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An Exploratory Investigation of Rural Clusters in Turkey

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Abstract

Clusters have been examined from many perspectives, but until recently very little attention was paid to clusters in rural regions. The recent literature acknowledges the need for studying clusters as a means of development in rural economies. Given the need to study rural and agricultural clusters in developing nations, this paper aims to detect some potential clusters in rural Turkey. In this exploratory work, we look for signs of clustering or networking in various rural areas of Turkey. The findings suggest that there is indeed evidence of rural cluster formation within Turkey: Bartın is a potential cluster, while Gödence and Bademli both appear to be growing clusters. Gedelek, with the oldest history and the most established institutions among the cases examined, seems to be a mature cluster, while the Assembly of Eastern Anatolian Agricultural Producers in Erzurum (DATÜB) in Erzurum could at best be called a network.

Key Words

Rural clusters, entrepreneurs, potential clusters, Turkey.

Introduction

Clusters have been receiving an increasing amount of interest in the economic development literature ever since the introduction of the concept by Michael Porter in 1990. According to Porter, clusters are defined as "geographic concentrations of inter-connected companies and institutions in a particular field" (Porter 1998, 78). Thus clusters can include competing and cooperating enterprises in closely related industries as well as other actors such as providers of complementary products or specialized skills and technologies. Universities, public or private research institutions, standard-setting institutions, local trade associations, financial organizations, training and information-providing bodies are other examples of various types of agencies that cater to the needs of a cluster's constituents. A distinguishing feature of all these bodies is their tendency to co-locate within a specific region (Porter et al. 2004, 23).

The essence of clusters stems intrinsically from their competitiveness-enhancing nature. Competitiveness is enhanced in three ways: through productivity increases, through the emergence of innovation and through the commercialization of innovation starts (Porter et al. 2004, 45). Clusters improve productivity because they provide access to specialized machinery, technology, skilled labor and specialized infrastructure. Vocational training is readily available so that it is not costly to improve the skills of the specialized labor pool. Knowledge spills over easily from one firm to the other within the cluster. As a result, know-how is "in the air". Such an environment reduces transaction costs and helps improve the productivity of firms. With the availability of specialized factors of production in the cluster, enterprises targeting selected customer needs begin researching for new products and trying out new processes to cut back production costs. Such initiatives create an innovative environment in the cluster. As new products are developed, start-ups or spin-offs are created. Clusters welcome such newcomers because their customers keep pressing for increasingly customized and specialized products and services. The presence of venture capitalists and other financial institutions that cater to the needs of the cluster pave the way for the formation of new enterprises; thus it is easier for new firms to flourish in a cluster than elsewhere. Also in case of a failed start-up, it is easier for entrepreneurs to find employment because there are many firms in the same field that can employ them (Ketels 2003).

Although clusters have been examined from many perspectives, they have received very little attention within the framework of rural economies. This may be attributable to the fact that the idea of clusters has been perceived as mostly related to competitiveness and innovation, which are easier to link with automotives, electronics and biotechnology within the manufacturing sector. The recent literature acknowledges the need for studying clusters as a means of development in rural economies. Porter et al. (2004), as cited by Thomas and Ward (2005, 34), state this need very precisely in the following quotation:

> There is a lack of systematic evidence about the composition and evolution of rural economies at the cluster and sub-cluster level… Research in these subjects is among the most pressing priorities for enhancing policy thinking toward rural areas.

Agriculture is viewed as a renewed area of interest in rural development. Through the globalization, standardization and growth in demand for the food and biofuel industries, the rules of the game in agriculture are rapidly changing. There is increasing market pressure as well as a need for higher productivity in agriculture. Clusters are proposed as a tool to promote productivity and competitiveness in the agricultural sector in the global market (Galvez-Nogales 2010). According to the *Cluster Meta Study*, which is a study of 833 clusters from 49 nations, the percentage of clusters from developing nations is merely 20 percent, and of that less than one percent comprises agricultural clusters. Yet another source, *Cluster Initiative Greenbook* (Sölvell *et al.* 2003), which surveys more than 250 cluster initiatives in the world, has very few examples from the agrifood sector. Out of 600 survey respondents in the processed food category only 13 belong to the agrifood sector. Thus, there is a pressing need to analyze agricultural clusters in developing nations. In the words of Eva Galvez-Nogales (2010, xi), "policies and programmes for supporting agricultural clusters (i.e., AC initiatives) are very much needed in developing countries to overcome market, government policy and systemic failures."

