issue concerns the heterogeneity among cluster members, as some indicators are particularly challenging to collect in smaller firms.

It is important to have tools which can be applied to the context which you are working in. Sometimes it is true that some tools cannot really be applied to larger firms and very small firms (BELTRAIDE).

The limited availability of human resources can also be a challenge for BSOs that do not have enough employees for collecting and analyzing data. This is

Figure 4

Use of Monitoring Tools



Source: Authors' survey meaning.

further complicated by the fact that firms are not always willing to share their data and, as confirmed by the survey, about 40 percent of respondents do not clearly understand the purpose of monitoring and regular data collection. COVID-19 has further complicated data collection because it prevented any face-to-face interaction between firms and BSOs.

The Cluster Ecosystem

One of the objectives of the CCPF Cluster Capacity Building Effort is to facilitate the mainstreaming of the cluster approach in the local ecosystem. For this purpose, the participation in the cluster training program was extended to participants beyond the BSOs staff. 92 out of 143 participants belong to different organizations such as ministries, other public entities, business associations, private firms, and regional organizations. This contributes to building knowledge about clusters among a variety of stakeholders and policymakers in the private and public sectors of the countries involved. The results of the survey confirm the broad knowledge and importance of the cluster approach (presented in Table 3 and Figure 2) among all participants in the cluster training program, which clearly extends beyond the BSOs interviewed.

The steering committees of each cluster under implementation have an important role to play for increasing awareness and knowledge of clusters in the ecosystem. In these committees, different local stakeholders are involved, such as representatives from relevant ministries (i.e., Ministry of Agriculture, Tourism, Blue Economy), as well as key private actors or NGOs. During regularly scheduled meetings the activities undertaken at cluster level are discussed, and the variety of their composition is a guarantee for representing different interests and involving all the relevant stakeholders in the discussion.

In the interviews we collected information and several examples that show efforts made by the BSOs to extend the impact and knowledge on clusters beyond the cluster projects currently under implementation. In several cases, it was evident that the cluster approach is adopted in other industries beyond those they are currently working in, for instance in the case of TEPA and BELTRAIDE. The latter works with the music industry and even though this cluster was not selected by CCPF, it adopts the same tools as those imparted in the cluster training program.

In several clusters, such as the Dominican cocoa cluster and the Bee City cluster in St. Lucia, there is an ongoing collaboration with the Ministry of Agriculture around issues related to product testing. Extension officers from the Ministry regularly provide technical assistance to cluster members. In some cases there is collaboration with the Bureau of Standards for setting quality standards in the industry, like the chocolate industry in Grenada. Similarly, in Dominica the cocoa cluster collaborates with both the Bureau of Standards and the Cocoa Research Center to develop product standards. In Trinidad, collaboration with the Cocoa Research Center is considered very important for access to key knowledge on industry development, which affirms the importance of adopting a regional approach that could create regular opportunities for networking among stakeholders in different countries in the region. In the interview, DEXIA has also stressed the importance of its connection to the Dominican Association of Export and the Ministry of Trade in supporting cluster members in their export activities. Overall, DEXIA emphasizes that having all the relevant stakeholders on board is key for meeting cluster objectives.

The cluster approach is a good tool for getting stakeholders together. Moving ahead means that they are on the same mission, trying to achieve the same goal [...] It is essential to be able to form a core group of people to take the process forward. So in terms of how we move and achieve our objectives, we will be able to leverage on the same people because they are already committed to the cluster in the initial phase of the process (DEXIA).

In Jamaica, JMEA has recently been commissioned by the government to develop a 5-year manufacturing strategy in which the cluster approach is one of the key pillars.¹⁴ According to the interview, JMEA could contribute significantly to the

¹⁴ The strategy was launched in July 2020 and is available at miic.gov.jm.

introduction of cluster development programs as a growth model in sectors such as castor oil, the agro-processing industry, and light manufacturing. This is also thanks to the knowledge on clusters that JMEA staff acquired through participating in the training program organized by the CCPF. Moreover, JMEA maintains collaborations on issues related to clustering with several national institutions, such as the Jamaica Business Development Corporation, the Jamaica Promotions Corporation, and also, recently, with the national Export-Import Bank of Jamaica, for the support of export activities in clusters.

In the case of the seaweed industry in Belize, the development of a local ecosystem appears to be a key condition for the future of the cluster. As underlined in the interview with the project development officer, seaweed production requires adjustments in national regulations if it is to extend the activity of the cluster beyond the size of a pilot project, and this requires the involvement of the newly established Ministry of the Blue Economy. Moreover, the take-off of the cluster could also require the involvement of some larger national and international companies to increase production beyond the national market and guarantee a larger and more stable supply. The key role of BELTRAIDE in collaboration with the US-based NGO, The Nature Conservancy, would therefore be to mobilize the different stakeholders.

