Palestinian Clusters: From Agglomeration to Innovation

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Abstract
This study identifies the advantages, the constraints, as well as the right promotion policies necessary to foster the development of clusters. After a literature review, data were collected through field visits on five important clusters. Fifty cluster firms were surveyed to assess their performance. Semi-structured interviews were held with ten key policy decision makers. Focus group discussions were held, discussing with a group of 10 participants an assessment of the five clusters. The research shows important differences between the five clusters studied. It points to constraining factors, such as a lack of closer collaboration between firms themselves and between firms and universities, which could lead to innovation. As the size of most of the Palestinian economic entities are micro to small and medium, clustering can help these entities to increase their productivity and thus help in reducing the high unemployment rate among Palestinian youth.

Keywords: Clusters; Cluster Promotion Policies; Innovation; Palestine

Introduction
Clustering of economic activities (defined as a strong spatial concentration of similar or related economic activities) contributes to economic development (Pyke and Sengenberger, 1992). Clustering provides advantages for enterprises in the cluster, which are comparable to economies of scale for bigger companies (Martin and Sunley, 2003). The dynamics of clustering in Palestine has been studied to identify in which stage of development Palestinian clusters are and which factors contribute to the success of cluster promotion policies in Palestine. The following clusters have been studied: stone and marble, tourism and creative arts, leather and shoes, furniture, and palm trees and dates. After providing the background of
these clusters, we reviewed the relevant theory and discussed our research strategy. Subsequently the data are presented and analyzed to allow the formulation of theoretical conclusions and practical recommendations.

**Research Setting and Research Questions:**

Unemployment, poverty, inflation and lack of viable investment opportunities are just some of the economic hardships from which the Palestinian Territories suffer. Political instability has been a main obstacle in the economic development of Palestine. It is a major reason why donors have withheld economic assistance. This brings us to a key weakness in the economic development of Palestine; its dependence on donations for the growth and survival of the economy. The main remedy for this is enhancing the competitiveness of small and medium sized enterprises (SMEs).

In 2012, a project has been launched to increase the competitiveness of SMEs through clustering. Around 30 proposals from different sectors were received. All proposals were assessed in terms of clarity of the proposal, the existence of the cluster, employability, geographical distribution (Krugman, 1998), and Gross Domestic Products (GDP) share taking into considerations the national economic development plan. The five clusters are described below.

The date and palm cluster in Gaza consists of a core group comprising 12 micro and SMEs. The cluster includes primary producers (farmers), secondary producers (dry date producers and date paste manufacturers), food processors, fodder producers, related handicraft activities and the wholesalers and retailers. The cluster needs to develop and strengthen the competitiveness of date and palm products, such that it can increase the domestic market share for these local products. The cluster comprises also a wide variety of local micro, small and medium enterprises in the Gaza Strip.

The furniture cluster is a group of enterprises and institutions working in the furniture industry. The cluster started in 2013 with 15 members from different categories in the value chain, which represented the core members. The total number nowadays is 55 members. The active members are mostly medium size enterprises representing more than 50% of the whole production of the cluster. The enterprises are mainly located in Salfit, Mas'ha Qarawet Bani Hassan and Bidya and the maximum distance between them in the value chain is around 25 km. The value chain includes the main suppliers, supplying units, manufacturers (carpentries, blacksmiths, painters, and upholstery), in addition to the distributors and the showrooms. The cluster is producing different kinds of bedrooms, dining rooms, office furniture, and different kinds of tables, sofas and kitchens.
The leather and shoe cluster started with a core group member of 18 SMEs across the leather and shoe value chain in Hebron in 2013. Since then, the cluster has expanded to include around 80 active members representing the whole value chain: tanneries, chemical suppliers, accessory suppliers, designers, mold makers, sole makers, last makers, shoes manufacturers, and retailers.

The north Hebron stone and marble cluster includes 50 stone quarries, fabricators, spare parts and service suppliers, business support organizations, and other related institutions. The cluster offers space for enterprises to cooperate and to integrate in order to develop and to increase their competitiveness through a collective and collaborative framework. The stone and marble cluster intends to formalize the relationships between all players in the cluster and establish strong relationships with the supporting institutions in order to integrate all efforts that offer the necessary support for development.