Given the need to study rural economies and agricultural clusters in developing nations, this paper aims to detect some potential clusters in rural Turkey. The purpose is to pinpoint some common factors that arise in the cluster and network literature and use them in the classification of some groups of enterprises in Turkey as either a cluster or a network. A recent scan of the literature reveals four main concepts regarding the emergence and development of clusters in both developed and developing countries. These are: the significance of entrepreneurs at the initial stage of cluster formation, the collective efficiency generated at later stages, the financial hurdle sharing while the cluster grows, and finally the drawing of firms into the cluster as the cluster matures.

The first section of the paper presents a review of the literature concerning each of these concepts. The second section covers the methodology and data collection issues. Research results are presented in the third section. The fourth section presents an analysis of the data and the fifth section concludes.

A Brief Review of the Cluster Literature

The Role of Entrepreneurs in the Emergence of Clusters

Khan (2004) attributes the emergence of clusters to local demand, prior existence of natural resources, innovative firms and chance events. On the other hand, Ritvala and Kleyman (2007), Nadvi (1999), Anderson and Schmitz (1997), Ketels (2003) claim entrepreneurs play a vital part in the emergence of clusters. Sometimes as visionary individuals, sometimes as part of private firms and at other times as part of business associations, entrepreneurs are observed in numerous cases as the triggering force of cluster formation. Mangematin *et al.* (2005, 23) introduce the concept of cluster-institutionalizing entrepreneurs who "redefine tactics and rephrase the formulation of existing activities to nurture the cluster and increasingly validate its constitution through progressively enrolling and locking partners in." They credit the rise of certain clusters to the efforts of these cluster-institutionalizing entrepreneurs who bring local, national and international actors together.

Cases of individuals triggering cluster emergence

McCormick (1999), Altenburg and Meyer-Stamer (1999), Weijland (1999) and Feldman (2001) all assert that there is a core individual, who initiates a business, around which

the cluster forms. In the words of Audretsch and Kleibach (2001, 19), "clusters form not because resources are initially located in a particular region, but rather through the work of entrepreneurs." Entrepreneurs organize resources and institutions to support their firms. Kargon, Leslie and Schoenberger (1992), as cited by Feldman and Francis (2006, 122), point to the influence of Frederick Terman in the foundation of Silicon Valley:

> [Terman] orchestrated the creation of a world class research institute with strong ties to the business community and an environment that encouraged students to become entrepreneurs or at least be actively involved in corporate research programs.

George Kozmetsky is reported as being instrumental in the development of Austin, Texas. "Georges Freches's vision is found to be the driving force of the high tech development of Montpellier, while Neel, Merlin and Dubedout played the same role in the development of Grenoble" (Voyer 1998, 104).

Cases of firms triggering cluster emergence

According to Klepper (2002, 2004), as reported by Feldman and Francis (2006, 126), the emergence of the Detroit automobile cluster is due to the "pedigree and experience" acquired by entrepreneurs "from working for Old Motor Works, a leading innovator at the time." Saxenian (1998) also underlines the importance of specific firms in triggering cluster formation, for the semiconductor industry:

> The shared experience of working at the Fairchild Semiconductor Corporation also served as a powerful bond for many of the region's early semi-conductor engineers. During the 1960s it seemed as if every engineer in Silicon Valley had worked there. Even today, many of the region's entrepreneurs and managers still speak of Fairchild as an important managerial training ground and applaud the education they got at Fairchild University (Saxenian 1998, 30).

Sturgeon (2001) provides a historical view of the development of firms well in advance of the renowned spin-offs originating from Fairchild Semiconductor and argues that the strength of the aeronautical and electronics industries, championed by a small group of people with a vision for the development of the region, created the high technology conurbation.

Cases of associations triggering cluster emergence

Nadvi (1999) describes the various roles of "business associations" in the strengthening of clusters as: 1) lobbying on behalf of their members; 2) coordinating / regulating the organizations within the cluster; 3) providing services, such as technical and managerial advice as well as information on markets, prices, competitors; and 4) establishing links between members of the cluster to research and development institutions. Furthermore, Nadvi (1999, 10) claims that "increased joint action through business associations is *required* for by SME-dominated developing country industrial clusters to face the challenges of the new competition" (emphasis added).

