

Prospects for Brownfields at the Edge of Nicosia Buffer Zone

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1 ABSTRACT

Nicosia is the last divided city in Europe, which is the result of Cyprus conflict. Most important result was the necessities of population transfer between the inhabitants of the island. According to the ethnicity, Turkish Cypriots moved to northern part and Greek Cypriots to the southern part of the Island. Although the allocated land use at the edge of Nicosia buffer zone (border) in North is practically the same, because of their close proximity to the border these properties gradually either changed or lost their users, and became vacant and/or abandoned.

Brownfield definition for this study is based on widely accepted European brownfield definition which explains brownfields as the sites that previously developed and now are vacant, derelict and/or abandoned, and also these sites usually consist of real or perceived contamination which requires intervention to bring them back to effective use. Therefore the areas along the border in Nicosia are accepted as Brownfields within the concern of this paper.

These sites, which are in low quality condition of physical environment, have been affecting the overall development of the city, local economy, and also have socio-cultural consequences where those places are becoming differentiated from the rest of the city by means of physical, socio-cultural and economical aspects, including user profiles as well. Accordingly, the aim of this article is to define brownfield lands at the edge of Nicosia buffer zone, and to analyse their existing condition by means of physical, socio-cultural and economical aspects for achieving further sustainable development of those areas. The methodology of this study for data collection is site surveying and the evaluation will be through the European brownfield policies. At the summary of the paper, the findings out of the evaluation will be summarized to define the potential land use of those areas which are considered as brownfield site.

Keywords: Land Use, Mobility, Sustainability, Brownfield Regeneration, Urban Development

2 INTRODUCTION

2.1 Brownfields of Nicosia

Sustainable Brownfield Regeneration (SBR) is one of the most accepted tools in sustainable development issue, which is also a comprehensive solution for problematic lands such as brownfields. The definitions' exploration of the term "Brownfield" clearly shows that there is no exact common definition for this term. Therefore, based on British, European, and American definitions, the term "Brownfield Sites" is defined overall by this research as previously developed land which is real (estate) properties and may occupy a permanent structure in both built-up and rural locations. These sites have been affected by former uses of the site or surrounding lands. Brownfield sites are generally abandoned, derelict, idled or underused, and may have real or perceived contamination problems, where require intervention to bring them back to beneficial use (CABERNET, 2006). One of the accepted solutions for turning these deprived areas to lively, vibrant, and functional space is laid in the combination of urban regeneration and sustainable development, which is widely called as Sustainable Brownfield Regeneration (Dixon at el. 2007). SBR programs are about providing connection between technical issues and socio-economic concerns in order to give a new life to those dead lands and properties. Besides, these regeneration programs will reduce the pressure on Greenfield and prevent the urban sprawl to achieve more compact way of urban form. Awareness of the realistic dimensions of the projects is an essential, which throughout defining the role of stakeholders and managing the partnership, and also recognition and handling the potential risks, more realistic and sufficient results are expected.

Aim of this study is to provide prospects for brownfields in Northern part of Cyprus in general, and areas close to the buffer zone in particular, where no any research has been done before in this perspective. Accordingly this study aims at defining sites with potential brownfield status in northern part of Nicosia, and

particularly at the edge of Nicosia buffer zone to make an initial analysis and evaluation on their existing condition by means of physical, socio-cultural and economical aspects for achieving further sustainable development of those areas. The methodology of this study for data collection is site surveying, and the evaluation will be through the European brownfield policies. The existence of the border or by other means, the UN buffer zone which horizontally divided the entire island into two parts, and particularly the division of the city of Nicosia, caused urban decays with many dimensions at peripheral of the buffer zone.

Broadly, the study moved along a quantitative to qualitative path. Quantitatively, the components of urban changes in selected pilot area, in reference to the theoretical discussions of brownfield, are identified. This set a setting against which ranges of qualitative inputs were set. These inputs were derived from these primary research objectives of brownfield development; defining and classifying the existing setting according to different explorations of brownfield sites, developing an awareness against the issue, achieving participation of stakeholders, develop strategies to achieve regeneration of those potential sites as accepting them as assets to be activated for achieving socio-economic and physical transformation of urban space. In order to assess the existing setting and understanding the public response to certain provisions of the study, in-depth interviews with employees, residents and finally other stakeholders such as the central and local authorities have been held accordingly. Although brownfields exists on both sides (South and North) on buffer zone, it is important to define the limitations in order to be able to develop a comprehensive study for 'specific part of an area'. Therefore, areas close to buffer zone have decided to be case to develop an approach against existing 'unsustainable development'.

