

Perception of Landscape Change: Artas Valley/Palestine

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ABSTRACT

Investigation of the perception of landscape change due to diverse political, social and economic factors is of importance for planning and preserving valuable landscapes. The objective of this paper is to investigate public perception and response of landscape change, and to investigate the impact of this change on landscape quality. To achieve the objective of the study, Artas Valley, south of Bethlehem, was chosen as a study area. A qualitative humanistic approach methodology was used, applying interviews with local people of the Artas Valley as well as professionals. Open questions were asked to interviewees. The sample was chosen according to snowballing techniques, and content analysis was carried out. The results revealed that the perception of change was influenced by political, social, and economic conditions, as well as individuals' familiarity and proximity to the place in question. The results also revealed that the general perception of interviewees is that there are considerable landscape changes in the magnitude of landscape elements and the quality of the landscape toward the worse. These perceptions varied according to the different elements of the landscape as well as the different concept that were used for quality measures, according to the interviewees. The results also showed that children have different responses to change than those of the adults. It is recommended further landscape education in the Palestinian curriculum to increase awareness. In addition regulations and legislations are important to be established for better preservation of Palestinians landscape and catering future development, and to involve people in the process of landscape planning

Keywords: Landscape Change, Change in Landscape Quality, Change in Landscape Magnitude, Perception, Artas Valley.

1. INTRODUCTION

Historic Palestine landscape has conquered and ruled by different occupiers and rulers since the Pharaohs, Canaanites, Roman times, the Ottoman period, the British mandate, the Jordanian rule, and the Israeli occupation at present. The most obvious landscape contention may be witnessed in the early twentieth century and more specifically during the British Mandate between 1917 and 1948; resulting in encounters between two peoples who claim the same land. Landscape change and perception of landscape change has a special significance in the Palestinian context: the rich and diverse scenery combined with the religious and political tensions creates

highly contested landscapes, and this has motivated this study.

2. THEORY

When studying perception it is worth indicating that the European Landscape Convention Article 1, which states that landscape means "an area as perceived by people, whose character is the result of the action and interaction of natural and/or human factors". (European Landscape Convention, 2000: Article 1: a)

To talk about perception of landscape change, it is important to highlight on what cause this change first. Generally speaking landscapes are subjected to a dynamic process of landscape change and continuity affected by different driving forces. These forces have been discussed by different scholars; the main factors affecting landscape change are attributed either to natural processes or human activities (Antrop, 1998; Burgi et al., 2004; Green and Vos, 2001). There are a variety of driving forces related

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to human activities that affect landscape change such as socioeconomic, cultural, political, and technological activities (Burgi et al., 2004; Gobster and Rickenbach, 2004; Nüsser, 2001). Driving forces of landscape change include rising property and land value (Burgi et al., 2004), needs, motivations and desires (Gobster and Rickenbach, 2004), globalization and technology (Gobster and Rickenbach, 2004; Antrop 2005, Burgi et al., 2004). Culture is also a driving force of change, as culture and customs direct people to create their landscapes (Burgi et al., 2004; Jackson, 1984; Nassauer, 1995; Nüsser, 2001). Urbanization and accessibility are also drivers of landscape change (Antrop, 2004; 2005; Burgi et al., 2004).

Perception of landscape change is influenced by different variables. Many studies discussed the perception and the mediating variables that affect the perception of landscape change such as political, social cultural and economic factors as well as experience, familiarity, sensation, and personal attributes like age and gender (Bell, 1999; Gobster, 1998; Sell and Zube, 1986; Tuan, 1974; Zube, 1987). Sell and Zube (1986) reviewed literature related to perception of environmental change in urban and rural areas. They found that change in the environment is physical as well as economic, social and political. They also emphasized that individuals' perceptions of change is a result of their experience of their environment. Zube (1987) studied the perception of people of land-use pattern and values. He found that land form and landscape patterns provide important information to the process of perception. These patterns are perceived differently by different individuals, depending on their experiences, needs and desires. Gobster (1998) has conducted research on people's perception of the Chicago River, and their views on the future of the river. He found that people's perception changed over time. He also summarized people's priorities as the need to increase safety to reduce crime and children falling in the river, to increase access, to improve maintenance and cleanness of the river, the need to take into consideration the ecological diversity of the corridor in future development.

Perception of landscape change is related to change in quality of the landscape, and landscape quality is related to its value (European Landscape Convention, 2000). The European Landscape Convention identifies different levels of value of the landscape that can contribute to

cultural, historic, ecological, social, aesthetic and political value. (Yusim O. et al., 2002). A range of literature discussed aspects that can be seen as parameters of landscape quality such as aesthetics, identity, coherence, stewardship, biodiversity, naturalness, cleanness, etc. The quality of the landscape can be measured by the perception of individuals or by professional judgment. Landscape quality assessment is based on the quality inherent in physical landscape (Lothian, 1999; Perelman, 1980), or as the landscape quality constructed in the human mind, where it is perceived by the eyes of beholder (Lothian, 1999; Meinig, 1979; Perelman, 1980), and what is perceived is based on memories, associations, narratives and symbolism of the landscape (Lothian, 1999; Said, 1999). It is worth mentioning here that most of the literature found tackled the perception of visual quality of the landscape rather than the quality as a whole. (Appleton, 1975; Bell, 1999; Bourassa, 1988; Gobster, 2001; Gobster et al., 2007; Kaplan and Kaplan, 1989; Lothian, 1999; Lowenthal, 1997; Palmer, 1997; Palmer, 2004; Tveit et al., 2006; Zube, 1980a; Zube, 1980b; Zube, 1984).

Assi (1998) compared the difference in perception of different urban settings (old and new) between laymen and professionals of Palestinian people of the city of Nablus. The results showed that interpretation of urban landscape is influenced by expectations, values, cultural norms, previous experience and needs and desires. Assi's findings showed that there were differences in opinion between lay people and professionals, with a conclusion that people's involvement could be useful in enhancing the quality of the built environment (Assi, 1998). Gasteyer (1998; 1999) carried out field research on perceptions of landscape change in the southern West Bank, he interviewed different groups of farmers, Bedouins, Palestinian scientists and Israeli scientists some of them worked with Palestinians. The conclusion was that the perception of nature and landscape differs among different people, and is influenced by the prevailing interaction with the landscape, political beliefs and group affiliation.

