

## Studying and explaining solutions for improving urban environmental construction in urban sustainable development (case study: Nour City)

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**Abstract:** A quick review on environment condition of the world in recent two decades shows that recent developments in urbanization growth and development and following physical development of cities established some urban spaces where residents and environment faced consequences and intimidations. In this respect, up to now some plans which were supposed to be performed remained untouched, hence we need to care about beach areas of Iran such as Mazandaran Province, especially Nour City for its tourism area. This city is an interesting destination for various races according to its special spatial position and because it is located in transportation center of north of the county and that it has forest, mountain and sea in the least distance. Hence, studying and planning for identifying, removing or reducing environmental pollutions and also caring about environmental problems in development of lands can be an effective step for improving environmental condition and improving quality level of ordinary people. Current research was performed with the aim of explaining a model for improving and identifying urban environmental construction development patterns within framework of arranging strategic statement and providing operational measurement. The research was done by expressing shortcomings present and by being away from operating concept of sustainable development within framework of strategic environmental analysis technique (SWOT in field and library approaches in statistical community of Nour City (citizens and authorities) and areas adjacent to it. In steps of analysis, operative-protective strategy, development-development strategy, organizational -operative strategy and protective-change strategy were extracted. In total, according to content and procedure of the proposed research, we will achieve improvement in environmental structure and can establish new communications between minor analytical fields which are regarded as overall output.

**Key words:** Urban sustainable development; SWOT; Strategic plan; Nour City

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### 1. Introduction

In modern days, increasing growth of urban population made cities face devastating crisis. Poverty, devastation of environment, lack of appropriate urban services, falling of available infrastructures, lack of access to appropriate land and shelter and finally lack of consistency in urban life quality such as crisis related to this (Flood, 1997). Rise of human's power for influencing on environment made some troubles for ecosystem of the earth and side effects have increased so that they are regarded as the biggest intimidation against these ecosystems. Too much energy consumption, forest devastation and extinction of plant and animal species are among those consequences. In fact, cities are increasingly growing and as a result nature is becoming smaller (Shafiey, 2006). In this respect, with quick growth of the world's population and its focus on cities, concept of sustainable urban development as an effective substantial criterion was raised on longer perspective of human societies (Gharokhlou et al., 2009). Protection and improvement of urban environment is possible through responsibility and environmental guarantee,

reducing dependency on natural resources, minimizing air pollution, avoiding from land pollution, looking for energy exploitation, increasing biodiversity and reapplying or removing burned land which finally can lead to life quality provision (Hemphill and Strong, 2006). Environmental sustainability cares about logical application and exploitation of natural resources including water, soil, air, desert, forest, grassland, marine environment, special ecosystems and biodiversity. Finally, properties of ecosystem depends on sustainable growth, sustainable energy and material, adaptability, biodiversity and capacity (Jafarian and Abdolhosseinpour, 2006)

Referring to studies conducted in spite of continuity of current process regarding urbanization, it is predicted that more than half of the world's population will be living in urban spaces by the beginning of the next century. On the other hand, today environment problems are one of the most substantial problems of cities and they are result of invasion with natural environment, since urban development will be followed by dominance of building, industries and economic transactions on natural spaces and this dominance changes gradually in form of urban dominance on nature and sets the stage for urban pollution. Result of this

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process will lead to lack of balance and inconsistency among man and nature and removal of ecosystem relationships (Zebardast, 2004)

In an article titled "space planning of sustainable development of coastal cities" which was conducted in Nour City, Asadollah Divsalar and Ali ShaikhAzamy (2011) suggested "coastal cities organization will be substantially vulnerable if they lack appropriate plan for sustainable space development". Based on the results, to explain and clarify subject along with studying its theoretical basis, sustainable development space planning was dealt by using statistical models such as Spearman correlation test, Bugardos range and other analytical methods. In an article called "urban environment structure strategies with urban sustainable development" which was conducted in Karaj City, Firouzbakht et al. (2012) argued "in contemporary capital system, city is regarded as an appropriate place and urbanization is regarded as an appropriate approach for environment". Based on the results penetration of capitalism culture in the third world nations such as Iran led to heterogeneous urban focus and acceleration growth of urban population due to village-city wide immigration; the process which is in fact the reason for moving of poor population to cities. In another article called "urban sustainable development assessment" which was conducted in Zabol City with an emphasis on CDS approach, Farzali Salary et al. (2013) argued "CDS is as a process for preparing long-term vision of a city based on which a short-time plan is arranged". According to the results it could be the best option in line with reaching urban sustainable development by strengthening economic climate competition and reducing poverty and different aspects of urban environment, urban space structures, and infrastructure construction, cultural and social aspects and so on. Current research was conducted with the aim of explaining a model for improving and recognizing urban environmental structure development models within framework of arranging strategic statement and providing operational measures. The research was conducted by expressing shortcomings present and by being away from operating concept of sustainable development within framework of strategic environmental analysis technique (SWOT in field and library approaches) in statistical community of Nour City (citizens and authorities) and area adjacent to it.