Though in South, through the EU accession and afterwards, several policies and programs have been developed for achieving regeneration of declined urban areas by means of brownfield development, and there have been no attempts done before on the concern of this research. Therefore, the theoretical part involves with the overall idea of brownfield regeneration that provides a holistic approach for further steps of the study where the developed strategies will be considered for the Southern part as well. Particular study of Northern part, peripheral areas to buffer-zone is accepted as 'case study' where outputs of the study will provide an input, and accordingly a complementary work should be considered by the South Cyprus as well in order to achieve integrated urban regeneration as a whole.

Generally, case studies related to Brownfield sites are defined in a framework that is formed throughout three dimensions; these three dimensions are physical/environmental, socio-economic, and economic. Each dimension has its own indicators, which all together formulate a framework for beginning of brownfield regeneration program. Also the outcome of this framework produces another framework for beginning of a holistic strategic plan. According to recent literature on brownfield issues, in each dimension there are some indicators, which act as the checklist for brownfield site analysis and evaluations. To be aware of variety in reflections of dimensions and indicators is an essential. For example, in the case of Nicosia, regeneration of residential areas will not increasing the rate of tax, therefore the indicator of tax income will not be the consideration. As a result, this research will use dimensions and indicators according to the characteristic of the area.

This study examines and evaluates the characteristics of these areas in a holistic approach. This holistic analysis takes the whole area as a mixed-use environment, with variety of users, and tries to decode and decontextualize the problems regarding to brownfield issues. Study area consists of industrial, commercial, and residential properties. In most of the literature and actual practices, the most common brownfield sites are industrial, and then commercial ones are in second place, the residential properties have become vacant and abandoned due to the result of special events, such as political/ethnic/religious conflicts, earthquake, war, and etc. The special issue about this case study is existence of the residential properties within the area, and these unique cases became brownfield as the impacts of buffer zone, which are now functioning as a barrier between two communities.

on the other hand, process of Sustainable Brownfield Regeneration (SBR) program consists of several steps, which each step is essential and foundation of another one (Shojaee Far, 2011). In fact, the beginning or the first stage of the program has an important role in whole regeneration project, which produces a general assessment and defines the problems (Table 1). This research attempts to evaluate the case of Nicosia according to the first stage, to emphasise the theme of general problems related to brownfield issues of the study area. For the purpose of this study, an initial site survey has been carried out in regards to all

dimensions. Beside exploration in existing documents and researches related to the Nicosia for finding out its physical characteristics, the questionnaires, in-depth interviews with locals and governmental authorities, decodes many problems of the area. Moreover the observations and physical evaluations of the sites, in combination with qualitative and quantitative data drew a framework to assess the problems and give the better understanding of existing situation.

Initial Stage of Process of SBR Program	
Initial Process (General Assessment and Problem Definition)	Initial Site Survey: - Physical/Environmental Site Survey - Socio-Economic Survey (Interviews, questionnaires, etc.)
	Recognition of Stakeholders to arrange a multi-disciplinary team for further stages
	Identification of theme of general problems
	Conceptual Framework out of initial analysis for SBR Program to emphasize positive and negative points

Table 1: Initial Stage of Process of SBR Program (Shojaee Far, 2011)

2.2 Nicosia, Last Divided City in Europe

Nicosia is a city where its history goes back to the early Bronze Age (3000 B.C.). From 9th century A.D. to 20th century many dynasties and kingdoms used to rule the island, such as the Byzantines, Lusignans, Venetians, Ottomans, and British governors (Gunnis, 1973). Finally after British period (1878-1960) in 1960 the people of Cyprus formed and established the Republic of Cyprus, however by the agreements between United Kingdom, Turkey, and Greece, two base areas have been reserved for Britain which are still in use and active. These two reserved base areas are located in Famagusta and Limassol regions, as it can be seen in figure 1. The life of new republic was so short, which it last only less than 14 years. Political conflict between Turkey and Greece in influential of new republic, and also the ethnical conflict between the two communities of Turkish and Greek Cypriots conclude another political conflict in 1974. Therefore Turkey intervened into the island as the guarantor for safety of Turkish Cypriots (BBC Timeline, 2011). Result of the conflict was division of island into two parts, with an establishment of a border by United Nation (Figure 1). Turkish Cypriots moved to the northern part of the island and Greek Cypriots to the southern part. The impact of this disaster also showed up in the city of Nicosia as well, which leads to division of the city into two parts (Cyprus country profile, 2011).