Almost all areas in Palestine are faced by a wide range of threats varying from poor agricultural practices and overgrazing to quarrying which is carried out without any control. Construction and domestic waste are also major causes of landscape deterioration; random urban development sprawl outwards from existing settlements. The situation is further aggravated by the Israeli

settlements which covered large areas along with associated infrastructure (roads).

The objectives of the present study are to investigate public and professionals' perception and response of existing landscape and landscape change, and to investigate the impact of changes on landscape quality, taking into consideration different factors that affect such perception.

3. METHODS

The Study Area - Artas Valley

The Artas Valley is one of the most significant sites in Palestine. People of Artas depend on agriculture for their living as well as other jobs. The Artas Valley is also famous for its archaeological and historic sites, the variety of land use, the variety of vegetation and beautiful scenery. The diversity in historical, agricultural, ecological and recreational aspects, all of which made Artas as a representative area to investigate perception of

people towards changing landscapes in the period from 1967 to 2006, which is considered as transition period after the Arab-Israeli war of 1967, and resulting in drastic natural and cultural landscape changes.

The Artas Valley is located 2 km south of Bethlehem city and 15 km south of Jerusalem (Figure 1), with an area of about 9,740 km². The valley lies in the central mountain chain of the West Bank and slopes towards the east and has an average elevation of about 700 m above sea level (Barghouth and Jaradat, 2002). Parts of the mountains are terraced and cultivated with olive groves, vineyards and rain-fed barley and wheat. The alluvial Valley is cultivated with irrigated vegetables and fruit trees. The climate of the Artas Valley ranges from arid to semi-arid, typically with rainy winters and dry summers (ARIJ, 2002). There are five main springs in the Artas area. Most of the land of the Artas Valley is privately owned. The population of Artas village was 3552 inhabitants in 2005 (PCBS, 2006).

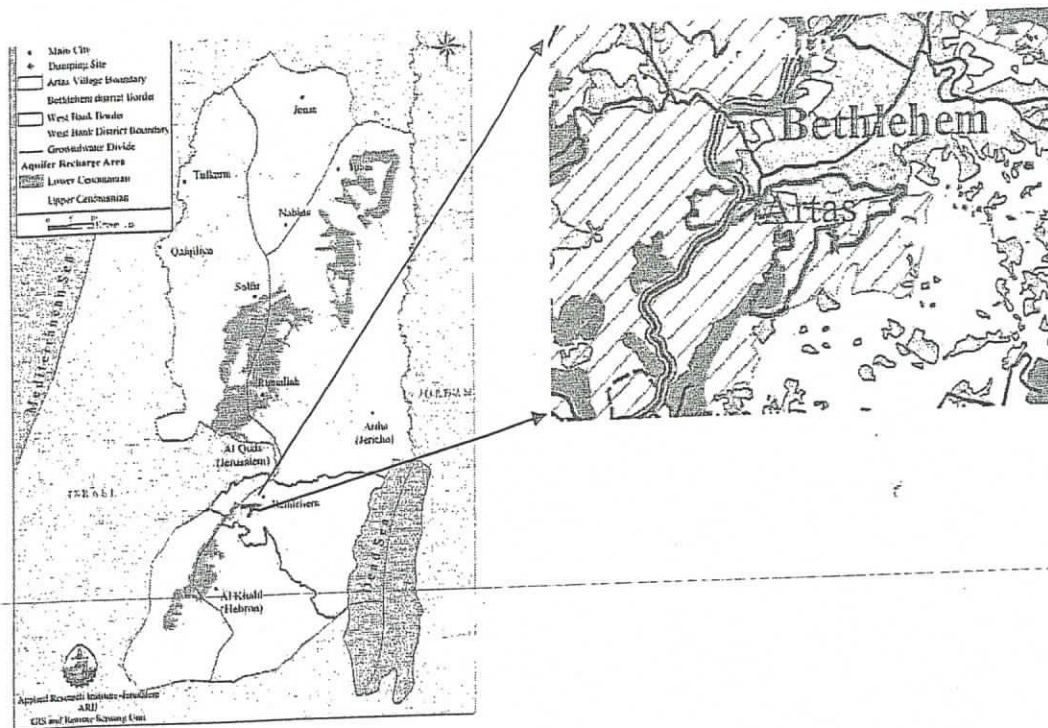


Figure 1. Location of Artas on the West Bank
Source: Applied Research Centre - Jerusalem, ARIJ 2002

Data Collection

A qualitative humanistic approach has been adopted to conduct this research. Field visits, meetings, interviews were carried out from May to December 2006. This method provides sufficient material to study the interaction and transaction between people and their surroundings. Secondary data was obtained from old documents, maps, and photographs from different institutions and ministries archives of the Palestinian Authority.

The perceived change has been investigated through in-depth interviews conducted with a number of Artas residents and some professionals (expert and locals). The interviews covered a sample of 38 persons of which 22 were local inhabitants from the Artas village, including males and females of different ages, and 16 professionals from different disciplines such as architects, ecologists, and environmentalists. Snowballing purposeful sampling technique was adopted for the selection of local inhabitants (Creswell, 2005). Questions were asked in a free manner to allow people to express their views and experiences in their own way. Questions raised were: Is there any change in the landscape? Are the residents' noticing the change? What kind of recommendations can be suggested to improve the area? How do they use the area and has the use of the landscape changed? Has the perception of use and practices change?

Content analysis was carried out to analyze the interviewees' responses by organizing the substantive content of the interviews. This was done in two steps: first, identifying substantive statements, and second, classifying them into categories (Gillham, 2000).

4. RESULTS AND DISCUSSION

The result revealed that landscape perception has been grouped into three main categories; these are the perception of change in landscape element, change in activities, and change in quality of the landscape.

Perception of Change in Individual Landscape Elements

The general perception of the interviewees was that the whole area had undergone a considerable and drastic change, but the perception of change in individual elements of the landscape varied from considerable, moderate to few change; depending on different reasons stated by the interviewees. Most asserted that the landscape had changed for the worse. These changes have been divided into four main sub categories: the change in built-

up area, agricultural land, green structure and water body.