In steps of analysis, operative-protective strategies, development-development strategy, organizational-operative strategy and protective-change strategy were extracted.

Recognizing weak points of urbanization policies for devastating environments was approved through assessing activities after performing urbanization policies in many researches. Presence of different and opposite perspectives on environment structure made us focus on certain aspects of urbanization researches and current research seeks to study and explain strategies for improving urban

environmental structure within urban sustainable development.

In this respect, it will be possible for recognizing weak points of urbanization activities and analyzing them through assessment method by SWOT Technique. Based on this, objectives of the current research are as follows briefly:

- Comparative redefinition of sustainable development paradigm in environmental structure development.
- Recognizing modern models of environmental structure development within framework of sustainable development.

Within the research hypothesis we should point out that it seems we can make a structure a modern paradigm in line with improving environment quality by comparing sustainable development paradigm and environment structure development model. Also, it seems that environmental structure development presents a modern model within framework of sustainable development.

## 2. Domain under study

Mathematically, Nour City is located in 51 degrees and 52 minutes of eastern longitude and northern width of 36 degree and 2 minutes. The city is located in central district of Nour County. Geographically, nearly it is located in western area of Mazandaran. It is limited from east to Mahmoudabad, from west to Royan City, from south to forest and from north to Mazandaran Sea. It is 120 kilometers from Nour City to center of Mazandarn (Sari City) and its 220 kilometer from capital of Iran (Tehran City).

## 3. Material and methods

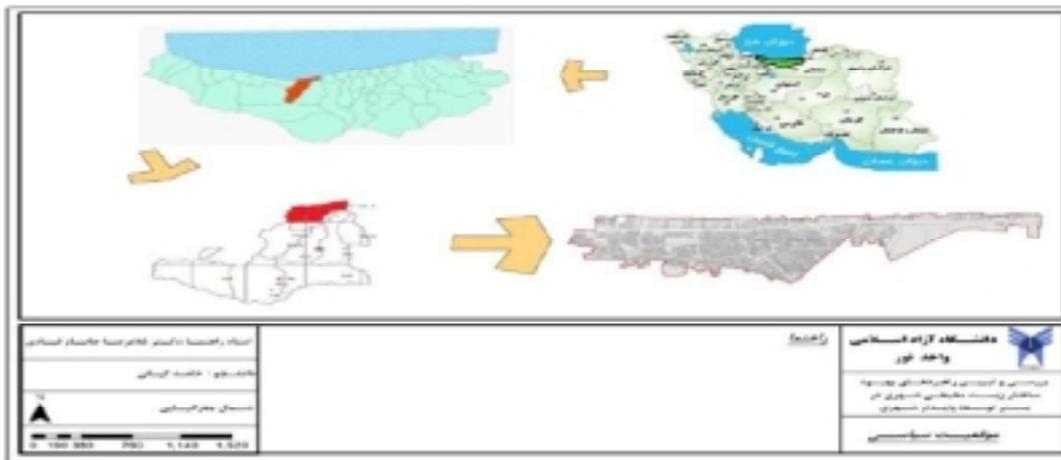
Current research is descriptive-analytical and it is somehow regarded a planning process which can be defined as follows:

- a) Recognizing current condition
- b) Analyzing current condition and recognizing problems
- c) Arranging goals based on problems
- d) Arranging strategies and policies based on goals

In strategic planning literature, S.W.O.T method is the best tool for analyzing, guiding and controlling environment under plan. This method is based on the principle where every phenomenon in competitive environment is influenced by its internal organization and unknown and uncontrollable factors which exist out of the environment. Hence, in order to do the research, data will be analyzed after conducting library studies and gathering data and notions needed within framework of S.W.O.T method. Citizens had to answer some questions. Also views and ideas of managers and authorities were considered in an interview. In the next step, it is necessary to extract a set of possible strategies, present definition and establish new communication

between minor analysis fields. To extract possible strategies, a matrix will be used which is formed of interaction of internal and external factors. During

completing matrix motioned, some strategies will be made by relying on main hypothesis of methods:



**Fig. 1:** Position of Nour County in divisions of country, province and county

- It should be based on capabilities.
- It should exploit advantages resulting from opportunities and positions.
- It should overcome weaknesses.
- It should minimize intimidations so that final output of the research is explaining operative-protective strategy, development-development strategy, organizational -operative strategy and protective-change strategy along with plan.