Figure 1: Cyprus map from CIA World Factbook, after 1974 (Source: CIA Fact Book, URL: https://www.cia.gov/library/publications/the-world-factbook/maps/maptemplate_cy.html)

2.3 UN Buffer Zone of Cyprus and Urban Decays Which It Caused in Nicosia

The border, which divided the country, consists of a buffer zone that established by UN to function as a physical barrier between the two communities. Agreeing the importance of buffer zone itself, there is another important factor about the buffer zone, which has shown in Alpar (2008) studies. In her studies it has noted that after southern part of the island have been placed to the European Union (EU), the buffer zone and northern Nicosia became one of the edges of EU, and Nicosia buffer zone transformed to the EU border. Therefore the existence of vacant and abandoned properties at peripheral of EU makes more sensitive

discussions about brownfield conditions. Furthermore what is perceived in buffer zone is like that the time is stopped since 1970's and all elements within the buffer zone such as houses, shops, cars, and etc. remain as how Cypriots' life style was in 1970's.

Right now the buffer zone itself has a function which is the country border, but if any time in future the conflict of Cyprus will be solve the buffer zone will not have any other function and it will turn to a huge amount of brownfield. According to this research the UN buffer zone is categorized into three parts according to where the buffer zone is located (Figure 2). The three parts of buffer zone are explained here:

(A) The part which divide the cities/settlements; these sections of buffer zone are located within the cities, and a portion of cities where many commercial, residential, and industrial functions were located, have become vacant and abandoned (e.g. Nicosia Buffer Zone, Maras District in Famagusta).

(B) The part which divide the greenfields, where now is no man land and is a huge undeveloped land where crossing horizontally all over the country.

(C) The part which is completely covered by previously functional land/buildings or facilities and now they are vacant and abandoned because of characteristic of border itself, these properties are not within the cities and they are located in suburbs or rural areas (e.g. Cyprus International Airport).

The main difference in these categories is in the locations of the buffer zone, for example although both category A and C are a built up area, the difference between them is that the category A located within the city and category C located at suburbs or totally out of the city.

As a matter of fact, the buffer zone, divided the city of Nicosia into two parts, and although before the division, the historic walled city of Nicosia was the centre of city, it turned to the edge of the city as well as the other central neighbourhoods. In the northern part of Nicosia the properties where Greeks used to live, became vacant and abandoned, and because of population transfer it started to be used by Turkish people ¹. The threat of another possible conflict, the huge vacant and abandoned area within the buffer zone, existence of army in the area, and existent of physical and mental border resulted in population crisis of original inhabitant. Besides for many years because of its strategic location, the government did not put any effective urban investment into the area. (Cyprus country profile, 2011)

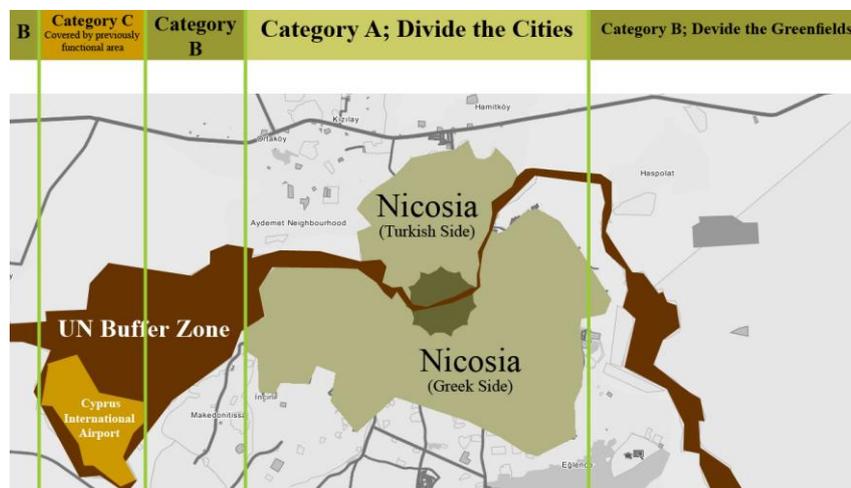


Figure 2: Categories of UN Buffer Zone According to its Location

All these situations caused urban decays in peripheral of Nicosia buffer zone. The neighbourhoods where used to be a vibrant urban space, turned down to a poor neighbourhood, which progressively caused the slum condition. It is important to know that the physical barrier was not the only reason for urban decays of peripheral of buffer zone and other older part of the city. Accordingly other several reasons were involved in that condition such as negative political and international situation, economical problems, big number of immigrants with low user's profile, and many other issues that have discussed in further sections of this study (BBC Timeline, 2011).