The tourism and creative arts cluster is a group of enterprises and institutions working in the tourism and creative arts industry in East Jerusalem. The cluster involves 50 hotels, restaurants, souvenir shops, tour operators and tour guides, business support organizations, and other related institutions. The cluster is driven by one objective, namely enhancing marketability and competitiveness of the tourism and creative arts cluster. This means developing the tourism industry supply chain, acquisition of new technologies, developing product quality, achieving cost reduction, increasing the use of best practices and providing unique touristic locations that can compete with sites abroad. The tourism and creative arts cluster tends to formalize the relationships between all players in the industry and to establish strong relationships with the public and with supporting institutions in order to integrate all efforts to offer the necessary support for developing the sector. This following section presents the results of the analysis and provides the answers to the research questions.

From the literature, we derive five important research questions for a better understanding of the process of clustering in Palestine:
1. Do we find indications for the collective efficiency as suggested by Schmitz (1992)?
2. In what stage are most of the clusters in Palestine (Van Dijk and Sverrisson, 2003)?
3. What is the current institutional context for clusters and is it encouraging the further development of this phenomenon (Knorringa and Nadvi, 2014)?
4. Is innovation, an important source for the dynamic development of the economy, taking place in these clusters (Van Dijk and Sandee, eds, 2012)?
5. What do we know about the factors explaining the success of the cluster and what can be done to improve the competitiveness of these emerging Palestinian clusters (Altenburg and Meyer-Stamer, 1999, Sultan, 2014)?

Theoretical Background

Marshall (1920) and Porter (1990) both stress that clusters show a combination of geographic proximity and sectoral specialization and consider this the start of a dynamic development process. Small enterprises working in clusters and entrepreneurs operating in networks are generally doing better than those operating individually are also in Third world countries (Van Dijk and Rabello, eds, 1996). Physical clustering makes networking easier. There are important differences in both the definition used by different researchers and the real world manifestations of clustering. Hence the results of different case studies cannot easily be compared. This complicates the formulation of a theory concerning the role of clusters for technological development and innovation diffusion and for small enterprise development, on the basis of empirical research (Saunila, 2017).

The external economies generated by clustering and the competitiveness of small enterprises, as a whole are important. Usually agglomeration economies explain the choice of a location (Fujita and Thisse, 1996). Marshall (1920) suggested as mechanisms for cluster dynamics: the inter-firm technological spillovers, the benefits of specialized labor and the use of intermediate inputs resulting from specialization within the cluster. It will be necessary to find indicators for these factors to test their relevance in the Palestinian situation. Piore and Sable (1984) added to Marshall’s explanation the importance of cooperation to improve the competitiveness of the cluster. The active participation and collaboration results in what Schmitz (1992) called collective efficiency.

Many researchers (for example in Pyke and Sengenberger, 1992) have stressed the importance of a common cultural background for the development of industrial districts. According to Pyke and Sengenberger (1992) economies of scale and scope are achieved in the ideal cluster, similar to those enjoyed by large-scale corporations. It allows firms to specialize in a certain production phase, local institutions play an important role and there are relationships of competition and co-operation. Only in such a case can the necessary trust to develop further together may be expected.

In empirical research, it is unlikely to find all these features at once, in just one case. However, Pyke and Sengenberger (1992) also point to the importance of institutional factors, which will also be analyzed. Institutional economics can help to analyze the interaction between competition and cooperation in a framework of rules and regulations created by different
levels of government and influencing what happens in the cluster (Knorringa
and Nadvi, 2014). According to institutional economics, markets are
imperfect. They are defined and shaped by institutions, but often-new
institutions need to be created and existing ones need to be modified when a
new situation arises. Hence, the analysis of markets begins and ends with the
design of an institutional framework and an analysis of the actual functioning
of these institutions. They make the market work and let them function in the
desired way. Government policies and agreed regulation play an important
role in designing institutions. Institutions also guide entrepreneurs. They are
better able to enhance their competitiveness.

Clusters contribute to the production of entrepreneurial skills
(Delgado, Porter and Stern, 2010) and facilitate rapid dissemination of
information. Van Dijk and Sverrasson (2003) distinguish different stages in
the development process of clusters (table 1).