**4. Results and discussion**

In this step, studies are clarified by analyzing statistical society and explaining strategy plan and criteria which are introduced and finally by the results strategic plan is examined across Nour City. Next, results are analyzed. In this respect, statistical society was examined referring to ideas of managers

and experts in urban development. It is worth to mention that the technique used for analyzing current research is SOWT based on which strategic plan was explained in order to improve environmental structure.

**4.1 Analyzing forces and constraints which are effective on urban development**

The aim of the study is identifying and assessing forces and constraints which are effective on urban development and they were investigated in various field of natural, human, rules and regulations, lack of mechanism, lack of resources and decision-making factors. The forces mentioned are effective on development of Nour City are presented in Table 1

**Table 1:** Forces and constraints which are effective on Nour City

Factors which establish constraints	Forces and constraints
Natural factors	Mazandaran Sea, faults, forest
Human factors	Lack of uniform strategic management in the beach, lack of people's partnership in better performance of urban development plans, environmental pollution
Rules and regulations	Rules of construction at sea and river, rules of prevention from establishing users in farmlands, balance in plans of operative systems
Lack of appropriate mechanism	Lack of appropriate application of rules and regulations of buildings
Lack of resources	Lack of human expert for recreational centers across Nour City Beach, lack of communicative infrastructures, lack of sustainable income resources in city hall
Decisions and imposing other decision-making factors	Lack of coordination between urban management sectors

Source: writer

According to studies conducted, the most important forces and constraints which influence on Nour development include Mazandaran Sea, forest and fault which are beyond control. Lack of performing rules and regulations in urban development plans and lack of coordination between

urban management sectors are factors which are under control of planners.

**4.2. Environmental strategic analysis of factors which are effective on environmental structure development**

Uniform environmental planning, intelligence growth planning and growth management planning are key categories in new urban planning across the globe. The aim is to achieve wide urban sustainable development objectives. Sustainable development seeks to achieve balance among social, economic and environmental categories. Today, discovering and applying strategies for having access to these goals

have become the biggest challenge for planners (Donald Miller and Get dero, 2013)

In this step we will identify current condition of structures and factors which may influence on urban environmental structure.

Environmental strategy is measured and analyzed in order to identify weak and strong points, opportunities, and intimidations, which can be observed in Table 2

**Table 2:** Environmental strategic analysis of environmental structure in Nour City –SWOT

Field	Internal environment		External environment	
	Strong points	Weak points	Points of opportunity	Points of intimidation
	<ol style="list-style-type: none"> <li>1. Gathering wastes by urban management institution</li> <li>2. Logical environmental condition</li> <li>3. Presence of gardens in city</li> <li>4. Presence of environmental ideologies between citizens</li> <li>5. Presence of too many non-state organizations</li> <li>6. Presence of plans and designs for increasing levels and per capita of urban green space</li> <li>7. Citizen's inclination towards using public transportation</li> </ol>	<ol style="list-style-type: none"> <li>1. Pollution of river and sea due to entrance of industrial and home sanitations</li> <li>2. Illegal construction at sea</li> <li>3. Inappropriate quality of plan species applied in green space</li> <li>4. Urban sanitation evacuation in surface water resources</li> <li>5. Illegal construction next to river</li> <li>6. Management weakness in waste</li> <li>7. Inefficient method in landfills</li> <li>8. Inappropriate system of surface water disposal</li> <li>9. Progress in environment and valuable lands</li> <li>10. Inefficient and too much application of natural environment</li> <li>11. Environmental pollutions, especially water, soil and climate</li> <li>12. Presence of activities which are inconsistent with residence</li> </ol>	<ol style="list-style-type: none"> <li>1. Presence of forest and sea as natural purification</li> <li>2. Being located in wind direction</li> <li>3. Exploiting average temperature</li> <li>4. City's being close to forest lands and Mazandaran sea</li> <li>5. Sufficient rainfall</li> <li>6. Appropriate steep of land</li> <li>7. Presence of appropriate soil with fine PH</li> <li>8. Presence of underground d water resources</li> <li>9. Expansion of river from city</li> <li>10. presence of protection ideology from environment in national and world levels</li> <li>11. Presence of forth development plan as twenty-year vision document for reaching sustainable development goals</li> <li>12. Dominance of management ideologies of waste, and recycling them</li> </ol>	<ol style="list-style-type: none"> <li>1. Being located in northern fault areas.</li> <li>2. Being flood-prone of some areas.</li> <li>3. Relative humidity increase</li> <li>4. Underground water level rise</li> <li>5. Continuous rainfall</li> <li>6. Being close to faults and earthquake centers</li> <li>7. presence of relatively high moisture</li> <li>8. Presence of western winds</li> </ol>