¹ Turkish Cypriots who were refugee from the southern part and Turkish immigrants from Turkey.

Existence of the barrier in middle of the city transferred most of economic activities toward the northern part of the city, and stayed away from the buffer zone. Many commercial and industrial buildings were shut down in last 30 years, and left vacant and abandoned areas within the city at the peripheral of buffer zone, as well as many residential properties, for example “Sanayi Holding Binasi” which used to be an industrial building and “Caglayan” neighbourhood where used to be one of the luxury residential area. The division showed its impacts on urban structure and formed a negative socio-economic setting within the area.

In brief overview on periphery of southern side of buffer zone it can be said that although in Southern Cyprus, regards to their membership in European Union and EU Strategic Development Plan, regeneration of urban areas is one of the main concerns of their development plans, but the particular “integrated” approach to “urban regeneration” which can ensure the “integrative” effect is often missing. This missing element established fragmented and partial approaches, which have a great negative impact on the city, and produces the big obstacle for considering the city as a whole for developing strategies of a greater scope. (IUREU, 2010)

2.4 Brownfield Sites in Peripheral of Nicosia Buffer Zone

In peripheral of Nicosia buffer zone there are many previously developed lands, which are vacant, derelict, and abandoned. Although in land use policies of Northern Cyprus, there are no rules for brownfields, however according to this study, these properties are subjected to brownfield status. In these regards there are three regions of brownfields next to Nicosia buffer zone in northern part, which surrounded the historical Walled City. Although in the Walled City there are many sites with brownfield’s characteristic, but because the Walled City is a historic place, then those sites are considered as historic urban quarters (HUQ) and they cannot have the status of brownfield. Therefore these regions have been marked with brownfield status according to the accepted definition of brownfield sites by this research. Within these regions there are many previously developed lands (PDL), which are vacant and/or abandoned, and also many lands are partially occupied. Many sites in the study area have one or combination of the elements of partially occupied lands, which are (1) not currently fully in use, (2) land or building currently in use and allocated by different land use in local plan, and (3) land or building currently in use with redevelopment potentials (HCA, 2011). Two of these regions have the residential land use and located at sides (east & west) of the walled city and the other one is a mixed-use area consists of commercial, industrial, and residential area, which is located on top (north) of the walled city (Figure 3).

These three areas have been suffering from an urban decline because of that huge vacant and abandoned area (Buffer Zone) which crossed the city and gradually by the time, they have lost their original users, and became vacant and abandoned. Although some restoration and conservation project were applied on a number of those properties, but still many of them remains empty with no good condition, and as a whole is seems to be far from achieving sustainability concerns in the area.

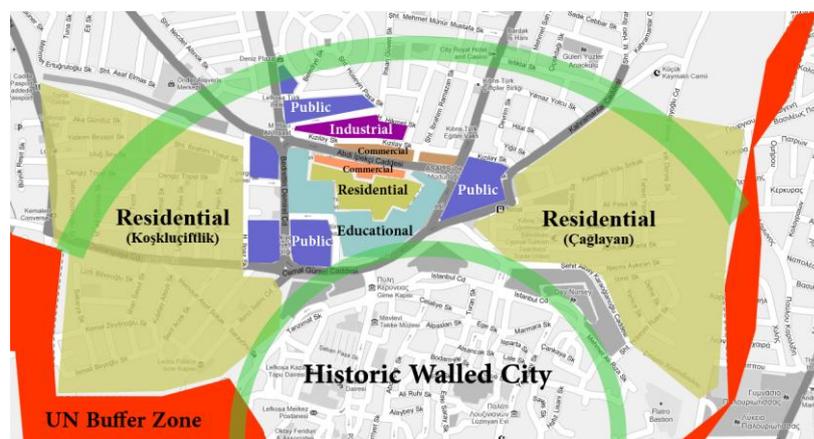


Figure 3: Study Areas, Peripheral of Nicosia Buffer Zone

With no doubt there are variety of barriers to achieve sustainable development in these areas, such as lack of professional and contemporary methods, absence of sufficient policies regarding to sustainable development, variety of visions between local government and professionals, poor attention to social sustainability, and of

course the existence of physical and psychological border. All these limitation shaped an unsustainable scheme for these areas.

3 MACRO SCALE REVIEW

Today, the urban structure of the city of Nicosia consist of three parts, (a) the historic walled city, (b) the inner part of the city, and (c) the newly developed areas in suburbs which has been attached progressively to the city. On the other hand, the shape of buffer zone, which is the dividing element in the city, formed the southern edge of the Nicosia in northern part (Figure 4).