Citing the example of the *Association of Fruit Producers* as the driving force behind the agricultural cluster in Eastern Poland, Szymoniuk (2003) emphasizes the importance

of co-ops in the development of clusters. Perceiving "farmer associations" as a means towards employment generation and poverty alleviation, Birchall (2008) asserts that clusters provide an environment for the prosperity of these associations.

Collective Efficiency in Action

Altenburg and Meyer-Stamer (1999) point to three passive benefits in locating within a cluster: semi-skilled labor force availability, easy access to raw materials and machinery, and lower search costs for customers. Schmitz and Nadvi (1999), on the other hand, emphasize the significance of "shifting gears from passive to active collective efficiency" when a local area turns into a cluster. Examples of active joint action include the search for international markets, trade fair attendance and establishment of links with research institutions as a means of moving up in a value chain.

Knorringa (1999), as cited by Schmitz and Nadvi (1999, 1509) proposes joint action is a distinguishing characteristic of clusters. Knorringa (1999) specifies the sharing of market information with residents of the cluster as a form of joint action, while Weijland (1999) points out that in Indonesia where she studies clusters, cooperative purchasing is more popular than cooperative marketing.

Sharing of the Financial Hurdle

Ketels (2003) claims sharing the same type of barrier in the external environment and attempting to overcome that barrier via joint action is a distinguishing feature of a cluster. Furthermore, Weijland (1999) states that a significant feature of rural clusters is the "sharing of financial hurdle" by the people in the cluster. Gertler and Wolfe (2006) point out an interesting structure of financial relationships in Canada. The biotechnology firms in Canada are reported to rely heavily on local sources of investment capital from private sources (angel investors, family, and friends) and are likely to have been born from another local company or research institution at some time in the past.

Attracting New Firms to the Region

Ketels (2003) points out that a greater number of businesses form in clusters than elsewhere. This is mainly due to the fact that start-ups rely on external suppliers and various partners, and they can find all that readily in a cluster. Therefore, it is easier for new firms to emerge in a cluster. In addition to creating an environment where new firms can flourish organically, clusters also attract new ventures to the area from outside. In the words of Maskell (2001), cited in Gertler and Wolfe (2006, 221):

> … Once the cluster has emerged it acts as a magnet drawing in additional firms whose activities require access to the existing knowledge or complement it in some significant respect

The drawing of firms into the region is a sign of maturity of the cluster because in order for these firms to be coming to the region there must be increased specialization needs and a ready market for these needs. Thus, it is the opinion of this author that a cluster that breeds new investment is a mature one.

Methodology and Data Collection

Using different Internet media sources, ten different regions in the country were selected as candidates for clusters or networks. These were Gedelek, Gödence, Suvarlı (Mardin), Bademli, Kozak, Şirince, Ağaköy, DATÜB (Erzurum), Didim and Bartın. After collecting all the available material on the Internet for these regions, contact details of individuals

in each region were gathered again from the Internet. Telephone interviews were then conducted with these individuals, except for one person in Didim. The interview consisted of open-ended questions. With the permission of the interviewee, the interviews were recorded on tape. During the telephone interviews, notes were also taken as back-up for the tapes in case the recording failed for some technical reason. Following the completion of the interviews, the tapes were listened to twice to record the data.

At this stage, it was obvious that Suvarlı, Kozak, Şirince and Ağaköy did not possess the properties of either a cluster or a network. Suvarli turned out to be in a location where the *Fair Trade Organization* had initiated a small international poverty alleviation project. Kozak lacked the embedded institutional structure for a cluster, while Ağaköy did not have the collective efficiency or the financial hurdle sharing properties, two of the main indicators necessary to be a cluster candidate. We were then left with Bartın, Gödence, Bademli, Gedelek and DATÜB (Erzurum).

Findings

Bartın Group of Entrepreneurs Corporation

Bartın Group of Entrepreneurs Corporation (*Bartın Girişim Grubu A.Ş.*) was founded by 73 local industrialists in 2003 with the purpose of selling the forestry products of the local area and providing employment and extra income to the villagers of the region. Their business idea rests on employing the villagers as leaf-pickers, as they are the ones who know where the leaves grow. The villagers collect laurel leaves and other forest products from the areas designated annually by the Forestry Administration. *Bartın Group of Entrepreneurs* (BGG) buys the leaves from the villagers at more than three times the going rate in the market, processes the leaves and sells them to exporters who then send the product to as far away markets as the US and the Far East (Tanyeri 2007).