The Built-Up Area

All the interviewees felt that the Israeli activities, including the construction of the Efrat settlement, military bases and the segregation wall, caused a drastic change in the landscape (Figures 2 and 3). All respondents felt that the construction of these landscape elements took large portion of the agricultural land. Their perception is based on the area of land that was confiscated for those purposes (Figure 3 b and 3 d). The increase in the Palestinian residential area was also perceived as considerable change by all the respondents due to population growth and the scarcity of land, which has forced people to expand their buildings either at the expense of the open spaces surrounding them, or to expand new building on top of old houses. Children also talked about the change and the current situation. They expressed dissatisfaction with the status quo because of the chaos, the disorder, the dirt, and the lack of open spaces where they can play in outdoors. Most of the interviewees, except for the children, mentioned that there was a considerable change caused by the construction of the resort centre, as most of the children did not know about the resort centre. The adults and professionals felt that a considerable change caused by the stone cutting factory currently exists in the Artas Valley, the children opinion were different as most of them do not know about it. Most of the respondents mentioned that the dumping site is something new; it had not been there ten years ago, constituting a large change (Figure 2), only two of the children knew about the dumping site, and believed it had made a large difference. Most of the respondents mentioned that the number of roads, both paved and unpaved, has increased since 1967, with the feeling that there has been a moderate increase in the number of paved streets and a few mentioning an increase in unpaved streets (Figure 2).

Agricultural Land

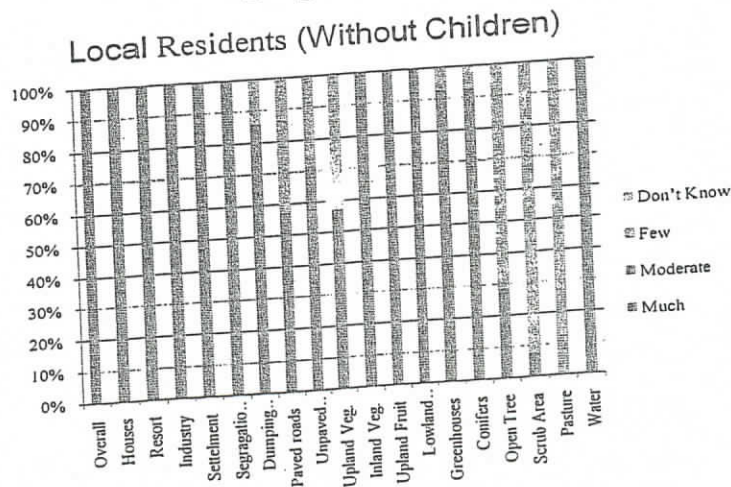
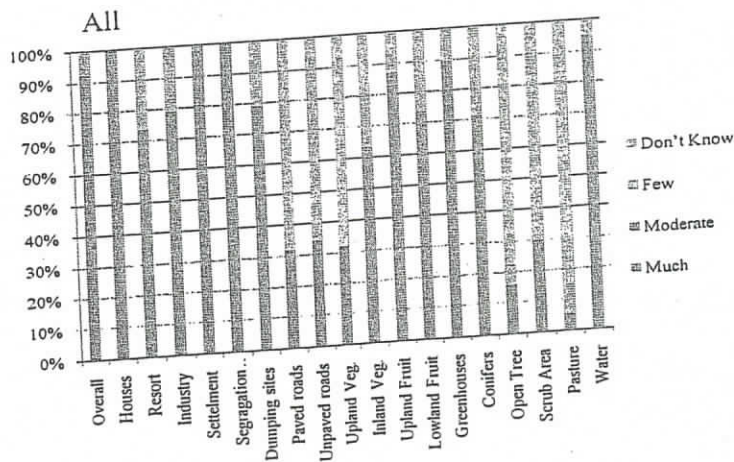
Spatial analysis of the actual landscape change due to Israeli confiscation is about 4.42% of the total study area (Nazer, 2008). The feelings with regard to the extent of changes in the mountains (high land) varied, with some respondents observed a considerable change and others observed little change. People whose land was confiscated by Israelis and were consequently deprived from farming or developing their land, felt there had been a lot of change

(they have lost their olive groves and vineyards). Others who did not lose their land did not have such a strong sense of change. However, they all agreed that the Israeli activities had altered the agricultural landscape of the mountains considerably (Figure 3c). Regarding the perception of the change in the alluvial valley (lowlands), elderly people, in particular, recalled that the valley used to be full of fruit trees, mainly apricots. Currently a large part of the valley is covered with vegetable fields. However, the valley is currently interrupted by greenhouses, which disturb the view that is being perceived by all interviewees as considerable change. Respondents also linked the shift from fruit trees to vegetable cultivation in the lowlands to changes in agricultural practices from traditional to the modern ones, to acquire an increase in their income and life quality.

Green Structure

Both professionals and residents were worried about the extent of the decrease in the coniferous forest near the Solomon Pools. On the other hand the open tree plantation which contains scattered trees was perceived

by the respondents unchanged, with only two of them commenting that a few changes have occurred in this type of landscape. Most of the interviewees did not notice any significant change in the actual size of the scrub area (natural area); this can be attributed to the fact that they do not benefit from it, as it is not suitable for agriculture. However, the respondents felt, including professionals, that there is a loss in the density of natural shrubs and herbs which was due to the harvesting of herbs for commercial purposes and overgrazing by Al Ta'amreh Bedouins. Regarding the pasture area, which is a newly designated land use element in the landscape, most of the people either had not noticed any change or stated that there are new pasture areas. This can be attributed to the fact that many of them do not differentiate this area from the scrub area; they consider both areas as natural. In addition, the people of Artas do not go that far because they no longer have large flocks and no longer feel safe from the Israeli settlers and soldiers. Concerning the professionals, some of them who know the area said that this pasture area was part of the scrub area.



