Environmental Problems Caused By Manufacturing Firms Due To High Growth in the Thrace Region of Turkey

Ahmet Kubaş1, S. Ahmet Menteş2, Oktay Dede3

Abstract—Turkey experienced rapid economic growth fueled by its European Union membership process. This rapid economic growth causes some environmental problems in the Thrace region of Turkey. The surface water pollution caused by the industrial waste waters is the primary problem of the Thrace region. Industrial pollution is the major part of the environmental problems in Tekirdağ and Kırklareli provinces. There is also pollution caused by urbanization. There are environmental problems such as; air pollution, solid waste, water pollution, unplanned construction, traffic, etc. However it is obvious that industrialization has a positive effect on the local economy besides its environmental problems. To have a sustainable development in Thrace region, small and medium sized firms operating in food and beverage, textile, energy and automotive sectors should use common refineries for their wastewaters. Moreover joint waste collection and processing center should be established for Tekirdag and Kırklareli provinces. This study underlines the need for common infrastructure for treatment plants which decreases the environmental costs for firms and makes it easier for all stakeholders to monitor the environmental protection.

Keywords— Thrace Region, Environmental Problems, Socio-economic impacts, Water pollution, Treatment plant.

I. INDUSTRIALIZATION AND ENVIRONMENTAL PROBLEMS IN THE THRACE REGION

One of the greatest problems that the world is facing today is that of environmental pollution, increasing with every passing year and causing grave and irreparable damage to the earth. Environmental pollution consists of five basic types of pollution, namely, air, water, soil [1].

Irrigated agriculture is strongly associated with water and food security in both developing and developed regions of the world, and also with poverty reduction in developing countries [2]. Water, energy, agriculture, land use, rural development and environment are the main policy sectors that interfere with irrigated agriculture [3]. Turkey is not an exception. Turkey's economic emergence has brought with it fears of increased environmental degradation. As Turkey’s economy experienced high levels of growth in the mid-1990s, the country's boom in industrial production resulted in higher levels of pollution and greater risks to the country's environment. As Turkey steers itself towards meeting EU membership criteria, Turkey's vigilance in safeguarding its environment will be key to the continuance of its economic development [4].

Wheat, sunflower and paddy is widely harvested in Edirne, Tekirdağ and Kırklareli provinces which are located in the Thrace region of the Turkey. Particularly the textile industry, and production facilities including the food, chemical, automotive, machinery, energy and paper-cardboard also are located in the same region. Thrace region is in a rapid industrialization like the other parts of the Marmara Region. This industrialization process basically is not a development based on the internal dynamics in the region, but the problems of the Istanbul that reach to a point at an unsolvable level and which cause the migration of the industry especially focused on heavy resource consumption to the region [5].

The distribution by provinces of the industrial enterprises located in the Thrace region is given in the graph. As can be seen, 75% of the industry enterprises are located in Tekirdağ province and Tekirdağ become the industrial center of the region. Kırklareli province is second with 17% and Edirne is third with 8%.

The districts that industry concentrated in the Thrace region: Çorlu, Çerkezköy, Muratlı. In addition there has been a significant increase in the numbers of the industrial enterprises at Malkara, Saray and Hayrabolu provinces. Lüleburgaz, Center and Pınarhisar are the districts that the industry concentrated in the Kırklareli province. In Edirne, the industry is especially based on the food sector and concentrated on Center, Uzunköprü and Keşan [6].

Fig. 1 The distribution by provinces of the industrial enterprises located in the Thrace region

1 Ahmet Kubaş is with the Department of Business Administration, Namık Kemal University, Tekirdag, Türkiye (corresponding author to provide phone: +90282 250 280; fax: +90282 250 9927; e-mail: akubas@yahoo.com).
2 S. Ahmet Menteş is with the Department of Business Administration, Namık Kemal University, Tekirdag, Türkiye (e-mail: ahmetmentes@yahoo.com).
3 Oktay Dede is with the Agricultural Economy Department, Namık Kemal University, Tekirdag, Türkiye (email: info@comilac.com).
This unplanned and rapid growth bring along a set of environmental problems. Fig. 2 shows these main environmental problems.

The judgment of the manufacturers regarding what kind of environmental problems took place in the Thrace region have been evaluated by 5-point Likert scale. (1: Strongly disagree, .... 5: Strongly Agree). As can be seen in the graph, manufacturers have a high awareness level for environmental problems. Pollution of the surface water (river, stream, etc.) stands out as the biggest environmental problem of the region. This followed by air pollution and pollution caused from urban waste disposal to unsuitable places. Overhunting and irregular urbanization have the least awareness level by the manufacturers as an environmental problem.