General manager İlhan Özgür Yurt claims that if this firm was not established, the villagers on their own could not have initiated this business. The essential element this firm provides the local economy is a trade link to the rest of the world.

The rate of growth of the firm is very high. Only laurel production in 2006 was 100 tons. In 2007 this figure became 400 tons and in 2008 it reached 1200 tons. İlhan Özgür Yurt proudly states that the increase in production goes in tandem with the increase in employment and income earned by the villagers. He has personally witnessed a few families that previously migrated to Istanbul, have returned to Bartın just to benefit from the employment opportunity provided by BGG.

Mr. Yurt believes 150- 250 people from four regions around Bartın covering 30-40 villages work for BGG as of 2008. However, this number is growing at a high rate. Given the promising market opportunities and potential income from laurel leaf export business, BGG has been able to make an expensive investment and purchased an industrial oven for 270000 Euro which they use to dry the leaves (Tuduk 2008).

Gödence

Gödence, a village of Izmir is renowned for its branded products of olive oil and olives under the name "Gödence". They have started the branding process in 1993, but Mr. Özcan Kokulu, the president of the Gödence Agriculture Cooperative indicates that it took ten

years to promote and finally establish the brand name, but, as of 2008, their brand is known from Gümüşhane to Finland (Tuduk 2008).

The distinguishing feature of Gödence is their cooperation with the Olive Research Institutes (*Zeytincilik Araştırma Enstitüleri*), Provincial Directorates of Agriculture (*Tarım İl Müdürlükleri*) and Ege University for research and development. They employ an agricultural engineer as a manager-in-charge. In 2005, they invested heavily in a project with all their financial resources and a loan from the ministry of agriculture. They do not use bank loans because they are too risky.

The first collective action of this village is the foundation of the cooperative under the leadership of Abdullah Duran with the aim of overcoming the barrier of two mills' dominance in the village. Although the cooperative allowed the bypassing of the mills, then the villagers ran into the barrier of large industrialists of Izmir who purchased their olive oil. Facing a stronger dominance, this time the villagers realized that they had to differentiate their product via improved quality, packaging, reliability. Finally in 1993, they founded their own brand to reach the final consumer directly. But this time, they ran into problems such as finding the right customers, using the right packing, warehousing and the right amount of working capital. Having no professional managerial knowledge, they learned through trial and error and created their own goal in the form of five years' development plans.

The president of the cooperative claims running a cooperative is more challenging than running a company because in a cooperative one administers peers who can turn their back at one's smallest mistake such as missing someone's greeting. However, in a firm, the president has power over his subordinates and does not have to worry about breaking hearts. So there are tacit rules cooperative administrators are expected to comply. Trust is an essential element in running a cooperative. In Gödence, trust in the cooperative actions are established via wide participation in decision making. There is a board of consulting made up of 11 people, a board of directors of 5 people and an audit board of 3 people. A decision is made by the consent of the majority of all these people and once the decision is agreed upon, no one defies the decision. However, the people in all these boards are specially selected for their knowledge that they can contribute to the decision making process. The wider the expertise of these people, the better decisions are made and disputes minimized. Mr. Kokulu claims that trust depends upon participation in decision making and selection of qualified individuals for the boards.

Gödence enjoys semi-skilled labor power because children are born into a world of olives. In 1992-1996 the cooperative held training in the villages in collaboration with Ege University.

Mr. Kokulu emphasizes that the significance of open communication in the resolution of disputes. He claims they have created an environment of open communication so that people can talk with each other and see each other's point of view in order to reach common ground. They use peer pressure to install tacit rules. For instance, children in Gödence now warn those who throw trash on the street and ask them not to do it again.

This has been established in time after telling the people over and over again how this does not suit clean, nice people of Gödence (Kokulu 2008).