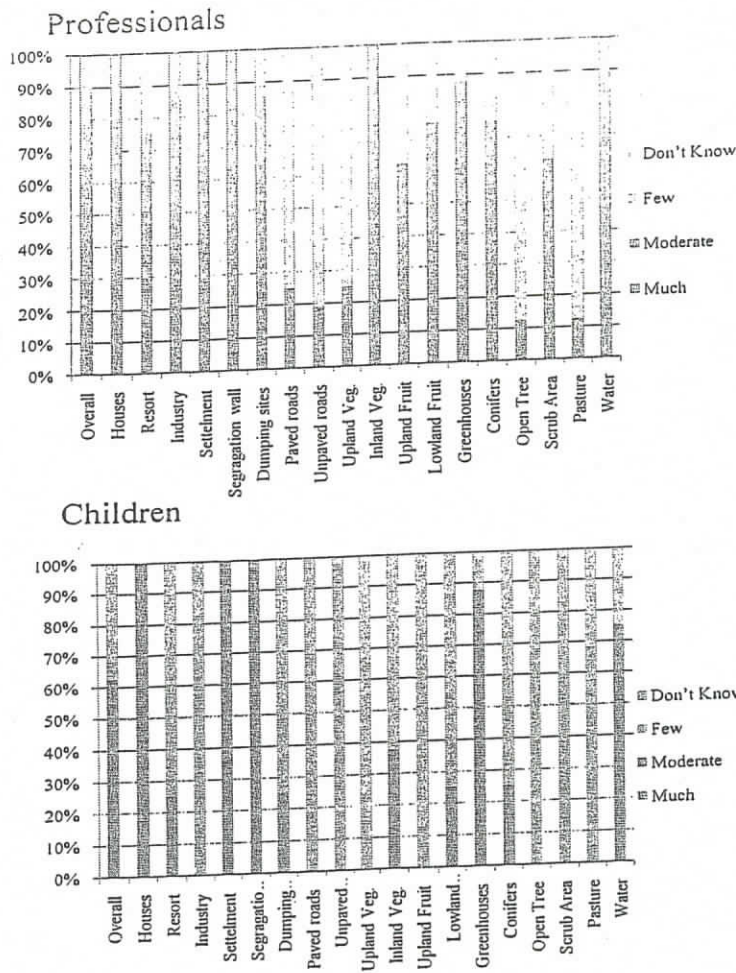


Figure 2. Perception of magnitude of landscape change

Water Bodies (the Solomon Pools)

Most of the interviewees mentioned that the water bodies have experienced considerable change; specifically, they mention that the Solomon Pools have dried up.

Perception of Change in Activities

The people of Artas talked about their memories and experiences in using the landscape. The two main uses of the Artas Valley are agriculture and recreation in addition to other activities related to cultural practices (table 1). Generally speaking, many of the previous practices and activities have been subjected to changes, with some of them diminishing and new ones appearing.

Recreation

The general perception of the Artas people, especially

the elderly and the professionals, is that the areas were more used for recreation in the past than they are now. The areas were used for recreation in different parts of it, like the Solomon Pools and the forest, the Convent of the Nuns, the mountains, and their fields. According to respondents, there are many reasons why people rarely visit these places today. Firstly, changes in the landscape have rendered the places less comfortable and noisier. Second, the dry pools made the area less interesting. Third, the existence of the Israeli settlers has made the area unsafe. Fourth, the solid waste, which is scattered all over the place, is detrimental to people's health. Finally management and maintenance of the area is not sufficient. Interviewees recalled their memories of how they used to enjoy nature, forests, and mountains, and the wealth of activities that were being made possible in the natural environment.

Most of the respondents said that there is a new linear recreational function in Artas (trail) that is being used for hiking. They mentioned that the agricultural footpath was set up for recreational use when the Palestinian Authority controlled the area (Figure 4c).

Agricultural Activities

Most of the respondents, both locals and professionals, mentioned that the people of Artas used to work in the agricultural industry in the past, until 1967. Afterwards, people started to shift gradually from working in agriculture to other jobs in different parts of the world especially Israel (in construction and agriculture), the Gulf countries, and Jordan. In 2000, after the second Intifadah, only few people worked in Israel due to severe restrictions on their entrance to Israel, thus encouraging farmers to return to agricultural activities in the Artas Valley. The fact that farmers had gained experience from agriculture in Israel helped farmers to introduce new technologies to the village (i.e. fertilizers usage, pesticides, drip irrigations, etc.). According to the respondents, the shift from traditional agriculture to modern one was the reason that the fruit tree cover was decreasing rapidly within the valley, and the consequent expansion of vegetable cultivation areas. Most of the children mentioned that they helped their parents in agricultural work. The boys help in ploughing, irrigation and harvesting. The girls help in harvesting. When asking about changes in agricultural practices, their answers were "don't know", but two mentioned that agricultural practices are deteriorating. This is what they have heard from adults. In the past, the people of Artas used to raise animals, and to keep them in the front yards of their houses. They used to graze their flocks either in their fields where they grow clover for grazing, or they took them to the mountains for grazing. These days, few people raise animals.

Children's Games

In the past, the children of Artas used to play traditional games like "Kalosh", "Dahleh", "Shoha", "Sideh", and marbles which usually require open space outdoors. They also used to play on the roofs of houses and in the streets. The empty fields after harvest time were ideal for such activities. According to the respondents, these games are rarely played nowadays, as children spend most of their time watching television and playing games on their computers. Also the losses of open spaces prevent them from playing outside.

Festivities (Events and Rituals Activities)

In Artas and before 1967, Christmas and St Mary's Feast celebrations, where parts of the celebrations took place outdoors, mostly in the streets. People used to come from many places in Palestine as well as from Jordan and Lebanon to celebrate Christmas in Bethlehem and Artas. After the Israeli occupation and until recently, these celebrations stopped or were restricted to a minimum. Outdoor activities like circumcision ceremony, marriage celebration, fetching water from the spring by women and children and the associated activities like gathering and chatting were important activities. Nowadays they are reduced to the minimum.

Lettuce Festival is a new activity, where it is usually organized around the Solomon Pools or in the valley. During this activity, traditional songs and dances take place; agricultural products are sold especially lettuce. In this event people are invited to walk along the valley to enjoy the scenery and see the village's historical and archaeological sites (Figure 4d).