Source: writer

Analysis conducted indicates problems which are associated with environmental sectors and are considered as criteria for sustainable development. Nour City has some challenges which need organized plan and application solutions for making appropriate stage in order to achieve a sustainable development. At the same time, according to high potential of Nour City in tourism industry, dealing with tourism itself is a solution for leaving current condition and making framework for correct applications of environment and controlling environmental problems. Therefore, researcher needs to extract optimum strategies in tourism industry.

**4.3. Contrast matrix**

The aim of preparing contrast matrix is to find operational goals and strategies for arranging vision statement. Table 4 shows contrast matrix for Nour City.

As it can be observed in Table 3, undoubtedly main part of tourism capabilities of Nour city is related to natural resources. It's due to forest, nice beaches, land, river and other natural sightseeing which turned this city to the center of tourism. Based on this, protection of environmental sources and ecosystems of Nour City and County are the most important actions which should be considered. Unluckily, in recent years natural body of the area was damaged due to inappropriate exploitation of natural resources. Therefore, tourism development will not be accessible except by environmental

dimension. In this respect, we need to impose applications arrangements and plans.

**Table 3:** Contrast Matrix of for Nour City

Internal and external factors	Strong points (S)	Weakness points(W)
Opportunity points (O)	<p>Development strategies</p> <ul style="list-style-type: none"> <li>-Using logical environment condition due to presence of forest and sea as environmental purification, being located in wind direction, exploiting average temperature, closeness of city to forest lands and Mazandaran Sea, sufficient rainfall, appropriate ground steep, and presence of appropriate soil with fine PH.</li> <li>- Garden development within framework of ideology of protection from environment in national and world levels</li> <li>- Presence of environment ideologies between citizens due to presence of fourth development plan as twenty-year vision document for achieving sustainable development goals</li> <li>- Strengthening gathering waste by urban management institution due to dominancy of management ideologies of wastes and recycling them and presence of protection ideologies from environment in national and world levels</li> <li>- Presence of plans and designs for increasing urban green space per capita and levels despite presence of sufficient rainfall, appropriate land steep, find soil with appropriate PH, expansion of river from inside city</li> </ul>	<p>Operative -protective strategy</p> <ul style="list-style-type: none"> <li>- Prevention of water pollution of river and sear due to presence of industrial and home sanitations due to management ideologies of wastes and recycling them.</li> <li>-Prevention from illegal construction near sea in spite of ideology of prevention from environment in national and world levels</li> <li>-Prevention from modification of inappropriate quality of plant species applied in green space with presence of fine soil with appropriate PH.</li> <li>-p Prevention from urban sanitation evacuation in surface water resources by dominance of management ideologies of wastes, and recycling them.</li> <li>- Modifying management in waste by dominance of management ideologies of waste and recycling them.</li> <li>- Modifying inefficient method of landfilling by dominance of management ideologies of waste and recycling them.</li> </ul> <p>Preventing from progress in environmental and valuable lands despite protection ideology from environment in national and world levels</p> <ul style="list-style-type: none"> <li>- Preventing from inefficient and too much application of natural environment despite protection ideology of environment in national and world levels</li> <li>- Prevention from environmental pollutions, especially water, soil and climate with presence of forest and sea as environmental purification</li> </ul>
Intimidations points (t)	<p>Development and arranging strategies</p> <ul style="list-style-type: none"> <li>- Developing gardens in city within fine climate properties</li> <li>- Developing plans and designs for rising urban green space levels and per capita within fine climate properties</li> </ul>	<p>Operative, protective and change strategies</p> <ul style="list-style-type: none"> <li>- Modifying inappropriate quality of plan species applied in green space according to relatively high humidity</li> <li>- Modifying inappropriate system of surface water disposal due to intensity of flashflood in some areas</li> <li>- Preventing from progress in environmental and valuable lands due to intensity of flashflood in some areas</li> </ul>