Bademli

Bademli is a village in Izmir known for its ornamental plants and fruit saplings. The local co-operative *Bademli Nursery Agricultural Development Cooperative* was founded on January 1, 1971. Its founding president, M. Selçuk Bilgi, has been in charge ever since. Bademli is quite an innovative village. Mr. Bilgi proudly states that Bademli was the first village in Turkey to establish an olive oil processing plant in the year 1975. They were again the first to apply budding. Towards the end of the 1970s they initiated a relationship with Ege University and applied the technology of budding, the university researchers had developed. In 2001, they have organized the first National Saplings Conference. The co-op has 300 members, and produces 10 million saplings a year. The co-op employs about 10 agricultural engineers. Its members have a cellular phone network upon which they receive market information from the co-op. Almost all the members have personal computers and they are planning to communicate over the net in the coming years (personal interview, 2008). Mr. Bilgi claims that they provide employment to 500-600 people every day (Tuduk 2008).

The main role of the cooperative is to market saplings and olive products. *Bademli* and *Potemia* are the two patented brands of the co-op. The co-op attends international trade fairs to find new markets. Among their consultants and research partners are The Agricultural Faculty of Süleyman Demirel University and Dicle, Ege, and Marmara Universities. One of their research goals is to be able to raise region-specific saplings that grow in the northeast or southwest or middle Anatolia.

A distinguishing feature of Bademli is their use of commercial loans instead of relying on governmental loans. Another fascinating element that is not found in the other cases presented in this paper is that Bademli sends 45 individuals every year to France, Italy and Holland for agricultural training. They observe the advanced agricultural techniques in the developed countries and apply them upon return. Mr. Bilgi states that they have tremendously benefited from these training trips. The international links of Bademli is not limited with Europe. Every year Bademli hosts students of agricultural studies from Arizona University who visit the village to observe production techniques and local products.

The co-op also gives scholarship to the children of the members, but those who attend agricultural studies are supported more than the others so that an incentive mechanism leads the coming generation to agricultural studies. The current aim of Bademli is to invest in Bulgaria in order to overcome the customs barriers of Ankara. The interview with Mr. Bilgi took place at the CHP premises in Ankara, where Mr. Bilgi and his colleagues had come to ask for the party representatives' help to get the word out to CHP municipalities to buy their saplings from the Bademli co-op.

Gedelek

Gedelek, a village of Bursa, is famous for its pickles. This cluster dates back to 1929 when Rifat Minare has brought the pickling business to the region. After seeing Minare's success in selling pickles to luxury hotels, current demarch Osman Trak's father starts working

for Minare. In 1950, Trak leaves Minare to set up his own firm. Later on the villagers pick up the pickling business from this firm and today rather than raising their own pickle vegetables themselves, Gedelek residents are organizing surrounding villages for pickle production and purchasing the vegetables from them. More than 50 villages in the region work in this business generating about 50 million YTL per year (Tuduk 2008).

Osman Trak claims their local spring's water is especially suitable for pickling. Therefore, their competitive advantage is partly based on this natural resource. However, another competitive advantage is the specialization and generation of a value chain. For instance, there are two tin manufacturing plants to provide the packaging needs of the pickle producers. These plants belong to two local firms established as partnerships by local residents.

Direct exports to Germany, France, Middle Eastern countries, Iran, Israel, and Greece are made by Zeytursan, a firm established by a local resident and a foreign partner in Switzerland. This firm supplies pickles to Burger King in Europe.

Another distinguishing factor in Gedelek is the fact that its firms use commercial bank loans. This is an interesting fact as no other case presented in this paper was able to use bank loans. Thus, Gedelek stands out with its capability to find other means of financing than traditional means.

Innovation and product improvement is initiated by complying with the conditions of the export firms. Mr. Trak reports that Mr. Tamer, who is now producing for export, had once stated that the standards the foreign customers demanded seemed impossible to achieve at the time, but in time Mr. Tamer himself was surprised at the achievement of those standards via the acquisition of new technology. Mr. Trak claims they do not need to cooperate with research institutes or universities for research and development as all the innovation is coming into the region from the demanding foreign customers. He also points out that universities do not approach them to work together. Mr. Trak boasts that they are highly successful as they supply more than 50 percent of the pickle market of Turkey.

Mr. Trak reports that in cooperation with the Provincial Directorate of Agriculture, they started to train local firms, giving them certificates of apprenticeship, qualified-workman, and master worker. However, these formal training courses had only been undertaken in the past two years, but Chamber of Food Engineers has objected to these courses. For the time being these courses have been aborted.