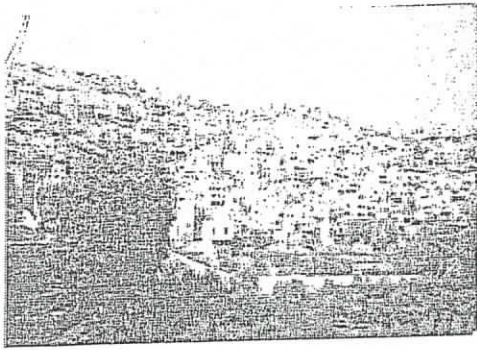
Perception of Change in the Landscape Quality

Generally speaking, people talked about a wide range of impacts on landscape quality as linked to the landscape change due to the activities practiced in the landscape. The people of Artas judged the change in the quality of landscapes on the basis of a variety of aspects, namely visual quality, character, biodiversity, historicity, accessibility, safety, cleanness, and economy. These were found to be the most important considerations when the people of Artas considered the quality of their landscapes. Most of the interviewees asked about changes in the quality of the landscape of the Artas Valley stated that the quality had been changed for the worse in most of the cases (Figure 5).

Interviewees also indicated that changes in elements of the landscapes had an impact on different aspects that give the landscape its high quality. These aspects that constitute the peoples' perception of landscape quality are:

Perception of Change in Historicity

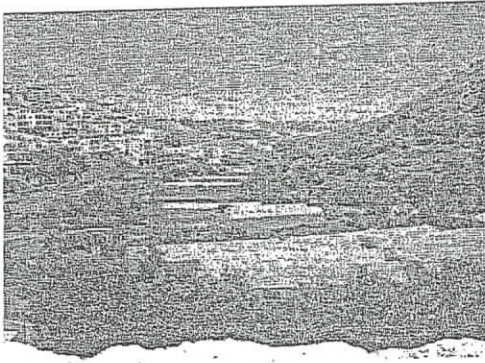
Historicity is the historical significance of a place. All the respondents negatively perceived the changes in historic and archaeological sites in Artas. They indicated that they have been gone under threat nowadays mainly due to the debris thrown from the Israeli settlement and the construction of the resort centre.



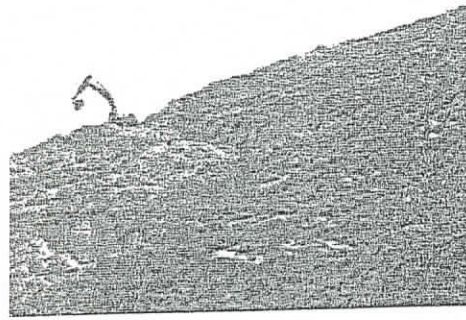
(a) The dense residential area of Artas village.
Source: Folklore centre, Fadi Sanad



(b) Efrat Israeli settlement on top of mountain of Aras Valley.
Source: Folklore centre, Fadi Sanad



(c) Greenhouse in the alluvial valley
Photo: Samar Nazer



(d) Excavations for segregation wall.
Source: ARIJ records

Figure 3. Photos showing some disturbances to landscape

Perception of Change in Aesthetic Quality (Scenery)

Most of the respondents mentioned that the scenery of the landscape as a whole has been negatively affected by the changes in the landscape of the Artas Valley. Most important criteria that were considered by the respondents, to judge the aesthetic quality, was the richness of greenery whether agricultural or natural areas, the existence of water, and the existence of historic places and monuments.

These negative perceptions are mainly attributed to the expansion of the Palestinian built-up area, the existence of Israeli settlement and military bases, the construction of segregation wall, the greenhouses, and the loss in forest area. In addition, respondents cited the change in building materials and architectural style, all of which have created chaos, disorder, and a lack of

harmony and coherence in the landscape. Elderly and middle-aged respondents with past experience in the area emphasized that the view of the village used to be more beautiful than it is now. The children of the age group 13 to 18 talked about the current scenery and thought it was chaotic when they compare it with Bethlehem and Ramallah cities.

Perception of Changes in Identity or Character

Artas is unique because of its character, its richness in natural and cultural heritage, its topography, its agricultural patterns, and its terraced olive groves. Most of the respondents, including the professionals mentioned that the changes affected Artas character negatively. This is attributed mainly to increase in residential area and the construction of the resort centre, and the introduction of

modern building materials and styles that have changed the character of the traditional village. The Israeli settlements also have had a negative impact on the character of the place due to their architectural style, with its red bricks, which is different from that of the traditional village.

Perception of Change in Vegetation and Wildlife (Biodiversity)

Adults of Artas interviewees used to see birds, gazelles, hyenas, and foxes wild in the past. These days they only see little wild rabbits and some birds. They also mentioned the presence of a variety of migrant birds, but now these are rarely seen. Discussions with interviewees revealed also that wild plants such as hyssop, mint, camomile, sage, wild almond, poplar, willow, and pear are less now than the past. Many of them disappeared due to the reduction of the quantity of water like willow and poplar. However, most of the adults and professionals attributed the loss of vegetation and wild life habitat to the expansion in the residential area, the existence of the stone cutting factory, dumping site, and the construction of Israeli settlement and military bases, and to bad practices by people such as cutting wild herbs, in addition to new agricultural practices. Many of the professionals focused more on the effect of the segregation wall and its impact on the wildlife of plants and animals than the Artas people did. The wall will negatively affect the biodiversity through affecting connectivity of habitat, the movement of animal species, the pollination of wild plants, and blocking the natural water drainage system.

Perception of Change in Accessibility

Although there are more roads these days than in the past, respondents believe that bypass roads, settlements and segregation wall hinder accessibility to some places, especially agricultural lands.

Perception of Change in Safety

Some of the interviewees mentioned that currently the village (the residential area) is safer from wild animals than before. With the rise in the number of houses and the lights at night; the animals like foxes and hyena as well as scorpions and snakes have disappeared. Interviewees also stated that despite the reduction in these threats, they do not feel safe because of the presence of Israeli soldiers and settlers; a quite different safety measures in the Palestinian context than those from other studies in other

parts of the world (Gobster, 1998; Nassauer, 1995), due to the special political situation Palestine has. The Solomon Pools area is safer for children now because they are dry and there is no danger of drowning. This was confirmed by most of the Artas interviewees and most of the professionals.

Perception of Change in Cleanness

Discharge of waste water, random disposal of domestic solid waste, dust and noise were the main issues raised by Artas people as factors adversely affect the quality of the landscape. These issues were addressed by all interviewees including children. Adults and professionals also raised the issue of pesticides and fertilizers that have an impact on health and the environment since they contaminates the spring water.