Source: writer

#### 4.4. Arranging urban development vision statement

Vision is an image of final destination where goals of a plan are formed in order to reach it and join goals are transferred to listener through this. In fact, determining a landscape is a long-term direction to

all the plans which contributes to coordinate different city criteria for achieving desired city. Based on this, Table 4 presents vision statement framework for Nour City environmental structure development and next, Nour City vision statement is presented.

**Table 4:** Framework for environmental structure development vision statement

Time horizon	Ratio		Application of framework	Vision statement framework		
2025	National	Coastal property of Nour City substantial environmental structure	Title/city brand Implicit meaning	Role	Harbor notes	Vision statement criteria
	National	Culture within substantial environmental structure development	Cultural-social image	Identity		
	National	Distributing rich and original culture to tourists				
	District	Citizen's partnership in environmental decisions and policy-making	Environmental image			
	Local	Green space among neighborhood				
	Local	Clear and clean sky				
	District		Physical image			
	Local	Having green space				
	District	Having architecture consistent with nature				
		Lack of construction in nature				
	District	Developing crafts and equipping recreational facilities	Economic image			
	District					
	District	Expanding employment in different sectors of environmental structure				
District-local	Storing surface and flow water for expanding agriculture					
				Secondary notes		

Based on above table, following vision is explained which will leads to strategic statement.

Nour in 2025 will be a city which is substantial based on its geographical position and strategic condition. And elements such as suitable climate condition and diverse capabilities in mountainous, plan, forest, beach areas and natural and environmental areas in tourism attraction are all at service of sustainable development so that urban life of man will stay alive. Having tourism development capabilities near beach areas, this city has the power of increasing competitiveness with its adjacent cities and seeks to raise employment in different services sectors, crafts development and equipping recreational facilities and finally strengthening specialist manpower in economic field. Having a rich and original culture and by distributing it to tourists, the city led to rise of positive cultural consequences such as increasing national and cultural pride and restoring art and local traditions. It is also effective in equipping relationship between environment and users by having too many tourism attractions like clean sea, and green forest. Prevention from devastating rural areas on one hand and integrating different activities on the other hand strengthened city look.

#### 4.1. Strategic statement

Strategic statement is the way of reaching to vision. In fact, planner needs to arrange urban development strategic statement in order to make their plans look real in the land. Hence, it can make citizen realize how to achieve their vision according to objectives that exist. Arranging strategic statement in simple and clear language leads to correct understanding of people and more practical application. Strategic statement is prepared within framework of strategies, policies, major and minor goals for guiding development and organizing city in various fields and also for reaching desirable city. Table 5 shows strategic statement criteria for achieving vision.

It can be observed that a set of factors in various fields should be coordinated and integrated so that sustainable tourism development will happen in Nour City. As you can observe, environmental problems are among factors which are in ranking of influential factors in achieving sustainable development and most of strategies and policies are in this group.

**Table 5:** Strategic statement criteria

distribution	Destinations		Route				
	Major goals	Minor goals	Strategy	policy			
Social	Improving social quality	Inviting individuals to beach 24/7	Increasing dynamism and security 24/7	-Predicting applications which are active 24/7 in coastal areas -Strong supervision on all public places near beach 24/7			
			Improving social role in environment	Establishing public recreational spaces Allocating part of city spaces to pedestrians and bike lane Establishing motivation for cooperation of people in development plans			
		Improving culture and knowledge level	Improving quality of training services level	Cooperation of authorities with public bodies	Increasing number of public cultural services		
				Maintaining customs and helping to keep it	Providing necessary facilities for training centers Holding traditional public ceremonies		
			Readability of	Context of local identity	Using symbols across city Defining input, threshold and symbols of neighborhood		
		Economic	Urban economic prosperity	Tourism development	Using lands inside city for attracting activities of city	Establishing tourism and recreational centers	
						Using lands inside city for improving tourism per capital level	Increasing level of services and public welfare facilities
							Increasing level of markets in main center
				Developing tourism services in coastal and forest areas			
				Predicting tourism complexes according to potential present in coasts			
Strengthening trading factors available in main routes of city for tourism development	Strengthening, natural complexes in order to attract tourist			Strengthening centers and public arenas and identify of sector			
				Services sector development	Predicting servicing centers		
						Increasing tourism services and establishing completion between cities or around them	
Developing services activities around Nour City							
Environmental	Improving environmental quality			Protecting environment	Flowing of two rivers in city for containing surface water resulting from rainfall	Preventing from construction near sea except unsustainable user	
		Guiding surface water and sanitation towards river					
		Strengthening infrastructure	Organizing installations and equipment's for removing surface water	Using modern approaches for containing storage and transferring surface waters for providing drinking water			
				Developing green space near main centers			
		Purification	Identifying and introducing potential	Right behavior of using coasts			