Their major export customers are Spain, Switzerland, and Azerbaijan. Another interesting factor about Gedelek is their lack of concern about European Union's customs protection. There is so much specialization in this region that pickle producers totally rely on exporters to deal with all customs problems and simply pay attention to their own business; production.

Last year in 2007, they have established a cooperative with the aim of helping the small firms overcome barriers created by economies of scale. When asked for the reason of choosing the form of a cooperative instead of a corporation, Mr. Trak says in a cooperative

everyone has equal power regardless of the capital invested, but in a corporate form, power is automatically generated by the share of capital.

The only crisis they appear to face is an overvalued domestic currency. It is quite interesting that they state that neither the 2001 economic crisis nor drought hampers their business as much as the overvalued Turkish lira does.

Assembly of Eastern Anatolian Agricultural Producers in Erzurum

Assembly of Eastern Anatolian Agricultural Producers (*Doğu Anadolu Tarımsal Üreticiler Birliği*) (DATÜB) is an organic farming association formed under the leadership of Nazmi Ilıcalı, a retired Turkish literature teacher. In 1997, Mr. Ilıcalı, learns at the first agriculture council that a group of Germans are looking for organic potatoes. At the time, the price they offer is much higher than the going market rate. This induces Mr. Ilıcalı to start organic potato farming which he personally performed until 2002. In 2001, feeling the need to organize the poor peasants of the region so that they can make a living out of organic farming, he established DATÜB, a nonprofit organization. Mr. Ilıcalı says that Erzurum peasants' lots are each under 50 acres, which means individually they can not compete in the market because the cost of fertilizer, seed and other agricultural inputs are much higher when purchased individually versus collectively. Also, the farmers' poverty in Erzurum is so much that they can not buy fertilizer or pesticides. Therefore, the land in Erzurum is unpolluted with chemical fertilizers and the climate is so tough that there is not much need for pesticides since harmful insects can not grow in that weather.

In 2003, 633 peasants plant wheat through a project funded by the UNDP. In 2005, these producers receive their organic farming certificates. Their product gets purchased by Istanbul municipality as part of a project to prevent migration to Istanbul. Seeing how much these peasants earn motivates others to accept the leadership of Nazmi Ilıcalı.

Recalling the barriers they had to overcome, Nazmi Ilıcalı states that he had especially hard times when the peasants came up to him asking for help to battle with the numerous insect diseases at the fields. The challenge in organic farming is handling all these problems without using any chemicals or pesticides. Mr. Ilıcalı explains how frustrated he was then, but later he initiates a competition with a prize of a quarter-gold coin for providing him the information on how to combat agricultural diseases in natural ways. The old, wise men from different villages tell Mr. Ilıcalı about their ancestors' completely natural combat methods. From then on, Mr. Ilıcalı acquires the nickmane "Organic Nazmi" and afterwards people from all over Europe find out about him and approach him with e-mails to ask remedies for organic farming diseases.

As of 2008, DATÜB has 3000 members and completed 12 projects from the European Union, started organic husbandry, hygenic milk processing and built 15 milk collection centers in the region. In order to differentiate their dairy products from the rest in the market, Mr. Ilıcalı resorts to Evliya Çelebi's *Seyahatnam*e where a local "flax seed, stinging nettle cheese" recipe is given as a special local product of the region.

Even though DATÜB has a number of large investment projects, most of these have been completed with the 3 YTL subscription fee per member. There is a huge financing problem.

DATÜB employs 5 agricultural engineers who travel from village to village, training peasants on organic farming methods. The CDs Mr. Ilıcalı has brought back from a fair in Germany are another source of training. Even though the peasants do not understand the language, by watching the farming methods, they learn from those films in German.

Analysis of the Findings

Bartın, a potential cluster

We consider Bartın to be a potential cluster. BGG could be seen as the driving force in the establishment of the cluster because looking for an area of investment; the wealthy industrialists of Bartın come up with the idea of benefiting from Bartın's vast forest resources.

After founding the firm, they hold training sessions which continue, to teach the local peasants how to pick leaves without damaging the trees and how to stack them without harming the leaves. Thus, BGG acts as the founding father for potential firms that can emerge through the current employees of BGG.