Perception of Change in Economy

Many of the respondents agree that the introduction of new agricultural practices, the existence of stone cutting factory, and the resort centre have negatively affected the landscape quality and scenery. However, some believe that these changes have contributed to the improvement of peoples' economic conditions, and consequently improve their living conditions. For example, the people of Artas believe that the adoption of new agricultural technologies (e.g. greenhouses, drip irrigation, the use of fertilizers and pesticides, as well as changing crop types and patterns from tree to vegetables) increase people's income, and therefore consider this a change for the better. Stone cutting factories and the resort centre would provide employment opportunities as stated by some of the respondents.

However, all respondents concurred that Israeli practices have severely affected their economic conditions due to the reduction of agricultural land. In addition, these practices resulted in the isolation and cutting off of a number of archaeological and natural sites from Artas, leading to a downturn in tourism and tourist-related activities, also adversely affecting the economy of the people of Artas.

The relation between humans and the landscape processes in the Palestinian context can be illustrated in Figure 6. Actual physical landscape change caused by the prevailing driving forces that perceived by people. This perception of change is influenced by mediating variables. Figure 6 shows the factors affecting the actual physical landscape; the main factor of change is political (i.e. the

Israeli occupation). The most influential mediating variables of perception of landscape change were found to be the political situation, economic development and age group. The perception was found to be in the change of elements, activities and quality of the landscape. Each of these three was also found to influence the perception of change in the other (suggested to be a mediating variable of perception of change of the other).

The perceived change in quality was found to be change in scenery (aesthetic quality), identity and character, historicity, biodiversity (vegetation and wildlife), accessibility, safety, cleanness, economy. These aspects have been addressed before by other scholars as receptors of the change (Tveit et al., 2006; Gobster, 1998; Sell and Zube, 1986), whereas it is obvious that these factors have reciprocal relation; a receptor and a driving factor for landscape changes. The responses to these changes range from acceptance and adaption to rejection.

5. CONCLUSIONS AND RECOMMENDATIONS

The study has shown that perceived significant changes occurred in some areas, whereas few changes occurred in other areas. This has influenced the perception of landscape quality. The followings are summary of the main findings and conclusions of the study:

- The main factors affecting landscape change were the growth of population, people's needs, social, economic, cultural and political aspects.
- The area was better in the past than it is now as perceived by the people who seemed to be nostalgic about the past.
- Landscape elements, ongoing activities and pertaining quality of the landscape influence and mutually affect one another.
- Agricultural practices shifted from traditional to modern ones, have had a negative effect on the physical landscapes.
- Outdoors recreational activities have decreased, and recreational areas have deteriorated.
- The most perceived "considerable change" was related to the Israeli occupation activities. Responses towards these activities met with total rejection, and were therefore perceived as negative in terms of their effect on the quality of landscape.
- It was found that the built-up area in Artas has changed quite a lot as a result of the increasing demand

for new houses in order to accommodate people. The changes have negatively affected landscape quality perceived by the people.

- Changes in elements related to people's needs varied between negative and positive, depending on how much individuals benefitted from the landscape aesthetically, economically, etc. Elements related to agriculture were perceived as moderate positive change.
- The quality of the landscape, as regarded by people of Artas, was found to be aesthetic quality, character, historicity, biodiversity, accessibility, safety, cleanness and economy. All were affected negatively by changes, except safety and economy.
- The main mediating variables that influenced perception of change were social, economic, cultural and peoples' personal attributes and experience, knowledge, familiarity, proximity of the place, and place where the interviews held outside or inside.
- Age was found to affect perception since it is linked with the past experience and memories.
- Professionals were closer in their opinion to the adults of Artas people than the children.

The main recommendations can be abbreviated from this study as follows:

1. There is a need to introduce landscape education within the Palestinian curriculum to increase awareness and understanding of the landscape as a natural resource of Palestine. The scope, extent, and content of the educational material need to be considered carefully.
2. There is a need to integrate different disciplines of landscape architecture, geography, architecture, sociology, ecology, etc. In landscape studies of Palestine.
3. There is a need to establish certain legislation and regulations that can help preserve Palestinian landscape and at the same time cater for future development.
4. Involving people in the planning of landscape would be of great importance.
5. There should be a more coordinated effort between relevant agencies and ministries, to ensure national policies are in accordance with protection and management of the landscape and the environment.
6. A capacity-building process for officials and staff representing these ministries is recommended to enhance their involvement and skills in the management and planning processes and interventions.

The government should seek to reflect the above

mentioned priorities in its development plans by earmarking special budgets for the preservation of natural resources and landscape elements. This would signal a clear message to the community on the importance of the landscape, and hence would generate necessary community participation and intervention. This could take the form of Landscape Improvement Fund that provides grants for innovative ideas of interventions towards that effect.

ACKNOWLEDGEMENT

We acknowledge The Norwegian Programme for Development, Research and Education (NUFU) for financing the research, the University of life sciences in Norway and Birzeit University in Palestine for their administrative support.

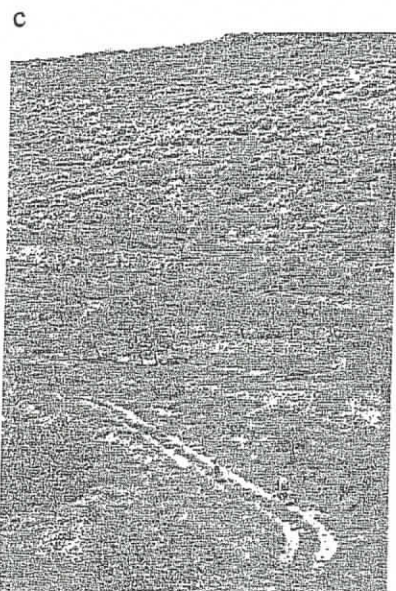
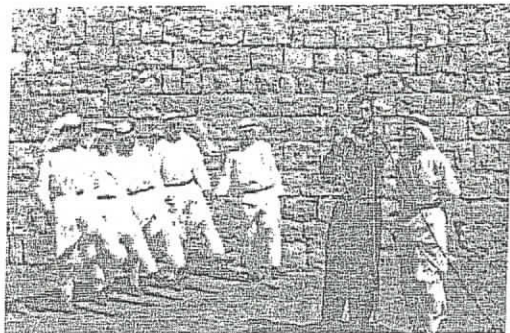


Figure 4. Lettuce Festival activities and Rehlet Al Rabee'

(a) Folklore dancing, (b) People watching, (c) Trail, (d) Woman in lettuce field. Source: Photo a, b Artas folklore centre,
Photo c : www.artasfolklorecentre.net.