A. The Cause of Environmental Problems

The basic reasons for the environmental problems mentioned above (Fig. 2) are detailed in Fig. 3.

As the fig. 3 analyzed, the lack of infrastructure is the main reason for the environmental problems in the region. Surface water pollution which characterized as chronically in the region confirms the concerns of the manufacturers that treatment plants are not operated fully by industry enterprises. In connection with this opinion, manufacturers agree that industry enterprises are not controlled properly.

Also, unplanned urbanization and lack of forest areas are important causes of environmental problems.

Thrace region as a result of rapid urbanization and industrialization are facing many environmental problems. These environmental issues cause serious damage to both urban life and agricultural production [7].

Surface water pollution is one of the factors adversely affecting agricultural production in the region. As a result, problems have been seen like quality loss at agricultural products, yield loss and irrigated agricultural products have not been cultivated. Due to contamination, the values of the agricultural lands have been decreased and also the lands close to source of pollution cannot be sold in any way. These reasons affect the prosperity and income levels negatively in the region.

Pollution in the Thrace region also affects tourism activities. Some of the reasons of this cause can be counted as bad smell, noise pollution and visual pollution caused by household waste [6].

Approximately 45% of manufacturers that participated to the survey are affected by environmental pollution economically. This high ratio shows that the environmental problems in the region are increasingly affecting more and more segments of the society (Table 1).

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tr>
<td>The decrease in value of the agricultural lands due to contamination</td>
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<tr>
<td>Decrease in rents</td>
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<tr>
<td>Yield loss of agricultural production</td>
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<tr>
<td>Due to water pollution dry farming had to be done</td>
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<td>Total</td>
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Approximately 45% of manufacturers that affected by environmental pollution in the economic sense complains about the fall in land. This followed by yield loss at agricultural production with 30.05%.

<table>
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<th>TABLE 2 LAND VALUES</th>
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<tr>
<td>Lands affected by environmental pollution</td>
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<tr>
<td>Irrigated ($)</td>
</tr>
<tr>
<td>Average</td>
</tr>
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The average values of farmland in the region affected by environmental pollution have been dropped to 1044.26$ in the
dry lands, while 1815.17$ in the irrigated lands. The lands that considered as irrigated are not irrigated by surface water but irrigated by artesian. This type of irrigation also has an additional cost to manufacturers.

The values of the lands that have the same quality if they are not affected by the pollution have been shown in Chart 2. According to this, the values of irrigated lands can be increased up to 2289.41$.

Environmental issues that affect manufacturers by economically as well as affects in terms of social aspects. The biggest example of this is a decline in manufacturers' quality of life. Especially in areas where surface water pollution is high, bad smell and bad scene affects manufacturers a lot more and they get deprived of recreational places like for picnic and swimming [7].

Because environmental problems faced by agricultural producers in Thrace are often caused by industry enterprises that are hundreds of miles away from themselves, manufacturers have a low participation level to prevent these problems. Only 26.32% of the manufacturers think of participating financially to prevent losses (Table 3).

Table 3 includes the manufacturers’ willingness to pay and willingness to accept amounts to prevent losses. According to this, they are willing to pay 78.67 $ voluntarily. They can afford up to 129.27$.

<table>
<thead>
<tr>
<th>TABLE III</th>
<th>PARTICIPATION AMOUNT</th>
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<tr>
<td></td>
<td>Average($)</td>
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<tr>
<td>Willingness to pay (WTP)</td>
<td>78.67</td>
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<td>Willingness to accept (WTA)</td>
<td>129.27</td>
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II. RESULTS AND CONCLUSION

Thrace Region is one of the Turkey’s major agricultural areas with its land and water resources. In recent years, due to industrialization and urbanization, the pressure on natural resources increased fairly. Environmental problems in the region cause several negative effects on socio-economic and ecological structure of the area. Agricultural and economic problems caused by environmental pollution;

- Losses in yield and quality of agricultural products (paddy rice, sugar beet, vegetables and fruit)
- Allocation of some of the irrigated lands to dry lands
- Agricultural lands used for other purposes (industry and settlement)
- Agricultural lands used for soil industries (for the production of bricks and tiles)
- Additional spending needed to be made for vegetables and fish consumption
- Health and social problems caused by environmental pollution in the region;
- Health problems (allergy and hair loss in areas that come into contact with the dirty water)
- Due to polluted rivers, although middle-aged people know swimming, children cannot learn how to swim
- Fishing (Fishing without an economic purpose)
- Visual pollution and heavy scent released in the summer and spring seasons narrows picnic areas that selected near river edges
- It is determined that participation numbers have decreased to Hidrellez fairs and other festivals due to the selection of festival areas near river edges. Also some of these or similar traditions has led to be eliminated in some areas.