As far as collective efficiency is concerned, BGG, as an institution with 73 partners, is providing the market search for potential customers and exporters which is a task that villagers cannot perform on their own. Employing an agricultural engineer and a general manager who is a forestry manager, BGG passes on scientific knowledge to the villagers regarding the well-being of the forest and the preservation of the natural environment.

The financial burden sharing is seen in the purchasing of the industrial oven by BGG. Without the establishment of the firm, there is no way that an asset as costly as this oven could have been purchased by the local residents.

Mr. Yurt states that the skilled labor is easily found in the area. By "skill" he means people who have the knowledge of where laurel leaves can be found in the forest and through training villagers learn about the correct ways of picking leaves, so there is not much trouble in finding skilled labor.

Despite their efforts to work with Bartın School of Forestry in research and development, they could not succeed, yet they have not given up. They state that they would be most willing to cooperate with a university or a scientific institution to find new uses for their forestry resources.

Gödence, a growing cluster

It is the opinion of this author that Gödence is a true cluster because the cooperative acts as the founding father that sets the rules of the olive oil business in the region. The collective efficiency is observed via the patented brand name: Gödence. The financial burden of new investment is shared by all members of the co-op while government aid and training are also facilitated by the co-op. Research and development efforts are undertaken in cooperation by the universities and other research institutes. The distinguishing feature of the Gödence co-op is its trust-based relationship with all the residents in the village. It seems that the governing board of the cooperative is made up of much respected individuals of wisdom who are consulted in all matters in the village. These people are so powerful that they can even lay new rules without facing much resistance. Gödence also boasts to host the Annual Agricultural High Achiever Competition which has been expanded to a national scale in 2008.

Bademli, another growing cluster

The founding father of Bademli is the local co-op, which, in a sense, is a business association. Throughout its history of 37 years, this co-op has established two brand names in the market, and now is in the process of helping launch its members' brands. The co-op finds international markets and allows its members to serve these markets. The relationship of the co-op with various universities provides its members the advantage of benefiting from the research outputs of these institutions. This certainly is a result of collective efficiency. Training trips to European countries is also a distinguished service of the co-op, a goal which Bademli residents cannot achieve on their own.

The ownership of the olive oil and hygienic milk processing plants, the efforts to make direct investment such as the co-op in Bulgaria all indicate sharing of the financial hurdle by the members of the cluster. The fact that the co-op is targeting region-specific sapling raising is a sign of specialization which is another feature of clusters frequently mentioned in the literature.

The lobbying activities in Ankara, the capital, and the provision of higher amounts of scholarship to the children who study agricultural science is a strategic investment in the future of the cluster. As such, the co-op acts as a local strategic business association which has turned Bademli from a small village to a cluster with quite a promising future.

Gedelek, a mature cluster

The cluster in Gedelek was initiated by the efforts of Rıfat Minare, an entrepreneur who recognized the suitability of the local spring's water for pickle production and pursued this business full heartedly. Upon seeing his success, local residents followed course and the Gedelek pickle cluster was borne. In time, through joint action, villagers started organizing other villages in the vicinity to produce their vegetables for them. Eventually the number of villages that earned their livelihood within this cluster reached fifty, with about 10000 people estimated to be making their living in the pickle business. Nearly half of Turkey's pickle consumption is currently provided by Gedelek.

Customer demand is a motivating force for producers in Gedelek to move up along the value chain. They do not feel the need to establish a relationship with research institutions simply because they believe that keeping up with international demand provides a sufficient impetus for innovation and development. Although their ability to use bank loans if the need arises sets them apart from the previous cases presented in this paper, the overvalued Turkish lira presents an important vulnerability for producers in this cluster.

The presence of another large producer and exporter, Zeytursan, a firm owned by Mustafa Ünal, who is an investor from İstanbul, distinguishes Gedelek from the other clusters, because Gedelek, with its proven record of success, appears to be able to draw new investors into the region. Furthermore, the presence of two packaging plants is an indication that specialization has taken place in the cluster. Thus, Gedelek deserved to be called a "mature cluster".