Photo d: <http://www.ynetnews.com/articles/0,7340,L-3387458,00.html>

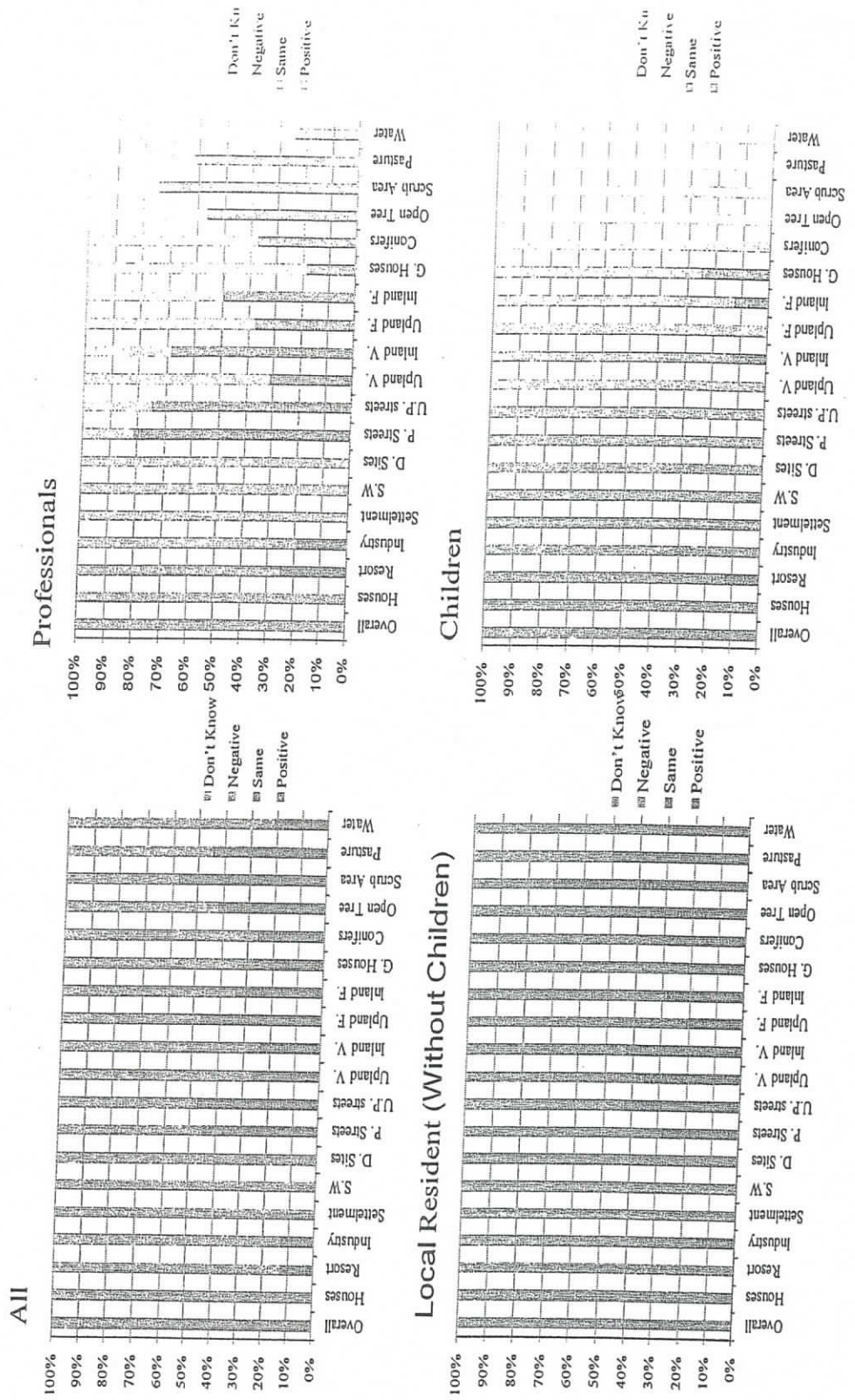


Figure 5. Perception of change (impact of change) on landscape quality of the Artas Valley
 S.W: segregation wall, D. sites: dumping sites, P. streets: paved streets, U. P streets: unpaved roads, V.: vegetable fruit and olive trees, G. Houses: greenhouses, Conifers: coniferous forest, Open tree: open tree plantation