			capabilities and capacities for developing green space		
		Reducing damages resulting from human activities to each and sea	Managing sea purification activities for reducing effect on sea and beach		
		Establishing engagement among natural and artificial environment	-Necessity of abiding by fault privacy -Preventing from establishing users in flood-prone areas	Locating positions which are ready for construction in future development of city	
Physical	Improving physical environment quality	Improving public transportation condition	Improving traffic condition	Strengthening public transportation network	
			Preventing from illegal construction near river and sea	Rules and regulations related to sea and rive	
		Protecting natural sightseeing near to river and sea	Emphasis on endogenous development	Preventing from inappropriate construction	Preventing from inappropriate construction
				Increasing density with vertical development	Preventing from agricultural user change
		Optimum land use	Using potentials for shortages	Increase of welfare services users	

Source: writer

By studying the research indicated by combining subjects we can have an appropriate framework for achieving sustainable development by considering concepts related to environmental issues. Therefore, we can make a structure a modern paradigm in line with improving environment quality by comparing sustainable development paradigm and environment structure development model.

It is worth to mention that due to nature of the research, hypotheses could not be tested and hypotheses should be analyzed based on strategic planning explained. It seems pollution of sea water, home and industrial sanitation, and illegal construction near sea are weak points and environmental ideologies among citizens and dominance of logical environmental condition in city are strong points of urban environmental structure. Also, forest and sear as environmental purification systems are opportunities and being located in northern fault belt and flashflood risks are intimidations which follow environmental structure of city. Environmental structure development indicates one goal and one direction for community development and it is not only a slogan. In fact, many of these authors believe that despite taking effective measures in sustaining urban communities in many countries, today only some primitive societies are somehow sustainable.

In this research problems resulting from analysis and measurement of urban system were presented within natural environment infrastructures and urban environment quality set the stage for guidance and control of sustainable development which all demonstrate modern model in modifying environmental, economic and social structure which is called SWOT.

Also, based on contrast matrix which is regarded as environmental strategic analysis input seeks to find executive strategies and goals for arranging vision statement and operative-protective strategy, development-development strategy, organizational - operative strategy and protective-change strategy were suggested.

## 6. Conclusion

Environmental condition and ecological process indicate modern development of the world is beyond capacity of the earth. In this respect, in order to control side effects in environment, different commissions and schools were established each of which conducted many activities and examined various strategies.

Current study dealt with environmental condition of Nour City and its surrounding and at last some solutions are suggested in

In the first step, forces and constraints which are effective in Nour City were identified. In the next steps of the research level of assimilative development based on strategic field, seeks to increase environmental quality by increasing green space per capita.

In this respect, results which were achieved from analyzing hypotheses and strategic plan application for improving environmental quality of Nour City prepared and arranged priority actions. If they are performed, each of them can contribute to reduce problems of citizens and authorities. Referring to results of the current research, purification systems are identified across Nour City and the most important environmental directions were extracted in line with achieving sustainable objectives.

Environmental sustainable condition was matured across the city within this plan and some suggestions were provided for improving urban environmental structure in national and regional level which are as follows:

- ✓ Locating areas which are prepared for future development of city and keeping beaches and gardens and agriculture safe from future development of city
- ✓ Institutionalizing environment management sector in city hall and preparing environment databank of Nour City
- ✓ Organizing and protecting gardens and farmlands and developing green spaces across city
- ✓ Developing policies required for partnership of people as the most important factor for urban environment protection
- ✓ Protection from user change of farmlands and changing them to residential areas
- ✓ Right behavior in using sea during tourism season

Locating areas which are further from sea for accommodating tourists and passengers and protecting from sea against tourists and wastes produced by them.

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