<table>
<thead>
<tr>
<th>Stage</th>
<th>Main characteristic</th>
<th>Main advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locational cluster</td>
<td>Nearness</td>
<td>Information, space, raw material, etc. sharing</td>
</tr>
<tr>
<td>Market cluster</td>
<td>More market outlets</td>
<td>Benefit from local traders, who ‘export’ the product</td>
</tr>
<tr>
<td>Labor division cluster</td>
<td>Development of inter-firm relations</td>
<td>Specialization</td>
</tr>
<tr>
<td>Innovative cluster</td>
<td>Innovation starts playing a role</td>
<td>Dynamic development</td>
</tr>
<tr>
<td>Full-fledged industrial district</td>
<td>Supportive local government</td>
<td>Own dynamics</td>
</tr>
</tbody>
</table>

In the first stage, the trigger is physical nearness, because of available
space, cheap land, and the availability of raw materials, the legal framework,
or a good location (Tracey et al., 2014). These factors lead to a locational
cluster. The main advantage is the sharing of information. The basis may be
people coming from a similar region or village, caste or clan, getting to know
each other and the entrepreneurs may set up trade organizations. Such cluster
becomes then interesting for local traders, who can buy cheaply and sell
easily outside the cluster (typical examples of such market clusters are
described in Sandee, 2002). Besides that physical nearness facilitates the
exchange of ideas, it also makes the development of institutions and their
interventions more easy and effective.

Eventually this development of a market cluster may stimulate a
further division of labor. The development of inter-firm relations may lead to
more specialization, what is called a labor division cluster. By now
governance, structures may develop at very different geographical levels,
ranging from the national to the local and initiated by the government or by
the private sector itself. Clusters are sometimes developing into a citywide or
regional cluster because of the complementarities between the enterprise and an active role of local governments.

Then an innovative cluster may emerge. Clusters often have become the seedbed for an exchange of ideas leading to innovations (OECD, 2009). These clusters of enterprises or small firm communities may eventually become full-fledged industrial districts, the highest stage of development, like Baden-Württemberg in Germany or Silicon Valley in the United States. Finally, the literature points at this stage to the important role of (local) government institutions and the importance of developing relations with universities for the development of the clusters (Hui and Zhong, 2006).

This stages approach is very much linked to the type of market served by the clusters. For that reason, we also use the theory of the Market Segmentation Matrix (Wind and Bell, 2008). This is a multidimensional approach to characterize and compare the competitive position of all industrial sectors – considered as potential clusters - in a region. Segmentation charts are created using the employment concentration ratios (also known as Location Quotients or the “specialization metric”) on the vertical axis, and the forecasted growth rate in the region on the horizontal axis. Along these lines, four categories arise:

- Star Industries, which are forecasted to have stronger than average growth and have Employment Concentration Ratios (ECR) greater than the national average.
- Opportunity Industries in which the industry is ECR is below the average, but which represent a major opportunity because the industry is forecasted for strong output growth.
- Cash Cow Industries in which the region has an undisputed comparative advantage although they may be slower growing than others.
- Challenge Industries. In these industries, the region currently has low specialization, and they are not projected to grow quickly.

**Research Methods**

We opted for a more qualitative research design. After a literature review, data were collected on five important clusters through field visits. Fifty cluster firms were surveyed to assess their performance. Semi-structured interviews were held with ten key policy decision makers such as representatives from the Ministry of National Economy, the Federation of Palestinian Chambers of Commerce, Industry and Agriculture, and the Palestine Federation of Industries. In addition, semi-structured interviews were done with cluster managers and other cluster stakeholders. The interviews allowed a classification of the different factors contribution to the success of Palestinian cluster promotion policies. Focus group discussions were held, discussing with a group of ten participants (academics and
practitioners) the assessment of the five clusters based on the three evaluation tools used in the exploratory stage: a typology of clusters (Van Dijk and Sverrisson, 2003), a market segmentation matrix (Wind and Bell, 2008) and a list of success factors (File, 2012). The focus group discussion is a good way to gather together people from similar experiences to lively discuss a specific topic of interest.