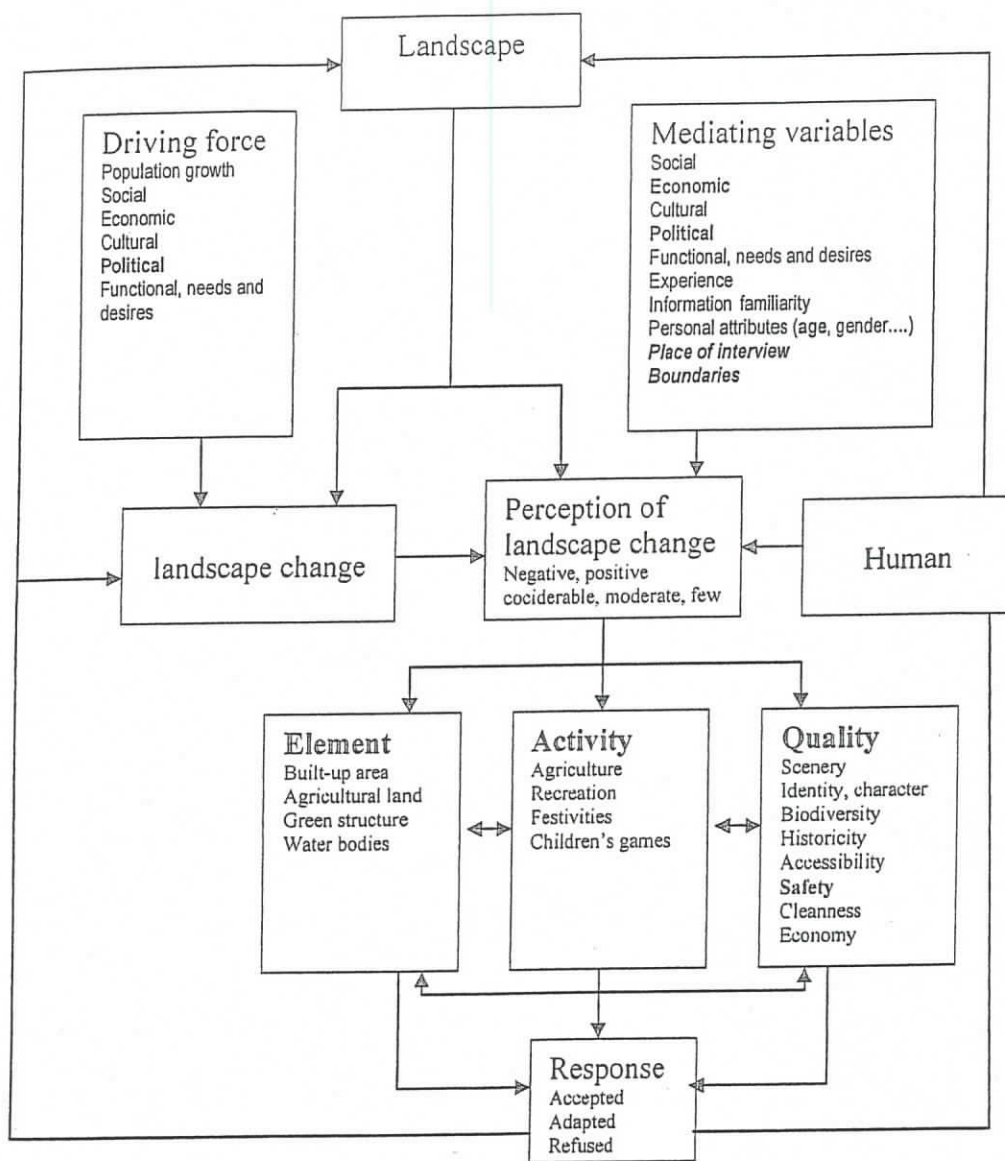


Figure 6. The relation between humans and the landscape, the physical landscape change and the perception of and response to landscape change in the Palestinian context.

Table I. Past and present relationships between landscape elements and activities in Artas Valley

Table	Recreation						Agriculture						Festivities										
	Public Sightseeing	Hiking	Swimming	Relaxing	Hunting	Herb Collecting	Plowing	Cultivation	Irrigation	Harvesting	Picking Fruits	Children Play	Muslim Feasts	Christmas Cel.	St. Mary Cel.	Friday Pray	Circumcision	Wedding	Lettuce festival	Spring Trip	Grazing	Fetching Water	Washing clothes
places																							
Village																							
Open Space																							
Mosque																							
Resort Centre																							
Industry																							
Settlement																							
Segregation wall																							
Roads																							
Solomon Pools																							
Convent																							
Kerbet AlKhokh																							
Mountains																							
Alluvial Valley																							
Forest																							
Pasture Area																							
Scrub Area																							
Spring																							
Small irrigation pools																							
Trail																							

Key
 Strong relation (Past) [diagonal lines] Moderate relation (Past) [horizontal lines] Weak relation (Past) [vertical lines] No Relation
 Strong relation (Present) [diagonal lines] Moderate relation (Present) [horizontal lines] Weak relation (Present) [vertical lines]

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فهم للتغيرات في المشهد الطبيعي والحضاري: وادي أرطاس / فلسطين

سمير وديع الناظر (1)، أحمد أبو حماد (2)، كارستن بيريسن (3) وأنا كاترينا جلميدن (3) *

ملخص

يعد البحث في درجة الإدراك والفهم للتغيرات في المشهد الطبيعي والحضاري الفلسطيني الناجمة عن عوامل اجتماعية، واقتصادية وسياسية مختلفة، من الأهمية بمكان للحفاظ على عناصر المشهد ذات القيمة التاريخية، والبيئية والجمالية... الخ. تهدف هذه الورقة إلى البحث في مدى إدراك الفرد للتغيرات التي طرأت على المشهد الطبيعي الحضاري ومدى تأثير هذا التغير على جودة هذا المشهد. ولتحقيق الأهداف السابقة، فقد اختير وادي أرطاس جنوب بيت لحم كحالة دراسية، واستخدمت طريقة البحث النوعي حيث تم إجراء مقابلات مع السكان المحليين وأصحاب العلاقة من المهتمين والمتخصصين في مجال المشهد، وقد اختيرت عينة الدراسة بطريقة العينة المتدرجة. كشفت النتائج عن أن مدى الإدراك وانطباعات الفرد للتغير في المشهد تتأثر بالظروف السياسية، والاجتماعية، والاقتصادية، إضافة إلى مدى معرفة وقرب الشخص من المشهد. كما كشفت النتائج عن أن نظرة السكان العامة للتغير الكمي والنوعي في المشهد أكدت تأثره بشكل سيئ وسلبى. وقد تباينت نظرة السكان بتباين عناصر المشهد المختلفة إضافة إلى المعايير المستخدمة من قبل السكان لتحديد مدى التغير الحاصل في جودة المشهد. كما أظهرت النتائج أن الأطفال كان لهم رأي واستجابات مختلفة عن البالغين فيما يخص المشهد. وتوصي الدراسة بزيادة مستوى التوعية بالمشهد بإدراج ذلك في المناهج المدرسية، إضافة إلى ضرورة إيجاد أنظمة وقوانين للمحافظة على المشهد بغية المساعدة في عملية التنمية المستقبلية من خلال إشراك المجتمع المحلي.

الكلمات الدالة: التغير في المشهد، تغير المشهد النوعي، تغير المشهد الكمي، ادراك المشهد، وادي أرطاس.

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ما ورد في هذا العدد يعبر عن آراء الكتاب أنفسهم، ولا يعكس بالضرورة آراء هيئة التحرير أو سياسة الجامعة الأردنية.



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المجلد ٣٧، العلوم الهندسية، العدد ١، نيسان ٢٠١٠، ربيع الثاني ١٤٣١
Volume 37, Engineering Sciences, Number 1, April 2010, Rabia' II 1431

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ISSN 1560-456 X

INTERNATIONAL REFEREED RESEARCH JOURNAL