According to this study the buffer zone has been categorized into three categories, therefore in this scenario, the buffer zone located in the category A. This section of buffer zone is located within the cities, where many commercial, residential, and industrial functions were located become vacant and abandoned. Progressively according to these situations, the peripheral areas of buffer zone which consists of mixed land use include residential, commercial, industrial, governmental, and public facilities have been faced the serious declines in urban environment.

Impacts of buffer zone have been affected its periphery and have shown up in many ways such as in functional, infrastructure, and transportation systems of the city. Not just brownfield sites within the area, also most of properties in the area as a whole need a comprehensive regeneration plan. In regard to finding a solution, Alpar (2008) argued that a holistic top down decision with combination of bottom up decision system, which is partnership of community, could resulted in more sustainable outcomes.

Although many efforts have been taken place for redevelopment of the area, such as Nicosia Master Plan (NMP) and United Nation Development Program (UNDP), the main focus of all these programs were on protection of historic and cultural heritage. These efforts achieved some good results such as NMP by winning the Aga Khan Award in 2007, which restored and regenerated some areas, however it fails in social dimension, due to lack of participation of property owners who are waiting for political settlement (Hadjri, 2008).

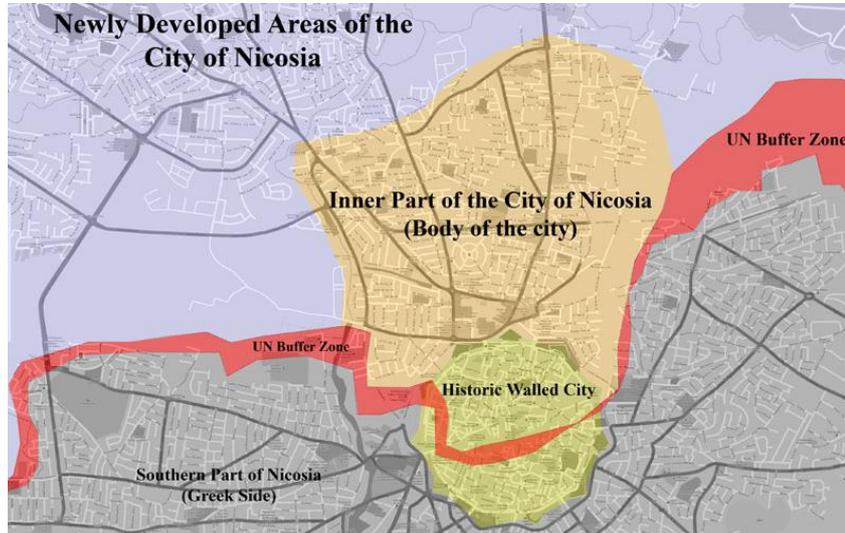


Figure 4: Urban Structure of City of Nicosia

3.1 Initial Stage; Findings Related to Periphery Area of Nicosia Buffer Zone

Based on the study of existing documents about physical characteristics of the case area, it can be said that the selected study area has variety of land use; previously industrial activities and accordingly vacant industrial buildings are located at the heart of the area, which surrounded with vacant commercial buildings and warehouses (Figure 5). Existence of some functional daily activities such as governmental offices (parliament, ministry buildings, and Turkish embassy), public high school and historic walled city brought some daily life to the area. However these activities are not enough to change the social structure of the area and did not help the improvement of urban settings. On the other hand, the residential areas (e.g. Caglayan

neighbourhood²), which are one of the oldest neighbourhoods in Nicosia, are suffering from abandoned properties and lack of sense of belonging from owners, users, and public authorities (Figure 6).

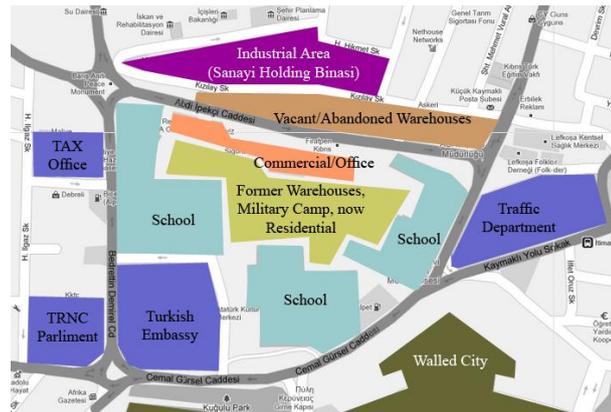


Figure 5: Study Areas, Mix-used Environment



Figure 6: Vacant and Abandoned Houses in Caglayan Neighbourhood

To realize the sole of challenge a site survey has been done with Turkish Cypriots community who lives or works in that area. The initial site survey formed throughout three dimensions, which are physical/environmental, socio-economic, and economic.