DATÜB, a network in Erzurum

DATÜB is a network of 3000 people organized around one individual, Nazmi Ilıcalı, a true believer in people and social inclusion. As it is a seven-year-old non-profit organization, heavily reliant on personal efforts of Mr. Ilıcalı, DATÜB cannot be called a cluster. Yet, with

a strategic vision and goodwill, Mr. Ilıcalı has been able to gain people's confidence and has been able to receive European Union projects in the region in order to pursue his goal of economic development through organic farming. Even though DATÜB has a number of facilities and staff consisting of branch representatives and agricultural engineers, due to extreme poverty in the region, most of the financial investment is undertaken via the mortgaging of Mr. Ilıcalı's personal assets. In the absence of foreign investment in the region and given the neglect of the government when it comes to financial assistance, the growth potential of this network appears to be seriously threatened. Yet, Mr. Ilıcalı believes that by the time the second generation takes over the administration from him, a trustworthy group with greater potential will arise and replace him.

Concluding Remarks

In this exploratory work, we looked for signs of clustering or networking in various rural areas of Turkey. Bartın was found to be a potential cluster, while Gödence and Bademli appeared to be growing clusters. Gedelek with the oldest history and the most established institutions was identified as a mature cluster, and DATÜB in Erzurum could at best be called a network.

A common point of concern mentioned in all of the cases, except for Gedelek, is the problem of finance. Notwithstanding the undisputed success of some of these clusters, and the potential capacity present in the Bartın region, all of the interviewees complained of the lack of financing options, the high risks involved with bank loans and the ignorance of government officials when approached for a financing request. The frequently cited "venture capital" concept of the developed world cluster literature is unheard of in these regions. As far as crisis management and financial growth are concerned, these clusters are literally on their own relying on accumulated savings. Therefore, in the absence of venture capital, which is cited as a normal component to boost cluster growth, these developing country clusters are most likely to generate a path that is different from that of their counterparts in the developed countries.

Another significant factor that was present in all the cases was their links with international markets. Except for Gedelek, all cases were quite positive in attempting to cooperate with universities, and so far Bademli seemed to be the champion in this respect. There seems to be a challenge in creating relationships with universities and other research institutes.

What is revealed as a result of this research is that there is a need to work on these clusters and present their potential capacity for growth and problems to the policymakers. Follow up work on this topic could use surveys to gather more quantitative data and come up with a more comprehensive description of these cases.

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Öz

Türkiye'de Kırsal Kümeler Üzerine Keşifsel Bir İnceleme

Kümelenme birçok açıdan araştırılmış olmasına rağmen kırsal alanda çok fazla çalışılmamıştır. Fakat son zamanlarda kırsal ekonomilerde kümelenme çalışmasına ihtiyaç olduğu literatürde belirtilmiştir. Gelişmekte olan ülkelerde tarımsal ve kırsal alanlarda kümelenme çalışması ihtiyacına karşılık bu çalışma Türkiye'de kırsalda potansiyel kümeler belirlemeyi amaçlamaktadır. Bu çalışmada birkaç kırsal alanda kümelenme veya ağ oluşumu var mıdır sorusuna cevap aranmaktadır. Çalışma sonucunda Bartın potansiyel küme olarak görülürken, Gödence ve Bademli büyüyen kümeler şeklinde nitelendirilmişlerdir. Gedelek ise en eski tarihi ve yerleşmiş kurumları ile olgun bir küme olarak dikkat çekerken Erzurum'daki Doğu Anadolu Tarımsal Üreticiler ve Besiciler Birliği (DATÜB) henüz sadece bir ağ oluşumu olarak nitelendirelebilir.

Anahtar kelimeler

Kırsal kümelenme, girişimcilik, potansiyel kümeler, Türkiye.

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Yazar Hakkında

Elif Kalaycı, Orta Doğu Teknik Üniversitesi'nin Bilim ve Teknoloji Politikası Çalışmaları Bölümü'nde doktora çalışmalarına devam etmekte ve Atılım Üniversitesi İşletme Bölümü'nde 2005 yılından bu yana öğretim görevlisi olarak görev yapmaktadır. Amerika Birleşik Devletleri'ndeki Texas A&M Universitesi'nde işletme yüksek lisans diplomasına sahiptir. İlgi alanları arasında araştırma geliştirmenin verimliliğe ve teknik etkinliğe etkisi, yabancı sahipliğinin Türk firmalarının araştırma geliştirme faaliyetlerine etkisi, dijital bölünme, kümelenme ve kümelenmenin bölgesel gelişime etkisi konuları sayılabilir.