Building up Cluster Knowledge in the BSOs

Improvement of cluster knowledge through training programs

In the interviews, respondents were generally agreed that the cluster training program served as a good introduction to the cluster approach and overall, has been greatly appreciated.

We really appreciated the opportunity to undertake such a training program. We have learned quite a bit and we still are in a learning curve. But we have learned so much and we were able to share what we learned with others. (DEXIA).

To further explore the opinions of participants, both in the training program and beyond the BSOs, the survey included two related questions about a) how competences in different aspects of the cluster approach have improved, thanks to the training; and b) whether knowledge gained from the training is considered adequate.

Table 4 reports the results for the first question and shows that 79 percent of respondents agree that, thanks to the training program, they have improved their capacity to foster collaboration and promote collaborative initiatives among clusters' members. The program's success in showing how to enhance a collaborative environment within clusters is also confirmed by the answer to the second question, in which 70 percent of respondents believed they had received adequate and

Table 4

**Improvement of Abilities and Competences
Resulting from the Training Program (percent)**

Abilities and competencies in:	Disagree	Undecided	Agree & Strongly Agree	Total # (percent)
Supporting climate change policies	6.0	42.0	52.0	33 (100)
Empowering female workers and entrepreneurs	6.0	24.0	70.0	33 (100)
Designing cluster projects	6.0	15.0	79.0	33 (100)
Fostering innovation	3.0	33.0	64.0	33 (100)
Supporting private sector challenges	0.0	30.0	70.0	33 (100)
Identifying new cluster projects	0.0	21.0	79.0	33 (100)
Fostering collaboration and collaborative initiatives among clusters' stakeholders	0.0	21.0	79.0	33 (100)
Building and developing stronger fund-raising projects	0.0	24.0	76.0	33 (100)

Source: Authors 'survey.

appropriate training in this specific area (Table 5). Furthermore, fostering networking and collaboration among cluster members has also been mentioned in an open question in which the respondents were asked to list the three main areas of improvement of their competences thanks to the cluster training program.

I have also learned to identify the needs of the cluster, and how to engage with the cluster members from beginning to end of the project, because they're the ones who end up guiding you in what they need. (BELTRAIDE).

A second area in which the training has greatly improved respondent capacity is the selection of new cluster projects. Nevertheless, this result contradicts evidence discussed in Section 5.1 where respondents identified the capacity to select new clusters as one the weak areas. The training participants likely improved their knowledge in this area but still see this as a challenge for potentially extending their area of interventions.

The training we received led to quite a few initiatives, even though not all of them were able to succeed.. But it provided us with the information needed to start new clusters and offered the opportunity to experience the launching of a cluster. (JMEA).

A third area of improvement has been the design of cluster projects, as indicated by 79 percent of respondents. In the open question where respondents were asked which they considered to be the three main areas of improvement of competences thanks to the cluster training program, this was the topic most frequently mentioned.

Table 5

**Adequate and Comprehensive Training
on Practical Tools (percent)**

Abilities and competencies in:	Disagree	Undecided	Agree & Strongly Agree	Total # (percent)
To support clusters' growth and development	9.09	18.18	72.73	33 (100)
To enhance cluster member collaboration	9.09	21.21	69.70	33 (100)
To build strong fund-raising projects	15.15	24.24	60.61	33 (100)
To assess cluster members' needs	9.09	12.12	78.79	33 (100)
To provide high quality services	9.09	21.21	69.70	33 (100)
To identify economic sectors that would benefit from a cluster approach	9.09	15.15	75.76	33 (100)

Source: Authors' survey.

More specifically, several respondents indicate that they have learned how to write a good proposal for funding and how to prepare an implementation plan. In interviews with the BSOs, it was also mentioned that a skill learned and very much appreciated was on how to pitch a project.

I think one of the biggest assets provided to us is the capacity to write and pitch proposals (BELTRAIDE).

A further area in which 76 percent of respondents felt they gained knowledge, is in building and developing more robust fund-raising projects. In addition, 70 percent of respondents believed they improved their competences in relation to empowering female workers and entrepreneurs within clusters.

Climate change and fostering innovation are the two areas in which the respondents have least improved competences. In particular, the response on climate change was the opinion that the cluster approach has a limited impact on environmental issues, as shown in Figure 3.

In the qualitative interviews we collected some useful additional information about the training program from BSOs. Several participants have emphasized that the training was a valuable opportunity to meet and exchange knowledge with BSOs from other countries.

We were able to hear about other islands' experiences. It was helpful to realize that, for instance, the problems we have are common to other islands [...] It was also great that they asked us to present our projects with a pitch. So we were able to not only understand the development of clusters, but also see what is involved in pitching a project. The interaction with people from other islands was great. (GHTA).