3.2 Physical/Environmental Dimension

During the study it was realized that there is a level of contamination in whole neighbourhood, and there is no statics and analysis about that. The industrial building (Sanayi Holding Binasi) has been vacant for many years and municipality does not have any authority and rights³ about that building (Figure 7). This building which was performing industrial activities, for sure has been contaminated the soils and water base, however there is no action about this and rather than applying brownfield regeneration program, which leads to un-contamination and regeneration, the government decided to demolish the building and built the new one.

In challenge between demolition and regeneration option a questionnaire shows that more than 50% of the people who live in the area were strongly agreed to regenerate that building and any buildings with same situation rather than demolition option. Towards resident's opinion, also people who work in municipality were strongly agreed with the regeneration. In this regard, deputy town clerk of Nicosia noted everything in that area are suffering from lack of a holistic strategic plan and for sure the partial planning and fragmented decisions will not help any of these problems.

The bigger disaster was about another neighbourhood just in front of that industrial zone, the neighbourhood has a long history, it was a graveyard and then it turned to industrial warehouses and British soldiers' camp, and then the function has changed to UN camp. In 1964 Turkish Cypriots⁴ who forced to leave their properties, moved to this neighbourhood and some other refugees and immigrants moved there after 1974. This area was never un-contaminated (graveyard, military camp, copper warehouses), and people live in the

² Caglayan neighbourhood used to be a rich environment, and mainly with the high profile users, still some villas with yellow stone façade can be seen there, however the overall condition of those buildings and whole neighbourhood is in decline.

³ Before municipality of Nicosia built its new building, municipality asked for that industrial building to regenerate and change it for use of the new municipality building, however they never succeed in their request and they built a new building somewhere else.

⁴ The verbal story from an old man who actually moved there in 1964 and still living there in poor condition.

warehouses, where now transformed to residential area, however the physical condition is more look like a slum neighbourhoods (Figure 8).

In centre of study area there are two sides, the main street and the back street side where most of properties are located. Thanks to Nicosia Master Plan, the main street side is improved and somehow it is gentle by means of physical environment; however the back street side is suffering from serious urban declines. In those back street areas (Figure 9) there is no utilized infrastructure (e.g. street lights, proper roads, pedestrian, and etc.), rain water runoffs in the road during the winter time, garbage and waste materials are everywhere. Unfortunately as a matter of fact, in governmental departments and municipality there is no policy and regulation regarding to brownfield issues, and more sadly nobody knew about it, from top to down level, include professionals and decision makers were unfamiliar with the term “Brownfield”. Accordingly, since there is no policy, then nobody knows about the risks of brownfields and the benefits of regenerating them, moreover it is a policy disaster that there is no action about that. This is the foundation of problems regarding to SBR program in North Cyprus.



Figure 7: Abandoned Industrial Building



Figure 8: Warehouses, which were transformed to residential

Also physical existence of UN buffer zone and military area in nearby all civic functions in study area are affecting the physical environment of the area. The shadow of restricted areas prevents any further efficient development in nearby sites.



Figure 9: back street areas

3.3 Socio-Economic Dimension

The people who live and work in the industrial, commercials (e.g. vacant warehouses) and residential areas (e.g. Caglayan neighbourhood and residential nearby industrial zone) do not have any sense of belonging to the area and as what perceived there, it resembles refugee camps rather than urban environments. There are just some conservation projects about historical heritages, which act as a gentrification scenario, and there is no actual regeneration. Most importantly people lost their belief in government for any further changes, therefore according to quantitative surveys there is a high level of user's un-satisfaction.

In series of interviews at Nicosia municipality many thoughts and believes has been demonstrated the professional opinions about the area. In this regard, an architect from project department believes that many components should get together to succeed the regeneration program, and especially in the case of brownfield sites it needs specific knowledge and policies that are not exist in North Cyprus. He believes what they are doing is only the restoration program, and because it fails in social aspects, it will be only a gentrification. In the city-planning department there is a progress to produce a new master plan, but unfortunately as he mentioned there is no specific consideration about brownfield issues.