Data Analysis

This section discusses the research questions.

Research Question (1): Indications for collective efficiency?

Leather tanners, which are part of the leather and shoe cluster, created a joint company to buy chemicals together to benefit from the quantity discount. This joint effort helped them to reduce the cost of production and hence increase their competitiveness. These tanners received collective technical assistance as well, through Dutch and French funded projects. Thirteen leather and shoe medium sized factories established a joint shoe exhibition in Hebron, where these factories sell their products in one place and share all expenses: rent, staff salaries and other recurrent expenditures. Another example of collective efficiency concerns the furniture cluster, whose members residing in Salfit, organized a three-day exhibition in Ramallah, which attracted many visitors. Then they decided to establish a permanent exhibition space in Ramallah. More indications for collective efficiency were found, some of them are described below.

Research Question (2): In what stage are most of the clusters in Palestine?

In which stage of development are these clusters and which factors have contributed to the success of cluster promotion policies in Palestine (File, 2012)? We present the evidence concerning the stage of development of each cluster in table 2.

Table 2. Stage of Development of Different Clusters on Five Dimensions

<table>
<thead>
<tr>
<th>Characteristics/ Selected cluster</th>
<th>Locational cluster</th>
<th>Market cluster</th>
<th>Labor division &amp; specialization cluster</th>
<th>Innovative cluster</th>
<th>Full-fledged industrial district</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and Palm Furniture</td>
<td>Majority</td>
<td>Partially</td>
<td>Not yet</td>
<td>Not yet</td>
<td>-</td>
</tr>
<tr>
<td>Leather and Shoe Industry</td>
<td>Partially</td>
<td>Majority</td>
<td>Minority</td>
<td>Small minority</td>
<td>-</td>
</tr>
<tr>
<td>Stone and Marble Creative Arts</td>
<td>Partially</td>
<td>Minority</td>
<td>Majority</td>
<td>Small minority</td>
<td>-</td>
</tr>
<tr>
<td>Tourism and Creative Arts</td>
<td>Partially</td>
<td>Minority</td>
<td>Majority</td>
<td>Small minority</td>
<td>-</td>
</tr>
</tbody>
</table>
The table shows that members of date and palm cluster in Gaza are working informally as most of them are small farmers. The cluster animator (based at Gaza Chamber of Commerce and Industry) is trying to exchange information and build their capacities through technical and managerial training. The cluster project funded by the Agence France de Développement (AFD) will finance the procurement of a dryer, a refrigerator and a small production line to produce chocolate and jam out of the dates produced locally.

The results show that most of the members of the date and palm cluster are in the same area, making it a locational cluster, while the mainly cater for the local market. All farmers have planted the same type of palm trees at the same time. The revenue remains for the local economy, since there is very limited exportation out of Gaza, which is under siege. The introduction of dryers and freezers will help to keep dates cold and dry, extending their shelf life and stabilizing their prices. In addition, a new production line produces chocolate and jam from dates which helps to add value to the products, which also makes them last longer. However, there is not much labor division yet, nor were local innovation efforts observed. This cluster developed into a typical local market cluster.

Members of furniture cluster are located in the north of West Bank, but they are mainly working for the Israeli market. That is why we classified them as a regional market cluster. The development of their products also originated in Israel. Only recently an Innovation Center was created in cooperation between An Najah University in Nablus, with the Salfit Chamber of Commerce and Industry to serve the members of the cluster. However, very few furniture makers are innovative. Working mainly as sub-contractors for Israeli traders, the firms produce high quality products, up to the Israeli standards, but with low profit margins, as most of the profit goes to the Israeli middlemen. The furniture cluster started to look at the Palestinian market as they will start a joint furniture shop to present their products.