There is general agreement that more opportunities for knowledge and experience exchange among the different BSOs and organizations would be a very useful contribution to the successful implementation of the cluster approach in the region. In the interview with THAG it was very clearly stressed that since knowledge about clusters is limited in Guyana, the training was very useful, but it was also very important to be able to share knowledge with other organizations from Suriname, learning about their practical experience in the implementation of the cluster development projects and the adaptation to the local context of the different tools and methodologies analyzed during the training program.

We've seen successful projects in other countries, particularly in Suriname, and the work that they've been doing, not just in tourism, but in agriculture as well. [...]. We use that information as an encouragement and motivation to keep us going. (THAG).

As stressed in the interview with BELTRAIDE, some of the tools and methods proposed in the training program need adaptation and customization to be adopted in a small country like Belize and to a very peculiar industry like the seaweed industry. Also, case studies proposed as teaching material do not always fit with the context of Belize.

Sometimes some tools cannot really be applied to very small firms. So it is important to have tools which can be applied to the context in which we are working [...] tools that are used or methodology designed for bigger companies don't fit our reality. (BELTRAIDE).

Nevertheless, there was a general appreciation for the extensive use of case studies as teaching material, valuable for comparing local realities with other contexts and for understanding which activities could be better adapted to specific clusters. For instance, in the interview with DEXIA it was commented that learning about coffee clusters in South America was extremely useful for discerning the potential of the local cocoa cluster. Some respondents with previous experience in cluster training programs, those based in Trinidad, for example, appreciated the attempt to present case studies consistent with the local context. Also stressed was the need for more cases from the region, since learning from local best practices is considered very effective and useful for fostering a critical discussion among training participants.

The fact that we were able to understand the reality of what happens in other contexts and be able to use these case studies was useful to understand what we want to achieve in our cluster. So during the workshops we have always spent time looking at the various studies that were presented and we were able to discuss them among ourselves. (DEXIA).

Finally, there was general approval concerning the structuring of the training into different time slots, each of them followed by a period of practical experimentation applying what was learned in the class.

I think the training was excellent. I also think that it was very good not to have three weeks, one after the other, so that you could build up your blocks of knowledge and apply them (GHTA).

BSOs' future objectives

The BSOs play a key role in the cluster development process, together with the cluster manager (see Section 5.9.3), and with cases such as TEPA, which also acts as a cluster manager. This activity can sometimes be challenging because all BSOs are small and multi-purpose organizations, and managing cluster projects is just one among many activities. On several occasions during the interviews it was stressed that the internal workload is sometimes very high, with few employees—in some cases just one person - dedicated to managing cluster activities.

I don't think we have enough human resources now, because for this to be done as efficiently as we'd like, we would need to have somebody on this full time. (GIDC).

Another critical issue mentioned in the interviews is the employee turnover of some of the BSOs, which sometimes resulted in the loss of trained officers, who, after taking part in the cluster training program, moved to another job. There are no figures on numbers of participants still involved in cluster projects. And it must be noted that some degree of turnover is also a normal phenomenon that could even lead to a positive spillover of cluster knowledge to other organizations; notwithstanding, this could prove problematic for BSOs with very few employees available to dedicate to cluster activities, as in the case of JMEA.

Unfortunately, most persons from the JMEA part of the training initiative have transitioned from JMEA. I am the only person still working for JMEA who received the training. (JMEA).

In the interviews, respondents have frequently stressed that, at the outset, the creation of clusters has not been easy, due to cluster members' widespread lack of trust and inexperience in a collaborative approach, already discussed extensively in Section 5.3. There is also general agreement that the mission of the BSO is to support and foster the establishment and growth of the cluster, bringing members together and helping them understand that by overcoming their individualities and by cooperating, they will receive tangible benefits.

To reach this goal, tools for team and trust building learned during the training program, as seen in Table 6, are generally considered key assets in the engaging activities at the cluster level. BSOs are quite confident that although it may take time, trust is, by and large, building, and there is much more conversation and collaboration among cluster members than at the beginning. The role of everyone is clear and cluster members have started to see some results and understand what the purpose of collaboration is, as in the case of GHTA.

The nature of the webinars and the way they were spread out over such an extended period was a really easy barometer for seeing how engaged the cluster was because we maintained a consistent number of participants for the webinars all the way through over two months, twice a week in the evening. So I mean, that to me was the greatest indicator of the engagement of the cluster. (GHTA).

Over and above strengthening the collaboration among actors, BSOs facilitate collective actions, networking, and learning within the cluster, providing specialized and customized business services to cluster members. Moreover, as seen in Section 5.8, they also play an important role in connecting cluster members with other local stakeholders, serving as a node for collecting and communicating needs and identifying corresponding initiatives.

Table 6 shows respondents' self-assessments surrounding the different capacities needed for implementing the cluster approach. The area where 79 percent of respondents believe they have a good or excellent capacity is in collaboration with other organizations in the cluster ecosystem. This is followed by 70 percent of the

Table 6

Capacities in Different Areas of the Cluster Approach (percent)

Capacities	Poor	Limited	Good & Excellent	Total # (percent)
To facilitate interaction, engagement and participation of clusters' members.	0.0	36.0	64.0	33 (100.0)
To incorporate the cluster approach into BSO routines and procedures.	1.0	39.0	60.0	33 (100.0)
To collaborate with other organizations in the cluster support ecosystem.	0.0	21.0	79.0	33 (100.0)
To perform value chain analysis.	1.0	47.0	52.0	33 (100.0)
To provide high quality services to clients in the cluster.	0.0	30.0	70.0	33 (100.0)
To assess cluster clients' needs and willingness to pay.	1.0	37.0	62.0	33 (100.0)

Source: Authors' survey.

respondents who consider they have good capacity to provide high-quality services to cluster members. Meanwhile 48 percent of the respondents feel less confident in their capacity to undertake value chain analysis.

An interesting finding is that, despite respondents having self-assessed as quite good in terms of their capacity to foster collaboration, and that they also consider the training program to have provided useful tools in this regard, *fostering cluster member collaboration* is among the most commonly mentioned weaknesses in cluster support activities. Table 7 provides a range of weaknesses noted by respondents, who give useful insights into challenges faced in the process of cluster implementation. Other areas where respondents point out weaknesses are: financial sustainability of the

Table 7

Main Weaknesses in Cluster Support Activities

Main areas of weaknesses	Weaknesses mentioned in the survey
Fostering cluster member collaboration	<ul style="list-style-type: none"> • Convincing members to commit • Motivating partners • Build collaboration among members • Effective managing of group dynamics • Conflict resolution • Stronger psychological skills to manage the diversity of the group and to ensure a cohesiveness in the cluster approach • Cluster concept is novel and requires time for members to see and recognize the benefits • Ability to set change in the stakeholder mindset towards true cluster development for economic development • Addressing the power dynamics in collaboration setting
Developing funding strategies for cluster projects	<ul style="list-style-type: none"> • Maintaining the cluster financially • How to mobilize funding • Funding is our main weakness which also affects the motivation and interest of potential cluster members • Developing cluster funding strategies and accessing continuous funding
Monitoring and evaluation	<ul style="list-style-type: none"> • Data collection • Monitoring, evaluation, and assessment of the cluster • Gathering data to substantiate a proposal and the collection of data to assess growth • Assessing whether data supplied by cluster members is accurate, short of being given access to their accounts • Lack of record-keeping by stakeholders • Consistent data collection and analysis of data • Getting cluster members to see the value of data collection and information sharing

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Table 7 *(continued)***Main Weaknesses in Cluster Support Activities**

Main areas of weaknesses	Weaknesses mentioned in the survey
Establishment of an ecosystem for cluster development programs	<ul style="list-style-type: none"> • To promote understanding of the importance of clusters to non-cluster members • Initiating policy change • Cluster approach does not lend itself to regional initiatives • Advancing and mainstreaming cluster development approaches into the policy and business environment • Building collaboration among public sector stakeholders • Lack of government support

Source: Authors' survey.

clusters, and the collection of data for monitoring and evaluating cluster progress. A further-mentioned area is difficulty in mainstreaming the cluster approach in the local context.

To collect information on future plans of respondents regarding cluster projects, the survey included another open question about the three main objectives for the next two years in relation to cluster growth and development (Table 8). The need to improve collaboration among cluster members is again the most cited objective, together with the development of a cluster mindset. The second most cited objective is working to ensure that the cluster will survive after the end of the program and apply to national and international calls for external funding. Given that innovation has not been one of the priorities in clusters so far, it is interesting to observe that the third most popular objective for the future is fostering innovation. Other objectives are increasing female entrepreneurship, the inclusion of women in cluster activities, and developing solutions to enhance the resilience of the cluster to climate change.

Table 8

Main Objectives in the Next Two Years in Relation to Cluster Growth and Development

- Improving connections and collaborations among cluster members
- Developing a “cluster” mindset among cluster members
- Working on ensuring the cluster will survive after the end of the program
- Applying to local and international calls for funding
- Fostering innovation within the cluster
- Fostering digital transformation
- Improving technological adoption among cluster members

• Source: Authors' survey.

Concerning cluster sustainability, the BSOs interviewed indicated generally that the clusters will become sustainable when their members are autonomous in developing new projects and involving new partners, without the assistance of a facilitator. GIDC indicated that a cluster is sustainable when the supporting organization becomes a member *inter pares* of the cluster, and trust has been built among all cluster members. For ensuring cluster sustainability, the BSOs are building cluster capacities and transferring knowledge to cluster members.

We're also looking externally at other sources of funding [...]. So in other words, everywhere we've seen gaps that could threaten the cluster's continuity, we have tried to build capacity in those areas so that if we must be removed, the cluster will continue [...]. We will simultaneously build capacity to ensure increasing exports to get a larger market share of honey. So these are things that we're looking at to ensure that the livelihoods of those involved in the cluster will continue even beyond the project. (TEPA).

Cluster managers

In the interviews with the BSOs, there is general agreement over the importance of the cluster manager as a leading figure who helps manage cultural barriers, maintains high levels of interest throughout the program, and helps companies change their mindset and understand the benefits of collaboration.

The cluster is really going to begin with the cluster manager ensuring that there is trust, helping them [cluster members] to develop the standard operating procedures. (CTO).

According to the information collected in the interviews, the cluster manager keeps the group together, which requires flexibility and adaptability, since within the clusters there are heterogeneous interests that can change very rapidly. The cluster manager needs to stay close to cluster members, maintain face-to-face relationships, and be open to listen to any feedback and needs that arise. Their role is also to break down projects into doable parts and implement them.

I understand that the cluster manager will somehow absorb the different interests and so she will have a role in terms of coordinating the different roles and facilitating collaboration among the actors who normally compete. (TTCSI).

MAINSTREAMING THE CLUSTER APPROACH IN THE CARIBBEAN REGION

6

In this study we investigate whether and how institutionalization of the cluster approach launched by CCPF and based on three successive steps - BSOs assessment, Cluster Training Program, and implementation of Cluster Development Plans—is taking place in the countries involved. The main research questions addressed are: *Have BSOs improved their capacity to identify, design and implement sustainable cluster initiatives? And: Is the cluster approach becoming mainstream in the Caribbean region?*

Findings, discussed at length in Section 5, were collected by way of in-depth qualitative interviews with 10 BSOs involved in the cluster training program, six of these already actively implementing cluster development programs that were funded after a selection process. Further observations came from other key informants, as well as from an online survey submitted to all participants in the training, to which 33 responded. This evidence is benchmarked with the international experience of cluster development programs, presented in Section 2.

As indicated in the thorough analysis of cluster policies in Latin America and the Caribbean by Maffioli, Pietrobelli, and Stucchi (2016), the cluster approach is new to the region and cluster policies do not yet represent the core of industrial development policies in the Caribbean. Maffioli, Pietrobelli, and Stucchi (2016) also conclude that cluster programs are long-term projects, and always need a stage of awareness-raising activities with a general view to mainstreaming the cluster approach, as well as aligning it with other, local interventions. Analyzing cluster programs in several LAC countries, Casaburi and Pittaluga Fonseca (2016) stress that it is common for cluster projects, especially in their initial phase, to be very slow to take off and in some cases, bureaucratic issues can create lengthy delays between program design and the first outlay of funds, thereby generating disillusionment among cluster actors. In their study on the Brazilian Arranjos Produtivos, Garone, and Maffioli (2016) emphasize that institutional strengthening is a key objective of cluster programs because public and private actors and in particular cluster organizations, need to be prepared and trained in cluster interventions.

Based on this empirical evidence, the process of institutionalization of the cluster methodology proposed by CCPF has a threefold aim: (i) strengthening local BSOs and the regional knowledge base about clusters; (ii) building capability in cluster

Table 9

Summary of the Main Achievements

Examples	
CLUSTERS	
Selection process	<ul style="list-style-type: none"> Elaboration of a cluster development plan pitched to an investment panel, including representatives of the private and public sectors
Increased collaborative culture	<ul style="list-style-type: none"> Knowledge and information sharing are increasing and becoming more regular BSOs have undertaken a lot of activities for building trust 79 percent of the survey respondents agree that thanks to the training program they have improved their capacity to foster collaboration and promote collaborative initiatives among clusters' members Previous collaboration experience facilitates trust building: e.g., honey The presence of motivated leading companies helps build collaboration: e.g., floriculture
Collective activities	
<ul style="list-style-type: none"> in the production phase 	<ul style="list-style-type: none"> Access to testing facilities and definition of quality standards: e.g., honey, cocoa Joint imports: bottles, PPE equipment: e.g., honey Joint services: e.g., digital payment system
<ul style="list-style-type: none"> joint marketing 	<ul style="list-style-type: none"> Marketing studies: e.g., honey, tourism Geographic indication: e.g., chocolate
<ul style="list-style-type: none"> joint internationalization 	<ul style="list-style-type: none"> Sharing logistics costs: e.g., flowers Small firms learning from more experienced companies: e.g., GHTA, JMEA
<ul style="list-style-type: none"> lobbying 	<ul style="list-style-type: none"> New infrastructures: e.g., TTCSI Production permits: e.g., seaweed
CLUSTER ORGANIZATIONS	
Improved management capacity of the BSOs	
<ul style="list-style-type: none"> Knowledge about clusters is good and widespread 	<ul style="list-style-type: none"> 80 percent of survey respondents have good or excellent general knowledge about clusters 79 percent of survey respondents have improved their capacity to design cluster projects, write proposals and implementation plans
<ul style="list-style-type: none"> Value chain analysis 	<ul style="list-style-type: none"> Cocoa Tourism industry
<ul style="list-style-type: none"> Gender gap analysis 	<ul style="list-style-type: none"> 80 percent of survey respondents think that cluster initiatives are very or extremely useful for fostering female economic empowerment 70 percent of survey respondents have improved their competences in terms of empowering female workers and entrepreneurs within clusters
<ul style="list-style-type: none"> Monitoring and evaluation 	<ul style="list-style-type: none"> 60 percent of survey respondents agree on the usefulness of monitoring and regularly collecting performance indicators which assist an informed decision-making process 80 percent of survey respondents agree that the process of regularly collecting this information is challenging

(continued on next page)

Table 9 (continued)

Summary of the
Main Achievements

NATIONAL ECOSYSTEM	<ul style="list-style-type: none"> • 92 out of the 143 participants in the cluster training program belong to different organizations such as ministries, other public entities, business associations, private firms, and regional organizations • Cluster steering committees involving different local stakeholders such as representatives from relevant ministries, private actors, and NGOs • Collaborations with ministries, bureau of standards, research centers • 79 percent of survey respondents have a good or excellent capacity in collaborating with other organizations in the cluster ecosystem
REGIONAL ECOSYSTEM	<ul style="list-style-type: none"> • Indirect learning effect from the cluster training program • Knowledge circulation via experts

implementation; and (iii) increasing awareness of clusters in the region. Clusters have clear advantages in Caribbean countries which are characterized by small domestic markets, small firms, and small and weak institutions. They offer access to larger and more sophisticated markets, improve knowledge and technologies, train skilled human capital and lobby governments for infrastructures and other policy support, opportunities unavailable to individual companies (Rabellotti and Giuliani, 2017).

With the implementation of the cluster institutional capability building project, CCPF has attained some significant results in this regard, as indicated in the extensive and varied findings, by country and industry, presented in Section 5. Table 9 summarizes the main results obtained so far and the following are the achievements as well as the challenges faced across four levels of intervention: 1) the cluster, 2) the cluster organization, 3) the national ecosystem, and 4) the regional ecosystem.

Clusters

A noteworthy result is the implementation of the *selection process* put in place by CCPF and based on the elaboration of a cluster development plan pitched to an investment panel, which included representatives from the private and public sectors. As stressed by Casaburi and Pittaluga Fonseca (2016), the process of cluster selection is key and should encompass competitiveness, development potential and local capacity, as well as the potential for spillover to the rest of the economy. The mechanism promoted by CCPF is a rigorous selection process based on a combination of hard economic data to assess the development potential of clusters, as well as on a more qualitative assessment of local institutions' capacity to foster collaboration among firms and interact with the public sector to increase awareness of cluster advantages.

Another result clearly emerging from the evidence collected is the *increased collaborative culture* within the clusters under implementation, which of course takes into account their differing levels of development, cluster members' diverse previous experiences of collaboration, and their different structures, elements which all impact

on the timeframe and quality of trust building and on the collaborative initiatives realized. It is seen from the analysis of the international experience presented in Section 2, that a collaborative culture is not an automatic given but needs time to evolve; and also that lack of trust is not unique to the Caribbean region. The evidence presented in Section 5 points to intense activity on the part of the BSO for the purpose of building a collaborative environment in all cluster projects under implementation. Clearly, COVID-19, which prevented face-to-face connections, has created some complications but there is general agreement that trust is increasing, and reasons for collaboration are becoming clearer to most members. The strengthening of cooperation within clusters, one of the main objectives of the cluster programs, as observed in the international arena presented in Section 2 (European Commission, 2016; Maffioli et al, 2016), is one of the main achievements of the implementation of the CCPF cluster program. Moreover, and tied in with the international experience, the evidence collected also points not only to the importance of reaching a critical mass of firms who have had some previous experience of collaboration, but as well to the key role played by having some leading active members engaged as driving actors for the rest of the cluster. It also highlights the need to quickly obtain the results of cooperation in order to demonstrate the actual benefits of clustering to more skeptical companies.

Besides creating a widespread cooperative culture, the clusters under implementation have also initiated *several collective activities*, such as sharing of information and lobbying, joint training, marketing, and internationalization. In turn they receive support from the cluster organizations, who provide specific services and create connections with skills and competences available locally, in the region, and internationally.

Cluster Organizations

In the Caribbean region, embedding the cluster approach is still in its early stages; the key objective of cluster development programs is to *improve the management capacity of those business organizations* committed to supporting clusters. This is clear from the analysis of the international experience, both in Latin America and Europe (Christensen, Lämmer-Gamp, and Meier zu Köcker, 2012; European Commission, 2016; Maffioli et al, 2016).

In the case of the Caribbean clusters, BSOs are small, non-specialized institutions, with, in most cases, no previous experience in managing cluster projects. One of the key results of the CCPF cluster institutional capability building project is that the BSOs have progressively improved their coordination skills and their capacity to promote effective collective projects. In the previous section, we presented ample evidence of the BSOs efforts to use the tools for trust-building and conflict resolution, value chain analysis, and gender analysis learned in the cluster training program, along with learning-by-doing in the implementation process of the cluster approach. Besides this, BSOs have improved their capacity to design cluster projects, write

proposals, and prepare implementation strategies. There are also some initial signs of possible application of the cluster approach in other industries. One of the lessons learned with this project is that investing in institutional capacity building at the level of cluster organizations is key in clusters with a low maturity level, where trust and collaboration must be built among potential members.

A strategic area which BSOs have invested in is the *monitoring and evaluation* of the progress within clusters through the collection of baseline data and the drafting of regular monitoring reports. Evaluation and monitoring are considered a key area in the international experience, crucial for maximizing the impact of limited resources, guaranteeing accountability and adjusting actions if necessary (Christensen, Lämmer-Gamp, and Meier zu Köcker, 2012). Among BSOs, there is general agreement over the usefulness of monitoring the cluster implementation for the purpose of taking informed decisions, but the collection of information is also challenging and, in some cases, too rigid and with little attention to the specificity of the industries and companies involved in the cluster projects. Christensen, Lämmer-Gamp, and Meier zu Köcker (2012), referring to the experience of European clusters, stress the need to implement a monitoring system that collects detailed information without putting too much burden on cluster members.

National Ecosystem

For the mainstreaming of the cluster approach in the region it is extremely important to build knowledge and implementation capacity beyond that of the BSOs directly involved in the management of the cluster projects. The first important step in this direction has been the *substantial involvement of participants from many different private and public entities in the cluster training program*, thereby introducing many local stakeholders to the cluster methodology.

Subsequently, *engagement of different organizations is actively pursued by the BSOs* through their involvement in the steering committees of the clusters, as well as by way of their numerous collaborations with ministries, NGOs, research institutes, universities and standard-setting bodies in the various collective projects promoted in the clusters. Based on the experience of European clusters, Christensen et al, (2012) also stress the important role cluster organizations can play in connecting cluster members with policy makers, serving as a node for collecting and communicating firms' needs. Nonetheless, in the Caribbean region there is, as yet, no systematic coordination with the broad local development agenda and cluster policies do not represent the core of industrial development policies in the countries researched (Casaburi and Pittaluga Fonseca, 2016).

Regional Ecosystem

In the EU experience, collaboration and networking across clusters and cluster organizations in different countries is an important channel for knowledge exchange

and for learning from best practice cases. In Section 2, we provide some information about initiatives such as the European Cluster Collaboration Platform and the European Cluster Partnership for Excellence, which are aimed at facilitating peer learning, networking, and cooperation between clusters in Europe. Interestingly, there are also initiatives aimed at involving clusters active in different industries to further the emergence and strengthening of value chains within the EU.

The potential for a more regional approach to cluster mainstreaming also came up in the interviews, where some of the respondents pointed out that the opportunity to learn from other cluster experiences in the region was an indirect effect of the training program. The importance of the circulation of knowledge was as well seen as due to the regional experts and institutions involved in some of the cluster initiatives. This is an important area for the mainstreaming of the cluster approach in the Caribbean, not yet systematically addressed within the CCPF cluster program.

POLICY RECOMMENDATIONS

7

Based on the empirical evidence collected and benchmarked with the international experience on cluster development programs, the cluster capability building initiative, aimed at mainstreaming the cluster approach in the Caribbean region, could follow a three-pronged approach that focuses on cluster organizations, and national and regional ecosystems. We outline some recommendations below and summarize them in Table 10.

Cluster organizations

- a. Cluster organizations should work further towards strengthening the collaborative culture within clusters using the tools learned in the cluster training program;
- b. Cluster organizations should increase the practice of *value chain analysis* and *gender analysis* to address specific issues in clusters;
- c. Cluster organizations should intensify monitoring and evaluation activities at cluster level, introducing adaptations for specific contexts, providing training for cluster members to collect information and understand their use;
- d. Monitoring and evaluation of cluster organizations should be introduced, focusing on the activities they undertake (i.e., services provided, workshops organized, regular contacts with cluster members, engagement of the cluster organizations in national and regional ecosystems, membership satisfaction, visibility of the cluster organization) and how these are undertaken.

National ecosystem

- a. At the national level, it is important to increase the opportunity for potential interested national stakeholders to get involved, by strengthening the role of cluster steering committees, increasing visibility of the achievements of clusters and promoting policy forums for coordination of cluster interventions with other local industrial development policies;
- b. The introduction of monitoring and evaluation at the national level, establishing a set of key performance indicators in keeping with the objectives of cluster

programs, such as job creation, gender inclusion, and environmental impacts, will allow for the impact of cluster programs on economic development.