Industrial enterprises’ wastewater which is one of the sources of pollution should be refined by common treatment plants. Industrial enterprises can spend their time to develop production and productivity potentials rather than spending on treatment. By giving the operation of treatment plants to experts increase the quality of treatment and thus help to reduce the pollution load that is already higher than the capacity beared by the region.

It is difficult to control whether these large number of industry enterprises operate their treatment and also it is an important element that increase the costs. However, it is much easier to operate, control, supervise and employ experts for a small number of common treatment plants. Considering the implementation of Çerkezköy Treatment Plant, totally 10-15 treatment plants can be built and operated in the region.

Solution of environmental problems caused by industrialization and the settlements in the region can be found by installing and operating common treatment plants. The financing needed for treatment plants can be created by the industry enterprises that throw waste water and treatment contribution margin implementation considering the amount of water used by household.

In addition, contribution opportunities to the socio-economic and cultural structure of the region may occur by developing good relations between various public institutions and organizations, local governments and enterprises of the region. If your paper is intended for a conference, please contact your conference editor concerning acceptable word processor formats for your particular conference.

REFERENCES

The Truth About Loyalty Cards – An Explorative Study Conducted In South Africa

Adri Meyer

Abstract — The purpose of this paper was to investigate the hidden truths about loyalty cards. Specific attention was given to the impact of polygamous loyalty on purchase behaviour, as well as looking at why customers may not be interested in pertaining a loyalty card. The survey was conducted among 300 South African customers of two pharmaceutical outlets. The results of the study indicated that a relationship does exist between the possession of multiple loyalty cards and shopping habits at the specific retail outlet where the consumer holds a loyalty card. The results also indicated a number of reasons customers may not be interested in having a loyalty card in their possession. This paper provides marketing managers with some insights into South African pharmaceutical retailing, loyalty cards and consumers’ behaviour around these programmes.

Keywords — Loyalty cards, polygamous loyalty, South Africa

I. INTRODUCTION

CUSTOMER loyalty programmes have been developed across a variety of industries, including hotels, credit card issuers, retailers, airlines, car rental companies and entertainment firms [1]. The growth and expansion of loyalty cards during the 1990s and early 2000s has been researched extensively in both trade and academic journals, and loyalty cards are considered one of the most successful marketing tools [2]. The motivation behind launching and upholding loyalty programmes is based on the belief that current customers are more profitable than new customers [3].

Although loyalty cards can be used as a successful marketing tool by retailers to stimulate customer retention and consumer buying behaviour [4] many studies indicate the hidden side of loyalty cards. Some criticism on loyalty cards includes customer privacy concerns, reduced profits and decreased brand value [5].

The purpose of this paper was to investigate the negative effects of loyalty cards on consumer purchasing habits. Firstly, attention will be given to the impact of polygamous loyalty on consumer purchasing behaviour, and secondly, reason consumers do not want loyalty cards will be measured.

II. LITERATURE REVIEW

The ever-increasing rivalry amongst competing retailers increases pressure on these retailers to deal with their customers more efficiently and to consistently provide customers with value. Currently, most companies use customer relationship management (CRM) strategies to maximise the customer satisfaction level by trying to understand more about the behaviour of their customers [6].

Considerable time and financial resources are allocated by many organisations to the development of customers retention strategies [7]. Rewarding loyal customers, by providing them with loyalty cards in order to accumulate points based on purchase frequency, thus allowing such customers discounts on future purchases from a specific retail outlet, is one such marketing retention strategy.

In South Africa – according to a survey conducted by Razor's Edge Business Intelligence (2005) and World Wide Worx (2005) – just over 10% of the population hold membership of loyalty clubs of commercial organisations. These generally fall into the areas of financial services, air travel, retail and wellness [8].

A leading South African pharmaceutical retailer that offers loyalty cards to their customers was used to investigate the impact of polygamous loyalty and reasons customers may not be interested in pertaining a loyalty card. For the purpose of this article, and to honour the retailer’s wish to remain anonymous, we will refer to this leading South African pharmaceutical retailer as Retailer A. Retailer B refers to a direct competitor for Retailer A in the pharmaceutical retailing industry.

A. Pharmaceutical Retailing in South Africa

The retail pharmaceutical landscape in South Africa has changed considerably over the past number of years with small independent retailers making way for the larger corporate retailer pharmacy chains in South Africa. As a result, independent pharmacies are finding it difficult to compete and are consequently closing down [9].

With arguably the largest pool of professional services in the healthcare sector coupled with its reach into both urban and rural South Africa, the Independent Pharmacy sector plays a pivotal role in the delivery of pharmaceutical services to the public sector [10].