Although most of people are not satisfied with existing situations and they do not believe the local government will share the decisions with community, but then again more than half the people who answered the questionnaire have the willing to participate with any future regeneration programs. This willingness is an opportunity for further development plans.

Opinions about participation of community in regeneration programs have two sides; people within the community wish to participate and open a new page of healthy urban environment and in other side government and in particular the municipality believes that there is no community to partnership. Accordingly deputy town clerk noted that the community in Nicosia changes a lot and people are behaving privately and not like a community. It is because of many changes in texture of community during less than a century. Each week the municipality has a council meeting for public, to let them share their opinions, but as the long term results, these discussions will not affect the decision processes, and it is a top down decision system. Deputy town clerk sharply defends this situation by referring to lack of existence of permanent community, and then he raised this question that “when we don’t have a permanent community how can expect the community shares the ideas and be a part of the projects?”

Although there is no regulations regarding to brownfield regeneration, and both sides of community and government lost their beliefs in partnership, municipality still believes that the problem can be solve by partnership with private sectors with economically feasible strategic plans. This Public-Private Partnership (PPP) idea can open new chapter in governmental decisions and leads it to the community partnership.

According to the in-depth interviews, it is perceived that there is not much partnership between these actors. In this regards municipality believes that everything will come to the political issues, and since politic is the part of holistic approach, there is an essential needs for a holistic strategic plan. Therefore, if a holistic strategic planning happens, then it can be expected the partnership of all stakeholders, and particularly the community, which leads the project to succeed. Also, uncertainty about political situation will produce uncertainty in public, private, and community decisions.

3.4 Economic Dimension

Unfortunately, there are no defined incentives or grants for propose of regeneration plans or SBR program, therefore mostly it is too costly for private sectors to handle these types of programs in their development plans. In this regards private investors are not interested in those areas and the investment will goes to greenfields rather than brownfields, therefore more pressure will be on natural environment. The main source of this situation is lack of feasible financial strategic plan for brownfield regeneration, which means there is no holistic management for economic and strategic development. Also, as the start point of economic analysis to produce initial analysis for SBR program, the opinion of community is an essential.

According to the questionnaire surveys, which has collected the data from community about their opinion related to economic issues, most of the people in community were agreed that the regeneration programs bring new job opportunities and new investment to the area and if the government provides some grants and incentives as a catalyst, then the private sector and community have the willing of partnership. Therefore if the area is regenerated they might not be complaining for any possible future new tax systems and more tax payments.

According to the findings of this research, the existing stakeholders are mainly from public sector. Stakeholders in regards to brownfield issue have been categorized into four categories. In physical environment this is the top down decision system, which start from ministry of interior, parliament, city planning department, and municipality, and these are the main actors in this category. For environmental issues there is an environmental office department, and ministry of tourism and environment, which are the main stakeholders. For community support and social issues, working and social security department, NGOs, and associations are the main stakeholders. Finally, for economic issues the government and department of economy are the main actors. As a matter of fact, most of these stakeholders act separately and unfortunately there is no efficient partnership between them.

4 EVALUATION OF THE INITIAL STAGE FINDINGS

In order to provide a better understanding of existing situation, and according to initial qualitative and quantitative data analysis, for future decisions and holistic plans, this research categorized the positive and

negative issues related to the study area. It examines the area's strengths and weaknesses, which identified the opportunities for further improvements and threats where needed to be controlled and managed.

4.1 Positive Issues

The study area is located in heart of the inner part of the city and there are many public buildings and facilities in that area, which are giving the impression of daily life activities. Also the existence of historic walled city and tourists who come to see the historical heritages is a great advantage to the area. On other hand, the overall structure of most of buildings is suitable for restoration and then regeneration. Moreover, as an environmental advantages the area has a good air quality.

Another positive point of the area is that the people who works in municipality are mainly Turkish Cypriots who experienced and seen the advantage of cooperation with other society (Greek Cypriots) throughout NMP, and they have a strong willing for improving the quality of life of people who lives in their community. Also existence of infrastructure within the area is an economic advantage for government, which they do not need to invest for new ones.

Throughout de-contextualization of existing situation within the site, the study shows some opportunities for further developments, which also should be considered as positive issues. These opportunities are the access to the UNDP resources, being at the peripheral of European Union, which provide the possible request for technical support, have chance to find a solution for contamination problem, and also because of historical and strategically location there are many optional new functions for regenerating the abandoned properties, and then development opportunities in vacant lands.