Members of the leather and shoe cluster are located in the south of the West Bank and are mainly selling their products locally, and often working as sub-contractors for Israeli firms. That is why we have classified this as a regional market cluster. The product development originated in Italy, but some specialization and labor division is taking place. Most of the stone and marble cluster’s members are not innovative. Recently an Innovation Centre was established with support of the Palestine Polytechnic University, the Hebron Chamber of Commerce and Leather and the Shoe Industry Union. The Innovation Center aims to provide training, and testing services. The fees from the services will finance the salary of the cluster animator to assure the sustainability of the cluster.
The members of the stone and marble cluster are selling 30 percent of their products in the local market. Ten percent is exported to Europe and Arab countries and 60 percent goes to the Israeli market. In total, the cluster is exporting to more than 50 countries. In Hebron, there is a specialized center offering two-year diploma, training, and research and testing services. This center is a tri-partnership and managed by the Ministry of National Economy, the Union of Stone and Marble, and Palestine Polytechnic University.

The stone sector is dominated by large stone cutting firms equipped with modern technology and exporting to many countries. These firms are not part of the cluster and most of the donors working in Palestine are supporting this large-scale sector. However, the cluster qualifies for a cluster with labor division and is benefiting from specialization.

The tourism and creative arts cluster is known by the brand of “TAJ”, which means Crown in Arabic. It is facing much competition from the Israeli hotel and tour operators. They need to come up with creative ideas and proposals to distinguish themselves and attract tourists to stay and spend some time in East Jerusalem.

Results show that the members of the tourism and creative arts cluster are usually in East Jerusalem. Most of the cluster firms are working as sub-contractor for Israeli tourism operators as the Israeli tourist operators have a strong presence worldwide. To be creative, the Palestinian tour operators agreed to address the Islamic countries such as Malaysia and Indonesia as they cannot currently compete with the Israeli firms. This is typically a labor division cluster with specialized firms competing with each other.

A question that may be asked is whether the clusters studied need to pass over time through all these stages. From the analysis, we find that each cluster developed its own shared vision and strategy. Clusters such as shoe and industry, and furniture are moving faster from the current development stage to another than other clusters. This is due to internal factors such as the dynamism of firms (Morgulis-Yakushev, and Sölvell, 2017) as well as due to external factors such as closeness to universities, the business development services (BDS) and private business institutions such as chambers of commerce and industry.

The palm cluster will expand its activities to add value to the dates, but exportation out of Gaza is still very complicated due to the siege on Gaza. The stone and marble cluster is suffering; as large stone firms are not interested to be part of the cluster, on the contrary they consider the cluster a threat. Finally, the tourism cluster in East Jerusalem is unique as there are no official linkages with the Palestinian government and Palestinian banks. Hence, the cluster need to find original activities to sustain and to differentiate itself from the Israeli competitors.
Research Question (3): What is the current institutional context for clusters and is it encouraging their further development?

The governance of each cluster consists of a cluster animator and a cluster chairperson. The cluster animators are in charge of day-to-day activities and follow up while the cluster chairman is in charge of drawing up the policies. Above all, the Ministry of National Economy and the Federation of Palestinian Chambers of Commerce, Industry and Agriculture oversee the overall activities of the clusters and allocate the necessary resources to assure their sustainability. As such the key actors are aware of the importance of developing the cluster further.

Research Question (4): Is innovation taking place in these clusters?

As shown in the results, the most active of the five clusters are the shoe and leather, the furniture, and the stone and marble clusters. The main reason behind that is the close relationship between cluster members and local universities. The shoe and leather cluster, in cooperation with the Palestine Polytechnic University and the Leather and Shoe Industry Union, created an innovation center, testing products that started to launch a joint professional degree in leather and shoe.

The stone cluster benefited from the Stone and Marble Centre in Hebron that was established four years ago as a tri-partnership between the Ministry of National Economy, the Stone and Marble Industry Union, and the Palestine Polytechnic University. The Centre offers a two-year diploma, testing and conducting relevant applied research. The furniture cluster also, agreed with An Najah University to establish an innovation center to develop new designs, provide testing services and other technical assistances.

The date and palm tree cluster allocated some money to find out new products out of dates. Based on the research results, new products such as chocolate, and jam made of dates. To summarize, the five clusters are in the process to register their trade market at the Ministry of National Economy in order to protect their activities and have become more and more concerned about the importance of innovation to become more competitive.

Research Question (5): What can be done to improve the competitiveness of emerging Palestinian clusters?