Regional ecosystem

- a. In the case of the Caribbean region, a systematic, cross-country, inter-cluster collaboration and knowledge exchange should be promoted. On this level, a Caribbean Cluster Collaboration Platform covering information about BSOs involved in cluster development projects could be established, similar to the European Cluster Collaboration Platform. The platform will provide opportunities for collaboration, networking, and knowledge exchange among cluster organizations in the region, to learn from best practice examples close to the local context.
- b. The regional platform is also important for benchmarking:
 - cluster organizations, based on the indicators collected at the BSOs level (see above for the introduction of a monitoring system at the cluster organization level);
 - cluster programs based on the indicators already collected;
 - national impact in keeping with the objectives of cluster programs (see above).
- c. For facilitating bilateral exchanges between clusters and cluster organizations, an initiative could be promoted for short visiting exchanges between BSOs staff and cluster members from different countries, similar to the EU initiative, ClusterXchange, with the aim of promoting cooperation between clusters in the region and to facilitate peer learning and networking.
- d. Within the scope of exchanging best practices, a regional cluster meeting could be organized at the end of the implementation of cluster projects, with the other stakeholders involved. Within the scope of establishing regular meeting opportunities, this could become an annual conference involving all the relevant actors in cluster programs in the region.
- e. The development of a series of case studies presenting the experiences of clusters in the Caribbean region will contribute to strengthening regional knowledge about clusters. Case studies can be used in future training courses, as well as in courses in local business schools.
- f. A Caribbean Cluster Collaboration Platform could also be an opportunity for international best practice exchanges and business opportunities. For instance, the European Cluster Collaboration Platform organizes matchmaking events with the aim of bringing together delegations of cluster representatives from EU and non-EU countries to promote business opportunities and set up partnerships in strategic fields of mutual interest.

Table 10

**A Three-Pronged Approach for Mainstreaming
Clusters in the Caribbean Region**

Cluster organizations	Strengthen the collaborative culture Adopt value chain analysis and gender analysis Monitor and evaluate activities of clusters Monitor and evaluate cluster organizations
National ecosystem	Strengthen the involvement of national stakeholders Monitor and evaluate at the national level
Regional ecosystem	Promote systematic cross-country inter-cluster collaboration and knowledge exchange Establish a Caribbean Cluster Collaboration Platform Benchmark cluster organizations as well as clusters Promote cluster exchange visits Organize regional cluster meetings Promote best practice case studies from the region Promote international exchanges with clusters in other regions

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APPENDIX

Table A.1

Interviews with the BSOs

Country	BSO	Date	Participants	Role	Interview duration
Belize	BELTRAIDE	21-4	Debbie Alfaro Shakera McKoy Wendy Hernandez	Project Officer Project Manager Seaweed Cluster Project Officer	120'
Barbados	CTO	13-5	Amanda Charles Kennedy Pemberton	Sustainable Tourism Specialist Former Tourism Specialist	90'
Dominica	DEXIA	29-4	Lloyd Pascal Paula Platsko	Head, Export Promotion & Development Department General Manager of DEXIA	80'
Grenada	GHTA	26-4	Jerry Rappaport Clevon Noel Aine Brathwaite	Past President GHTA Officer CTO Cluster Support Manager	90'
Grenada	GIDC	31-5	Khesha Mitchell Stephen Benjamin Beverly Alexander	Vic President Technical Assistant Technical Assistant	60'
Guyana	THAG	31-5	Treina Butts	Executive Director	70'
Jamaica	JMEA	3-6	Stephen Forbes	Policy and Research Officer	50'
St. Lucia	TEPA	6-5	Glenfield Gilbert Hyde Constantine Felix	Trade Information Officer Client Manager of Marketing and Promotion	70'
St. Vincent and Grenadines	CED	19-5	Felix Lewis	General Manager	80'
Trinidad and Tobago	TTCSI	4-6	Vashti Guyadeen	Chief Executive Officer	50'

Table A.2

Cluster Currently under Implementation

Country	BSO	Cluster	Interview
Belize	BELTRAIDE	Seaweed Mariculture	Samir Marinez (July 20th 2021)
Dominica	DEXIA	Cocoa	Ramona Sinanan (July 13th 2021)
Grenada	GHTA	Floricultural Industry	Shameka Cox (July 21th 2021)
Guyana	THAG	Essequibo Tourism Cluster	Oliver Courtney (July 15th 2021)
St. Lucia	TEPA	Bee City	Shameka Cox (July 21th 2021)
Suriname	Competitiveness Unit Suriname	North Commewijne Tourism	Oliver Courtney (July 15th 2021)