On the other hand, people who work and live in those areas are willingly participating in any possible future regeneration program and they wish for changes for better quality of life. Also another good signal of opportunities is that professionals who work in municipality are aware of most of the existing situations. Moreover since the government gave the incentives to revitalize and protect the historic heritage and have got the positive results, then there is chance for possible incentives for future regeneration programs, which increase the tax income for the government. Another positive point of study area is that municipality believes the solution is laid in private approaches, which sound like high profit for private sectors throughout participation and investment.

4.2 Negative Issues

Throughout the analysis and evaluation of the study area it has shown that there are some risks and threats existed there, which need to be controlled and managed. The best solution for these problems is placed on a clear and professional risk assessment and management process. The level of awareness is an important factor regarding to the risks. One of the main threats to the studied site is absence of policies and regulation about brownfields and contaminated sites and no existence of statics and surveys about the level of contamination. On the other hand, existence of abandoned properties which has the ownership problem, poor urban setting which look like a slum neighbourhood, and possible contamination within soils and water bases produce the physical and environmental threats to the area.

Another negative issue is producing the high risk for the community and social aspects; these risks, which have long-term effects, can end up with another social disaster. High level of users' un-satisfaction, top-down governmental decision system, no more community believe in government and government does not share the decisions with the community are the main social negative issues. Correspondingly, because of political situations, municipality does not have enough power to make the main decisions of city and in other hands central government concerns more economical issues rather than social ones and also they do not believe in regeneration, which make them focused and invest on new developments. Since public sector does not act as catalyst for possible brownfield regeneration programs, then private sectors invest for new developments in greenfields. Furthermore the most important negative point is the absence of guideline for previously developed lands (PDL), which are vacant and/or abandoned now.

As general negative issues in study area there is lack of many things such as lack of skills and knowledge for un-contamination techniques, lack of utilized infrastructures, lack of green spaces and landscapes, lack of permanent community, lack of sense of belonging, lack of community partnership, public-private partnership, partnership of public stakeholders, lack of holistic strategic plan, lack of incentives and grants,

lack of feasible financial and economic plans, and lack of management for economic and strategic development. These missing elements draw a scheme of what does not exist.

However, there is existence of some other elements, which are the reason for other negative issues in study area such as UN buffer zone, military bases, uncertainty about political situations and settlements, and gentrifications rather than regeneration. Moreover low level of some other issues such as people's income, local's population, educational background, and low interest of investment from private and public sector make the negative points of the study area more dominant. For finding a solution for these negative issues, an intervention and in-depth studies are essential need.

5 SUMMARY AND CONCLUSION

This study initially analysed the periphery of buffer zone which is located at inner part of Nicosia by means of physical/environmental, socio-economic, and economic dimension. These analyses were based on existing situation of the city in regards to urban declines, vacant and abandoned properties, and in more complex way the brownfields issue.

Existence of physical barrier and the dead area, which has referred to UN buffer zone, set a huge pressure to the urban areas in general and in particular to peripheral of border within the island. These impacts affected the social structure, physical environment, and economics of those areas. These urban crises were shown up with the vacant and abandoned properties have been addressed as urban declines that referred to brownfield site. Unfortunately, because the issue of brownfield was a new concern within the island, there is no existing policy and regulation about it. All abandoned and vacant properties with possible contamination have been leftover in poor urban environment, which many immigrants and refugees moved there (Figure 10). The area that once used to be a vibrant urban environment has turned into a neighbourhood which looks like a run-down area or slum.

Although there are some positive points within the study area, the negative issues lead the area to serious risky situations. Contamination within the sites, which are never evaluated, can cause long-term health problems for the community, and affect the natural and environmental system in the area. On the other hand people are extremely unhappy about the existing situation and lost their belief to the government, and uncertainty about political situation adds more pressure to the situation. Also, the government does not share the partnership and this solo mentality in decision making system, which referred to the top down decision system, will produce the high risk of urban disasters for future of the city and in particular the brownfield issues.

In general overview, what are needed for the study area are improvement in state policies, transformation of abandoned and vacant properties to the functional form, transformation of military areas within the city to some other public functions which leads to contribution of those facilities and properties in city life, and enhancing the community partnership which are essential to improve the quality of life in Nicosia.



Figure 10: One of the sites with possible brownfield status at the centre of study area

Nowadays the main development issue in Cyprus has focused on Greenfields and this sprawl development will have long term negative impacts to the urban environment of the island. If this situation continues with the existing condition, approximately in next 30 years, solution for all these problems will be so expensive by means of money, time, and effort. According to these situations the main outcome of this study should be considered as a serious warning for the future of the island and particularly the city of Nicosia.

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