Based on the above analysis, we can establish a list of factors that help to foster the ongoing clustering process. These factors are (1) establishing a relationship between cluster members and between them and the universities; (2) setting up governance structures for the clusters; (3) introducing enabling legislation and regulations; (4) creating a demand for the products of the cluster; (5) acknowledge the importance of related and supporting industries such as suppliers, banks, insurance companies, and business development services.
Discussion:

The prime focus of any cluster development policy should be to address the inefficiencies a cluster faces and as such the success of policy interventions has been measured in terms of the improved performance at the firm level and at the cluster level, reflected in increased turnovers, profits, new markets, increased use of business development services (BDS) the development of cluster level coordination systems, and a more important role for local government institutions. However, the success of these policies depends on the efforts of the local institutions to address a number of the collective issues of the clusters. The approach adopted in the cluster development project in Palestine, as shown by the representative cases discussed above, tends to crystallize some of the following learning to be shared for the sake of evolving a robust and effective intervention strategy in for clusters:

Identifying critical constraints: the cluster project offered the same interventions (i.e. same training, same trade missions, etc.), without taking into considerations the different stages of life cycle and different stages of development. However, each cluster needs to identify its critical constraints and the needed interventions to take away these constraints by addressing the issues, not just on the basis of their pressing nature but on the basis of their criticality in the overall scheme of things for the cluster and in this case the logical precedence of the constraints needs to be done in order to set the process rolling. Sometimes the constraints that were addressed could not become fully resolved in any of the clusters. This was quite possible given the complex problems of Palestine and the cluster: the large number of stakeholders and not all benefiting from the interventions in any program and also the long term nature of most issues that a cluster faces.

Segregating stakeholders into very clearly distinct silos for the sake of refining the intervention strategy: since averaging out the issues of the distinct sets of stakeholders lends to the development of a very generalist action plan, it is important that the aspirations of the different important stakeholders are incorporated and action plans for each set of stakeholders are developed separately such as access to financial institutions, contacts with local universities, etc.

Creating governance platforms of each cluster need to be institutionalized to assure sustainability. As the AFD project will be finished by the end of 2017, thus the institutionalization of the cluster is very important to assure sustainability.

Developing a clear business environment for clusters. The legal status of the clusters is not well defined and that may lead to confusion concerning the existing rules and regulations.
Conclusion and Recommendations:

The research shows important differences between the different clusters and points to constraining factors, such as a lack of closer collaboration between firms, not enough innovation and problems to gain access to bank finance. This leads to the conclusion that the institutional context in Palestine is extremely important and can contribute to more economic growth in the existing clusters, but more specific policies are necessary (EC, 2008). Growth and decline of these activities is highly dependent on external circumstances. Import liberalization and competition from producers from other countries can lead to lower growth and even to contraction of production. In the Palestinian context, this means changing from local production to importing the product through Israel. In order to create new clusters and foster the ongoing ones, a number of promotion policies is suggested.

**Revisiting some laws and regulation.** As an example, the Intellectual Property Law, Investment Promotion Law, and Public Procurement Law should be modified to add new clauses to encourage economic entities to work in clusters. This would provide an enabling business environment for clusters by including the cluster policy in the existing national policies and strategies and by providing incentives schemes to cluster members.

**Institutionalizing clusters.** Activating the Palestinian National Export Strategy (2014-2018) is a starting point to institutionalize the five clusters. It would lead to representatives participating in international fairs and joining the government when there are international delegations.

**Promoting Innovation.** Encouraging cluster members to closely cooperate with universities, research institutions, and technical and vocational centers may promote innovation.

**Promoting Public-Private Dialogue.** It is essential that private sector partners will take the lead in dealing with different challenges clusters are facing through an effective and serious dialogue between cluster members and relevant government departments such as Ministry of Finance and Palestine Standard Institute.

**Access to Finance.** Since most of the members of the clusters are SMEs, they lack enough collateral to get loans from banks. Working in clusters could help these businesses to get loans from banks through collective collateral.

**Good governance.** It is important to improve cluster governance at the national and local level to assure sustainable development of the clusters. This could be achieved by creating a national committee consisting of representatives from the government, the private sector and academia, which could accredit new clusters and monitor the developments in the ongoing clusters.
References:


