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Kingdom of Bahrain



Ministry of
Municipalities
Affairs and Agriculture

مشروع بناء القدرات لتمكين الإدارة المضمية مشاريع التصاميم المضمية للمناطق التقليدية في البحرين المرحلة الأولى: الاستراتيجيات والسياسات

التقرير المختصر

**CAPACITY - BUILDING FOR ENHANCEMENT
OF URBAN GOVERNANCE**
Urban Design Projects for
Traditional Areas in Bahrain

Stage One: Strategies and Policies
SUMMARY REPORT February 2006



United Nations
Development Program



Kingdom of Bahrain



Ministry of Municipalities
And Agriculture Affairs

مشروع

بناء القدرات لتحسين الإدارة الحضرية
(الحفاظ على المناطق والمباني التراثية)
المرحلة الأولى: التقرير الرئيسي
الاستراتيجيات والسياسات

**Capacity-Building for Enhancement
Of Urban Governance**
(Conservation Urban and Architectural Heritage)

Stage One: Summary Report
Strategies & Policies

February 2006

Capacity-Building for Enhancement of Urban Governance

(Conservation Urban and Architectural Heritage)

MAIN REPORT

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1.0. Executive Summary

Bahrain has a rich heritage of built environments dating back to antiquity. Unlike some Gulf countries, Bahrain has not yet lost its historical buildings and traditional city areas. These areas have maintained their character and sense of place despite modern interventions.

However, the historical core areas of Bahrain's two oldest towns Muharraq and Manama are now under threat. As is the case of many cities around the world, the inner city has suffered from steady decline, lack of investment, poor services, and the loss of the middle class families to the suburbs. In return, great numbers of poor, foreign laborers have concentrated in overcrowded conditions, resulting in more Bahraini families and businesses leaving the areas.

The project was called into being through the concern of His Highness, the Crown Prince, Shaeik Salamn Bin Hamad Al-Khalifa regarding the problem of the increasing loss of Bahrain's built cultural heritage. The original concept was to initiate a program that would lead to the conservation of the urban and building characters of the heritage areas and provide economic benefits to their owners. It was hoped that this project would also lead to job creation for small businesses in the areas, and serve as a possible catalyst for cultural tourism.

A team comprising of an appointed project director and consultants of various expertise (conservation zoning, urban design, regulation and coding, restoration, information technology, economic, and legal) was assembled. Preliminary research began in September 2005, and the first mission was conducted during October/November which involved the analysis of the current situation and consequently the development of the first proposals.

It quickly became apparent to the consultants that only a fully integrated, inter-disciplinary strategy would lead to the regeneration of the buildings. It also became clear that not only the problems dealing with the buildings needed to be addressed, but the quality of the urban environment as well: i.e. the restoration of the buildings would be meaningless if no one wanted to live in the areas. Thus, inter-disciplinary proposals were also developed for the regeneration of the traditional areas as a whole. Those range from empowering citizens at the local level, to urban design codes to economic strategies and incentives.

It also became clear that a management structure would need to be established which would be efficient, responsive, and have the authority over the existing governmental resources in order to effectively implement the proposals. At the same time, proposals were developed which would allow for more citizen involvement at the local level in the decision making process; a bottom-up approach. The developed proposals can be summarized as follows:

Legal:

- The identification of the existing laws which can serve as a legal basis for the developed proposals.
- The identification of alternative programs of control and management structures includes their legal basis.

Economic:

- The identification of the main social and economic factors adversely affecting the economic viability of the buildings and neighborhoods.
- The identification of financial initiatives for the economic regeneration of the buildings and neighborhoods (private sector, public sector, public/private partnerships)

Conservation Zones

- The identification of the areas and sub-areas that are to be protected and studied in detail.
- The identification of the necessity of conducting a proper detailed survey of the buildings, streets, urban spaces, etc. within the areas.

Urban Design/Architectural Issues

- The development of urban design guidelines, rules and codes for the conservation zones that will lead to the improvement of the quality of the urban environment. These will cover all aspects of the urban environment including streets, parking, urban spaces, building heights, set-backs, rubbish collection and many other issues of relevance to the special characteristics of the heritage areas.
- The development of architectural design guidelines, rules and codes for existing and new buildings within the protected zones. These will cover all aspects of design including location of windows, doors and their design, traditional balconies, shading devices, signage, external plumbing, as well as overall composition.

Restoration

- To develop a set of generic strategies that is capable of responding to individual conditions and situations.
- The identification of incorrect methods and materials used in restoration work.
- The development of a manual containing best practice methods.

Information Technology

- The development of a database that will suit the needs of the tasks it is serving; this includes not only physical planning data but economic and social data as well.
- The integration of the database with the existing governmental IT systems in order to ensure the maximum benefit and data sharing capabilities.

The consultants reviewed their work with government agencies, financial institutions, and legal advisors in order to double-check the feasibility and legality of their proposals. Revisions were made as necessary, as well as the development of additional proposals.

Preparations were carried out for conducting a city-wide field survey intended to identify not only traditional buildings of architectural interest, but also to identify the conditions in their respective areas as a whole. Coordination meetings were held with the government's GIS engineers for reviewing the already available information and comparing it with the types of

information that the consultants required. A preliminary survey sheet was then developed which would be compatible with the GIS system.

An area near to the MoMAA in Manama was selected for a trial-run. Based upon the initial results of the survey, the survey sheet was modified and adapted to be more responsive to the variety of conditions that will be encountered.

A training exercise with approximately twenty surveyors was then held over a three-day period. This involved the introduction of the project and its goals to the surveyors, and a brief review of certain architectural issues that they would encounter. The survey form was reviewed and the surveyors instructed in its use. Actual site surveys were conducted and the data assembled for inputting into the database. The results indicate that the survey can now be continued in this form and if so conducted will provide the necessary data within the shortest time possible in an uncomplicated, easy to carry out manner.

As a result of the work, the team believes that a series of integrated goals, policies, and strategies that are realistic and able to be implemented have been developed which will lead to the economic and physical regeneration of the traditional core areas of Muharraq and Manama. If adopted, these goals and policies will ensure that Bahrain's rich, cultural built heritage will play a key role in the continuing development of the Kingdom, and be a source of pride and identity for future generations.



It must be clearly stated that the aim of this urban regeneration is not to create an urban museum. Instead, the aim is to provide a living and vital urban environment for residents, businesses, and visitors in which all aspects of everyday life can occur in safe and attractive surroundings. This environment will retain its traditional character and be the basis for future growth, benefiting all stakeholders and the Kingdom of Bahrain as a whole.

2.0 Project Background

In the past quarter of the century, living standards of the people of Bahrain have increased dramatically particularly in the field of housing and urban development. However, these rapid changes were carried out with several side effects, which may have been due to a lack of sensitivity and expertise for an integrated approach to urban development. In the past, the urban planning was concerned with preservation and revitalization of national assets and lacked the mechanisms for involving stakeholders in a participatory framework. Indeed, the side effects are visible now and have already begun adversely to affect the performance of the urban structures in the Kingdom of Bahrain.

The process of integrated urban planning on the other hand, takes into account the preservation of national assets and heritage of the country. It also takes into consideration the evolution of the society and how urban communities function, thus capturing the local traditions and knowledge and mobilizing the people to improve their lives.

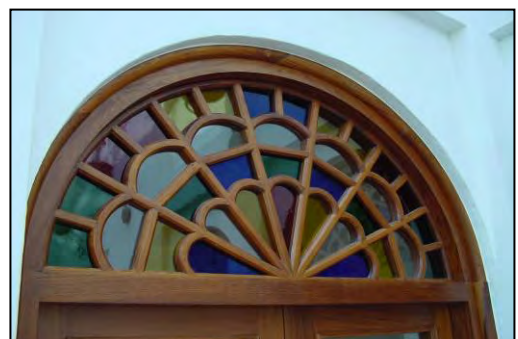
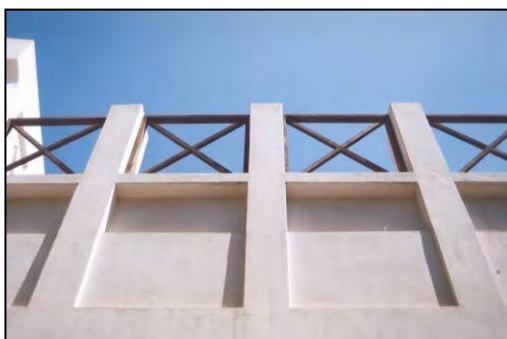
The lack of participation in urban development has hampered the strengths and ability of local communities to contribute to the decisions that affect their lives and their national assets and heritage in the Kingdom. Community participation is an important constituent and a vital source of identity, which is deeply rooted in the community's history. The philosophy, values, moral code and ways of thinking, transmitted from the past, constitute the foundation of a community's life that has to be incorporated in the urban planning process.

The recent socio-political reforms by the King has led to the creation of an urban planning body called the Housing and Urban Development Committee (HUDC), under the chairmanship of His Highness the Crown Prince and the Commander-in-Chief of the Bahrain Defense Force, Shaeik Salman Bin Hamad Al-Khalifa; which has given the responsibility of this project to the Ministry of Municipalities and Agriculture Affairs (MoMAA). His Highness, the Crown Prince has been stressing the importance of implementing the project and providing full support to the Ministry to implement the project as early as possible. The Ministry, therefore, aims at initiating a process of developing capacity-building activities to enhance the urban governance of the traditional areas of Muharraq and Manama through a process of revitalization and regeneration of the historic and cultural character of these areas.

This involves the integration of the preservation of the cultural heritage areas with their physical elements and human activities. This includes not only the physical regeneration of the buildings, but the creation of a framework whereby the citizens themselves can participate and direct the revitalization of their own communities.

These goals will be supported by programs and income generating initiatives to achieve the desired results. The Bahraini low-income population in the targeted urban areas will thus benefit from improved services, and the revitalized areas will provide them an opportunity for starting their own businesses as well as benefiting from the jobs and increased income that these businesses generate. Their active participation in the project will give them a stake in the well-being of their communities.

In this manner, the traditional areas of Muharraq and Manama will be regenerated, not by an outside source but by the residents themselves, thus setting the standard for urban regeneration and revitalization. This will result in an increased sense of cultural pride and identity not only amongst the residents of these communities, but also for all citizens of Bahrain. The following photos are good examples of restoration to conserve the Bahraini Heritage have been done by private incentives.



2.1. Project Formation

The Kingdom of Bahrain's National Charter and Constitution emphasizes providing all citizens with the opportunity of a better life and improved living conditions. In addition, the King has been stressing the preservation of the national heritage and improvement of the urban environment in order to maintain the Kingdom's national wealth. The establishment in 2001 of the Housing and Urban Development Committee (HUDC) by His Highness the Crown Prince under his chairmanship is an indication of national commitment to improving and revitalizing the urban environment.

The Ministry of Municipalities and Agriculture Affairs has been mandated to develop and implement a new urban program which involves a participatory approach and include the concept of sustainable living conditions such as environmental protection and national heritage. The Ministry of Municipalities and Agriculture Affairs, is basing this program on the UN system's extensive experience for enhancing national skills and capacity-building programs by:

- Introducing standards in legal protection of national heritage and national assets,
- Developing programs for economic revitalization of the targeted areas with income generating activities and,
- Creating an Information System supported by a comprehensive database.

It was determined to bring together a team of international consultants with an intra-ministerial team to review and introduce best practices in applying international standards in an integrated urban approach, focusing on revitalization and preservation of significant urban traditional areas in the Kingdom of Bahrain.

The Ministry will apply the above measures in the targeted areas of Muharraq and Manama and will replicate them subsequently in other areas of the Kingdom.



Central Muharraq



Central Manama

2.2. Project Management

The project is directed by the Ministry of Municipalities and Agriculture Affairs (MoMAA), together with the support of the United Nations Development Program (UNDP). Negotiations were conducted with the UN agencies HABITAT and UNESCO as to their involvement in the execution of the project.

The institutional management of the project is composed of two layers: the Under-Secretary of the Municipalities Affairs heads the Steering Committee (SC) of the MoMAA; comprised of senior ranking officials from the Ministries to oversee and support the implementation plan of the project. The SC meets three times during the year. The Assistant Under-Secretary of the Common Municipal Services of the Ministry of Municipalities and Agriculture Affairs heads the technical Committee (TC), which conducts the technical work with the UN international consultants. A Project Director has been assigned by MoMAA, who supervises and coordinates the daily work of the project.

On the 3rd of April, 2005, on behalf of the Government of Bahrain; His Excellency Mr. Ali bin Saleh Al-Saleh, the Minister of the Ministry of Municipalities and Agriculture Affairs signed the agreement with the United Nations Development Program (UNDP).



Signing of Project Agreement between the Minister of Municipalities and Agricultural Affairs, Mr. Ali bin Saleh Al-Saleh and the UN Resident Coordinator Dr. Khaled Alloush, UNDP Resident Representative in Bahrain.

The team assembled by the MoMAA together with the UNDP consists of the Project Director and the following consultants:

- **Dr. Falah Al-Kubaisy**, Project Director(MOMAA,Research and Development Advisor)
- **Dr. Alaa Elwi El-Habashi**, Conservation/Restoration Consultant (ARCE, University of Monofiyaa, Egypt, World Monuments Fund consultant)
- **Audun Engh**, Legal Advisor (CNU/CEU, Intbau, Prince's Foundation)
- **Besim Hakim**, Arab- Islamic Heritage and Coding Specialist (FAICP, AIA, Consultant)
- **Daniele Pini**, Protective Zones (Prof. University of Ferrara, Italy, UNESCO Consultant)
- **Donovan Rypkema**, Economics Advisor (Heritage Strategies International)
- **Duane Phillips**, Coordinator and Urban Design (KEOIC, DPZ-Europe)
- **Dr. Osama Tolba**, Information Technology (Assistant Professor, Dept. of Architecture, Cairo branch, Arab Academy for Science and Technology)
- **Dr. Salih Ibrahim Ahmed**, Legal Consultant (Assistant Professor, College of Law, University of Bahrain)
- **Staff of the MoMAA**, Research and Studies Section, Department of R.&D.

Terms of reference were developed for each consultant defining his work. The scope of work included, but was not limited to the following:

- Review and assessing documentation techniques and methods used to date by the government, as well as those used in other cultural heritage programs as to their relevance to this project.
- Suggest methodology of field investigations with the aim of better analyzing the socio-economic situation in the designated areas.
- Identify potential economic activities that would benefit the surrounding communities, owners, tenants, and interested investors.
- Identify appropriate potential economic activities for the buildings and sites in cooperation with the other consultants.
- Identify potential income generating activities and uses that target low-income families, helping them to become stakeholders in their community.
- Develop programs and procedures for the immediate, short term, medium term, and long-term revitalization of the areas and buildings, taking into account the current and projected social, legal, political, and economic aspects of the Kingdom of Bahrain.
- Develop programs and procedures, which could be implemented. This involves proposals for the modification or elimination of current laws, programs, and procedures, as well as the proposing of new laws, programs, and procedures that will be necessary.
- Develop guidelines, rules and codes that are necessary for implementing various building activities during the ongoing process of change and revitalization.

The project commenced in September 2005, and within 18 months, the studies, field survey, pilot projects design, and the training program are scheduled to be completed. A budget of BD 323,000 has been allocated to cover fees, equipment, and software.

3.3 Project Phases

The project to date was carried out in three phases. The timing was determined by the availability of the consultants and the dates of religious holidays. A short description of each phase is provided below:

Initial Coordination Phase: Sept. 24, 2005- Oct. 5, 2005

- Candidates/consultants were assessed and evaluated, the Terms of References for these positions were developed along with the initial Work Plan.
- Meetings and introductions with relevant persons and authorities were conducted. Lists of contacts and invitations to attend presentations and workshops/charrette were prepared, as well as a list of information and equipment to be prepared and organized during the Preparation Phase.
- The extent and quality of the existing studies, documentation, and archives was reviewed as well as site visits were conducted.

First Mission: Nov. 8, 2005- Dec. 15, 2005

- Walking tours with the consultants were conducted upon their arrival in Bahrain.
- A series of pre-charrette meetings with local officials and agencies were conducted.
- Five-day charrette was conducted. The official opening ceremony was attended by members of representatives from various government agencies and departments, local council members, businessmen, banks, investment companies, homeowners, representatives from religious organizations, and local citizens. The sessions were divided into several specific topics including economics, legal, protective zones, urban environment, and conservation. The charrette was characterized by intense sessions of information exchange, brainstorming and proposal development with all consultants and attendees working in an interdisciplinary manner. Many ideas and proposals were not only developed but also were able to be tested for their ability to be implemented.
- The development of the individual consultants' reports commenced.
- The various proposals and codes for the area developed by the Physical Planning Department, the Building Department, the Zoning Section, the Research and Studies Section, the Housing Department, the Housing Bank, and from several private developers were collected and studied.
- Project progress reports for the UNDP and the Ministry of Municipalities and Agriculture Affairs were prepared.

Second Mission: Jan. 17, 2006- Feb. 23, 2006

- The field survey sheets were developed and finalized and it's carrying out commenced.
- Alternatives for control and management within the heritage areas based on a bottom-up approach were developed including the necessary legal mechanism for implementation.

- The project database was established with links to the existing government GIS system ensuring compatibility.
- Urban Design and architectural guidelines, rule, and codes based on the special characteristics of the heritage areas were developed.
- A four-day internal review of the work completed to date by the consultants was conducted whereby assessments were made, deficiencies noted, and requests for additional information and meetings prepared.
- Proposed policies and programs were checked by the legal advisor to the project in order to ensure that they conform to the rules and laws of the Kingdom of Bahrain.
- Final reports of the individual consultants were prepared as well as a Final main report was prepared.

Scenes from the Workshop (Charrette); Opening Session and Working Groups



3.0. Project Goals:

The primary goal of this project is to develop a comprehensive approach and implementation strategy that will lead to the economic regeneration of the traditional historic areas of Manama and Muharraq and to re-integrate them into the daily life of their surrounding community for the benefit of all stakeholders, while conserving and preserving their character and sense of place.

The consultants determined that the conservation of individual buildings would in itself not regenerate the areas. A total concept for the two heritage areas of Manama and Muharraq needed to be developed that covered all aspects of the urban environment, from the buildings, to the streets, public open spaces, utilities, rubbish collection, and parking. It was also recognized that without economic incentives and programs to make the houses economically viable to the owners and to attract new businesses to the area, the project would fail. It was also recognized that a management system for the entire project would need to be created in order to cut across government bureaucracy and to coordinate all efforts. In addition, it would be necessary to propose new laws and regulations not only for the establishment of urban conservation zones, but also for the creation of new economic programs as well as a management system, which would have legal authority within the entire areas. Thus, the following goals were identified as a result:

Legal

- The identification of the manner (decrees and/or laws) in which the goals and policies of this report could obtain legal basis in the shortest possible time frame.
- The identification of alternative program management structures for the proposed Urban Conservation Zones that will be able to exercise authority and priority in all fields and entities that are involved in the conservation process.
- The coordination with the proposed economic initiatives to ensure that these initiatives can be quickly implemented under existing laws, modification of existing laws, and/or through new laws.

Economic Goals

- To identify the main social and economic factors adversely affecting the economic viability of the buildings and neighborhoods; and to identify financial initiatives for the economic regeneration of the buildings and neighborhoods (private sector, public sector, public/private partnerships). These include economic and cultural opportunities for those Bahraini willing to return to and/or remain in the traditional sectors of Muharraq and Manama.
- To promote and encourage the private sector to take the lead in the economic regeneration of the traditional areas. This will release the creative energies of private investment while reducing the need for large ongoing public expenditures.
- To harness the potential for activities related to the protection and development of cultural heritage to act as a driver for economic development: that is, as a means of creating jobs and generating income; in particular through cultural tourism, small business incubation, training and research; the craft industry and trade.

Urban Conservation Zones

- To propose and recommend the establishment, where appropriate, of urban conservation zones and their boundaries.
- The necessity of conducting a proper detailed survey of the buildings, streets, urban spaces, etc. in order to properly define the detailed conservation and land-use zoning within the protected areas.
- To determine and establish the overall vision of future urban development in Muharraq and Manama.

Urban Design/Architectural Guidelines, Rules and Codes

- The development of urban design and architectural guidelines, rules and codes for the protected zones including existing and new buildings; that will lead to the improvement of living conditions and of the quality of the urban environment. These will cover all aspects of the urban environment including public open space, urban space, streets, utilities, rubbish collection points, parking, building height, density, set-backs, etc.

Restoration/Preservation

- To develop a set of generic strategies that is capable of responding to individual conditions and situations; by offer various levels of interventions permitted in different cases depending on the significance, the conditions, and the suitability with urban planning, and zoning codes.
- To reconcile the desires of modern standards of living without changing radically the meaning of the building itself and its relationship to the urban context.
- To establish a link between the city and its history and its physical environment through the preservation of selected themes; by identification of incorrect methods and materials used in restoring significant buildings, and the suggestion of alternatives.

Information Technology

- To develop a database that will suit the needs of the tasks it is serving; this includes not only physical planning data but economic and social data as well; and to integrate these database with the existing governmental IT systems in order to ensure the maximum benefit and data sharing capabilities.

4.0. Project Policies:

Based upon the stated goals, the following policies were developed:

Legal:

- To create a management framework that is unbureaucratic, efficient, and has the necessary legal authority which can effect a strong and efficient coordination amongst the different administrative bodies which are involved in the conservation process with different competences and responsibilities.
- To ensure that all decisions and acts should be based on the concept of justice and equity to ensure that no harm is created to other's properties and at the same time, the individual owner should realize his aspirations for his property.

Economic:

- To promote the Urban Conservation Zones as natural incubators for small, creative, and start-up businesses, particularly for the rapidly growing work-at-home segments of the professional service industries.
- To promote heritage resources as latent economic assets rather than a social and fiscal liability, as well as to promote owner occupied home ownership by Bahraini families in the Urban Conservation Zones.
- To develop incentives and appropriate regulations to encourage the owners and the tenants to undertake rehabilitation works and to continue to reside in the traditional areas.
- To create new and/or modify existing financial programs to target the needs within the Urban Conservation Zones.
- To demonstrate to investors, businessmen, and residents the government's commitment to these areas through the implementation of pilot projects, economic incentives/programs, and an effective management system.

Urban Conservation Zones:

- To use the establishment of the zones as a tool to improve the living conditions of the population, and to ensure the functional revitalization of the traditional city and its neighborhoods.
- To promote the concept that change, repair, and rebuilding should be accepted and welcomed in the framework of a broad conservation approach. The results of such activities are to be channeled towards the preservation of the remaining historic fabric and maintaining the character and sense of place of the traditional areas.
- To adopt temporary protection measures including two large protection perimeters for the traditional core areas of Muharraq and Manama to be enforced during the preparation of the conservation plan in order to prevent further demolitions, building interventions and land use transformations, which may hamper any further conservation policy and action.

Urban Design/Architectural Codes, Regulations, and Guidelines:

- To promote the concepts of ecology and sustainability in the development of the codes, regulations and guidelines for the traditional areas.
- To promote the concept of compactness and density of the traditional sectors of Muharraq and Manama. This means intelligent utilization of all spaces: private and public.
- To develop guidelines and codes that ensure continuity of the traditional aesthetics and which encourage people to re-establish a local Urf. Decisions should as much as possible be allocated at the local level, ensuring creative solutions for each individual site.
- To promote diversity that would encourage creating a mixture of uses in various locations without creating harm to adjacent neighbors.

Restoration/Preservation:

- To adopt an approach of adaptive reuse which considers heritage as a resource to be protected and utilized through appropriate solutions.
- To promote and encourage innovative solutions based on the principle of designing with nature, despite the availability of mechanical devices.
- To identify and promote appropriate uses for the building type.
- To identify and promote appropriate interventions (utilities, materials, structural elements, etc.) within the buildings; and to identify and promote the usefulness of traditional building technology, and revive related crafts.
- To promote the representation of traditional phenomena within the urban fabric of the city, in order to grasp the meanings of the fabric and the assemblage of its components, such as representing the Ferij throughout the conservation area and the representation of its gateway elements.

Information Technology:

- To use the database as a resource for policy decisions and implementation strategies; this includes but is not limited to the areas of economics, urban planning, architectural guidelines for new buildings, restoration of individual existing buildings, etc.
- To continuously maintain, extend, and adapt the database as necessary in response to new or changing requirements and conditions. The database cannot be frozen in time; it must be conceived and used as a living, growing resource.

These policies form the foundation of the regeneration and revitalization of the traditional areas of Manama and Muharraq. They need to be adopted as an integrated whole in order to ensure the success of the project.

5. Detailed Project Report

The project's goals and policies were developed in an inter-disciplinary, integrated manner in order to ensure that each were compatible with one another. In addition, utmost importance was placed on the development of goals, policies, strategies and programs that are capable of being implemented. Furthermore, they were developed with respect to short term, medium term, and long-term periods.

The consultants have prepared their individual detailed reports giving the background of the current situation, and findings that they have made based upon their own observations and research. Their proposals were then developed, and are presented with documentation and explanations for the need for such proposals and how they are to function, as well as how they are to be implemented.

The following is a detailed synopsis of the individual consultant's reports, documenting the background for the goals and policies stated earlier. Contained within are also numerous detailed strategies and programs that are directed at specific problems and issues. Please note that some portions of the consultant's original text have been modified here for the purpose of compactness and clarity.

5.1 Urban Environment: Current Situation

The following is an analysis of the elements of the urban environment within the traditional areas of Muharraq and Manama, along with a description of their current condition and problems/issues that they face, followed by a description of the current projects and programs that are having or will have a major impact on the development within these areas.

Introduction:

The project's goal of the economic regeneration of the traditional buildings within the core areas of Muharraq and Manama cannot be considered in isolation. Economic resources can be devoted to their regeneration, but these will not be effective if the urban environment is not taken into account. In order to attract people to return to live, work and invest in these areas; as well as to keep the residents and businesses already there from moving away, not only do the buildings need to be brought up to today's standards, such as (modern plumbing, electrics, air conditioning, internet access, etc.). Nevertheless, the streets and neighborhoods must also be clean, safe, efficient, and provide a higher level of community services than is the case at present. The regeneration of the quality of the urban environment is just as or even more important than that of the individual buildings.

The urban environment can be identified by its components. Any plan for the regeneration of the urban environment demands: 1) an analysis of the individual components: their current condition, identification of positive and negative aspects, and 2) proposals for their improvement. Moreover, the physical urban environment consists of the following four primary elements: buildings, streets and cul-de-sacs, the Ferij (neighborhood), and the town as a whole.

The Buildings:

Buildings in an urban environment are normally of two types; 1) buildings of civic or institutional importance, and 2) background or urban fabric buildings.

Buildings of civic or institutional importance include but are not limited to the following: mosques, government buildings, and schools. Background/urban fabric buildings include but are not limited to: small and mid scale residential, small and medium scale mixed-use (commercial on ground floor, residential above), small and medium scale commercial (shops, offices, medical practices, cafes, restaurants, workshops, etc.).

The vast majority of the buildings under consideration in this project are considered background /urban fabric buildings. Alone, these buildings have no particular individual value. However, taken as a whole, their value lies in setting the stage for buildings of civic importance to stand out. They create the street, the urban ensemble, and the Ferij (neighborhood).



The initial findings revealed that the majority of the buildings are in a state of disrepair ranging from medium to dangerous. The state of the utilities and services often does not meet modern standards. Due to this, the buildings often do not generate sufficient rents for the owners in order to maintain, let alone repair the buildings. As a result, Bahraini families have moved out, and replaced by foreign bachelor laborers with serious overcrowding as a result. In addition, many buildings left vacant deliberately by the owners speculating that if the buildings collapse, they will then be allowed to demolish them and build larger buildings as currently allowed by the zoning codes.

Streets and Cul-de-Sacs:

The street is the main element for communication both pedestrian and vehicular. The street unites the individual buildings into a coherent whole irrespective of the length of the street. The street helps to give a sense of identity to its residents and to visitors. Movement along the street experiences the urban environment and its appearance is one of the determining factors as to the success or failure of the buildings along it. A general rule holds true: a badly designed building along a beautiful street will have more success and be more valuable financially than a beautiful building along a badly designed street.

The residential streets and alleys are generally narrow and have no sidewalk. This is traditional in Arab/Islamic cities. However, since the introduction of the automobile, the pedestrian experience has become a negative one due to the competition for space with the automobile.



It was found that the physical design of the main streets is often aesthetically not attractive. In addition, the streets in both Muharraq and Manama are generally not clean due to uncollected or not properly stored garbage. This is partly because the garbage bins are too few in number and are of too limited capacity. Another reason is that there seems to be no collection of disused building materials; these accumulations are in various corners and are not removed.

The most pressing issue is that of parking. There is simply not the amount of parking desired by the residents and businesses. Unregulated parking on sites of demolished building by cars, trucks, and busses devalues the value and appearance of the surrounding buildings and urban spaces. Until this problem is adequately addressed, former residents of Muharraq and Manama are not willing to return to their former neighborhood (ferij).

TheFerij (Neighborhood):

TheFerij is both physical and psychological in nature. Physically it consists of buildings, streets, and urban spaces. It is the shops, apartments/homes, places of work, recreation, education, and association. Psychologically it consists of family, friends, and associates. The psychological aspects often determine the level of well-being of the residents of the neighborhood. The activities that take place along the buildings' edge and within the street help determine the quality of the character and social network. These qualities are often the determining factor in the acceptance of theFerij by residents as a nice place to live, and by businesses as a possible profitable location to invest.

It was found that theFerij is still strong in the core area of Muharraq amongst its residents and they have a great appreciation of their social network within. This is primarily due to ties within families and friends. There is also a strong desire amongst residents in Muharraq to remain within the area despite many of the negative qualities of the present urban environment.



On the other hand, the majority of the current residents of Manama are primarily non-Bahraini. There seems to be no attachment either through family or through network of friends to this area by the non-Bahraini population. Surprisingly, there is a desire by the Bahraini who are former residents of Manama to return to their old neighborhoods. However until the negative urban environmental issues are resolved, along with the social problems associated with a high concentration of bachelor laborers, they are not prepared to return.

As to the physical, urban environment, often no thought has been given to the design and placement of electricity sub-stations, public toilets, bus stops, etc. near important buildings and urban spaces. This leads to non-satisfactory results and hinders future improvement efforts. In addition, little thought has been given to the design of landscaping, hard paving, and street furniture near important buildings and urban spaces. This devalues the value and appearance of the buildings and urban spaces.

Much of the urban fabric within aFerij has gaps due to the collapse of older buildings caused mainly by neglect. These gaps are primarily used as uncontrolled and un-designed car parks which are visually unappealing. Where gaps in aFerij have been filled, these infill buildings are often of a different type and architectural style than their surroundings.

The Town:

The town is composed of neighborhoods (feraj). The quality of the individual **Ferij** and their interrelationship often determines how successful the town is as a whole. It is important to identify not only the physical but also the perceived and psychological boundaries of the towns.

In the past, the various feraj of the traditional core areas harmonize and flow into each other. The perception is of a seamless whole. This strengthens the psychological bond and identity of the residents with the town. However, today, they are often separated from another through streets of non-traditional widths: road widening schemes have disrupted the traditional seamless flow from one Ferij to another.

These road widening schemes are closely related with the current zoning codes that enforceable through Bahrain. These codes determine the buildings' height, density, and usage within the town. They also indicate types of streets and special areas. This type of zoning code has fallen into disfavor over the last few years in many cities since they were originally developed to support 1950's planning theories, which were based on the separation of uses and the attempt to make the city subordinate to the car. Such zoning codes have now come to be seen as too simplistic; they totally ignore the social and human aspects of the neighborhood and community.

Community Services:

In addition to the buildings, the streets, the Ferij, and the town, other issues affect the heritage areas of Manama and Muharraq; these include the quality and availability of community services.



Traditional Market in Muharraq. Source: J. Yawood

The importance of community services was investigated, they play an important role in the acceptance of residents to remain in their communities as well as taking the decision by non-residents to relocate and invest in a particular area. If community services do not meet the expectations of the residents, they will eventually relocate elsewhere and a spiral of decline will result.

- **Parking and Public Transport:** Of all the changes that have most profoundly affected the shape of cities today is the automobile. Since the 1930's, city planners have tried to make the traditional city adapt to the automobile with disastrous results. Today, most urban planners agree that the car must adapt to the city, and that an efficient and clean system of public transport must be provided in within, to, and from the city centers.

Parking has been identified as one of the major problems affecting the core heritage areas. These core areas developed before the invention of the automobile, and attempts to adapt the city to meet the needs of the car have failed, resulting in the partial destruction and disfigurement of the urban fabric. Due to convenience and security perceptions, most residents demand that the car be parked on their own property or outside the door.

For reasons of the extreme heat during the summer months, residents and visitors (including shoppers) are not willing to walk long distances to their homes or shops after parking their cars. This leads to a loss of desirability for certain areas as residential and commercial locations. To make up this deficit, many sites where buildings have been demolished are currently being used as car parks not only for automobiles but also for busses and trucks. This lowers the attractiveness of the street and area, which affects investment.

- **Overcrowding:** Many traditional houses are rented out to foreign bachelor laborers with the result that often occupancy rates are dramatically exceeded. This issue is of primary importance, economically and socially. Bahraini families will simply not return to these areas unless this issue is addressed. . If this problem is not solved, all efforts for economic regeneration will fail. This issue cannot be overstressed.
- **Scrap and abandoned cars:** Currently, if a car does not have a license plate, inspectors from the Municipality will remove the car. If, however, the car still has a license plate, then the traffic department is responsible. However, if the car has a valid registration/inspection for that year, the traffic department has no power to do anything.
- **Utilities:** The availability and quality of public utilities is of vital importance when people are debating to move into a new house, relocate or start a new business, or even stay in a certain area. Not only does quantity play a role, but also the appearance and how the utilities are affecting the surroundings. The quality of public utilities varies within the areas, the most noticeable being the electric and telephone lines, and transformer sub-stations. The majority of traditional houses have had these modern utilities added without thought to the effects on the appearance or structural integrity.
- **Rubbish Collection:** The importance of rubbish collection cannot be underestimated. This is probably the most important visual element that determines if a street and neighborhood is considered successful, pleasant, and a good place to

invest. Businesses wish to attract customers, property owners wish to attract buyers and homeowners wish to increase their property values. Without proper rubbish collection, no area has a chance for future growth. It was found that the issue of rubbish is high on the residents and visitors' list of negative aspects of the historic core areas. Currently a private company has a contract with the government to collect the rubbish. Previously, the Municipality itself collected it. The majority of people believe that the government provided a better level of service.



- **Public Open Space and Landscaping:** Most public parks in both core areas are badly maintained, or closed for repairs, and public beaches near the core areas are non-existent. The Corniches along King Faysal Highway and Al Fateh Highway in Manama have the potential to be attractive public spaces; however, garbage along the water's edge and throughout the park detracts from the enjoyment of these areas.

Current Programs and Projects:

There exist several programs and projects currently being planned, waiting budget approval, or which are actually under construction which may have positive or negative effects on the core areas of Muharraq and Manama. The programs/projects include:

- **Special Project:** Housing Rehabilitation Program created by HUDC and supervised by the Ministry of Works and Housing: This program currently plans to demolish between 5000 and 6000 buildings in Bahrain as a whole over the next 10 years and replace them with a standard house type which varies in size between 120-150 square meters. Slight adjustments are made to the plan and size of the house depending on the lot size and the size of the family. The architectural style of the new buildings is loosely based on traditional buildings.
- **National Planning Development Strategy:** The firm of SOM is developing a strategic development plan for the Kingdom of Bahrain. Its purpose is to identify and plan the future growth of the country in an intelligent manner. This includes the physical growth and development of existing and new cities, the management and growth of business and the economy, the analysis of existing resources and plans for their intelligent use and conservation. (Note: cooperation between SOM and this project is ongoing with the aim of adopting the goals and findings of this project into the master plan for the historic core areas of Manama and Muharraq).

- **Old Muharraq Conservation Project;** Physical Planning Directorate: This study identifies four projects located within the core area of Muharraq. These projects include the redesign of the old souq, (the area of As Suq) , the linkage of the As Suq with the Al Zayed House, as well as the linkage of the Al Zayed House with the Seyadi House thereby creating a cultural heritage experience.
- **Bab Al Bahrain- Souq area;** Ministry of Works and Housing: The project is divided into 3 phases, first phase being the Bab Al Bahrain Street, the second the car park area to the north of the gate, and the third phase being the areas left and right of the Bab Al Bahrain Street.
- **Financial Harbor Project:** a private company on reclaimed land along the Corniche is developing this mixed-use project. The proposal includes offices, luxury apartments, a hotel, yacht harbor, restaurants, and shops. The project is currently under construction. However, there is no realistic proposal planned for a link between this development and the Bab Al Bahrain itself.

Summary:

It is clear to all that the traditional core areas of Manama and Muharraq are in decline for a variety of social and economic reasons. Certain well-intentioned projects that are meant to improve the situation may actually do more harm than good; adding to the problems. Mega-projects could put tremendous strains on the traditional areas in the form of increased traffic and demand for parking. Unless measures are undertaken in the immediate future, it will be difficult to stop, let alone reverse, this downward spiral.



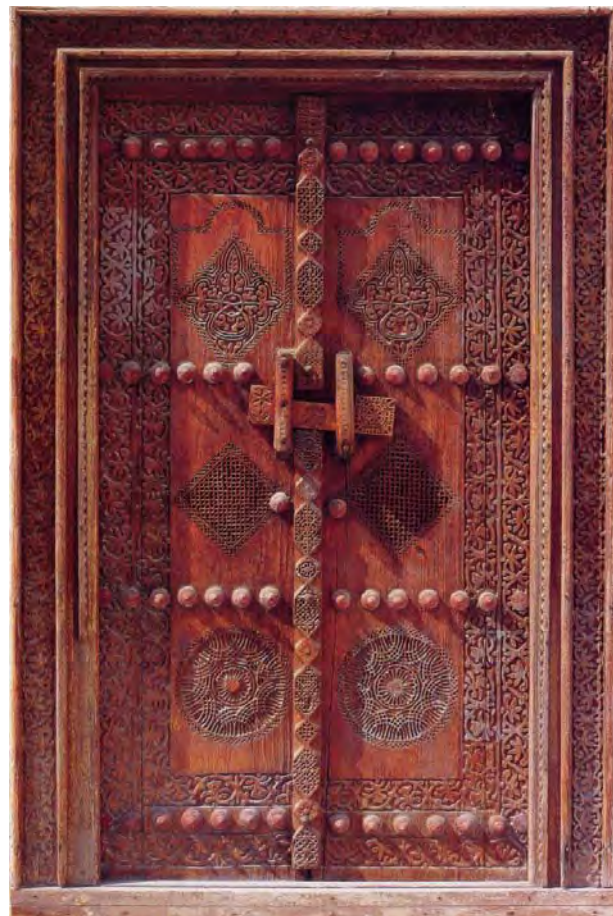
Some traditional buildings lost in Manama forever. (Source: Falcon Cinefoto)

5.2. Conservation Zones

This section defines what is meant by heritage, discusses the specific planning issues involved, and presents proposals and strategies for the establishment of urban conservation zones in Manama and Muharraq. This is the necessary first step in the strategies to stop the decline and start the rejuvenation of these areas.

Background:

The establishment of conservation zones for traditional towns and neighbourhoods responds to an approach to urban planning and development that consider the traditional town and its neighbourhoods not simply as a legacy of the past but as heritage to be preserved for future generations. Up until the 1970's, conservation was mainly concerned with the preservation of some selected "monuments", buildings and "sites" featuring some outstanding architectural, artistic or symbolic characteristics. The historic fabric as well as the urban landscape was simply as a "context", without any specific heritage value. However, in recent decades, a wider and more complex notion of "heritage" has established itself, which includes its "rural and urban setting" as well as embracing historic towns and their natural or man-made environment as "historical documents" and as expressions of "traditional urban cultures".



Magnificent traditional architectural elements

Conservation must therefore take into account all the elements of an “urban heritage”; not only the monuments or exceptional buildings, but also the different forms and types of buildings, public spaces, and the various expressions of "vernacular" architecture. These represent what can be defined as tangible **“urban cultural heritage”**.

This evolution of the concept of "heritage" reflects a growing awareness of the role that historic cities have played in forming local cultural values, traditions and lifestyles. It also holds with the growing importance given to activities linked to urban areas and historic sites as sources of income and job creation and as factors in economic and social development.

At the same time, it is essential to consider the links between cultural policies and sustainable development, under the following aspects:

- The value of cultural heritage as a source of social cohesion, creating consensus about the objectives of a sustainable development;
- The potential for activities related to the protection and development of cultural heritage to act as a driver for economic development: that is, as a means of creating jobs and generating income; in particular through cultural tourism; training and research; the craft industry and trade.
- The challenge posed by the need to balance the requirement for conservation of tangible and intangible cultural heritage with the demands of modernization.

In this view, the traditional city is therefore a living and liveable component entity of the urban environment.



Many areas have high conservation potentiality

Urban Conservation Zones and Conservation Policy:

The establishment of Urban Conservation zones is a very basic. However, fundamental measure not only to ensure the protection of the buildings of traditional construction techniques and materials, but also to preserve the sense of belonging to a place (the historic cities and their neighbourhoods), and hence to the culture, which finds expression in their space and architecture.

It is important to stress however that a Conservation policy should be future oriented, and for this reason has to be based on an accurate knowledge and a deep understanding of the whole heritage asset. As for the urban fabric, this would require the following steps as pre-conditions for an appropriate and consistent implementation:

- An accurate and in-depth knowledge of the traditional development of the city; particularly of the spatial codes, which have regulated the development and the transformation of the urban fabric up to and including the present.
- The recognition of those parts of the present urban fabric, whose spatial, morphological and typological features still reflect the historically established structure of the city, prior to the recent modernisation and urbanisation process;
- The accurate identification of all the individual urban and architectural heritage items to be preserved, to be carried out through a comprehensive survey of all the buildings and open spaces which form the remaining historic urban fabric.
- The classification of these items, according to their cultural heritage interest, typological characteristics and architectural values, taking into consideration their state of conservation and potential for adaptive reuse;
- The establishment of a specific conservation zoning code, to be integrated into the urban planning documents which would take into consideration the different degrees of integrity of the urban fabric and the different levels of heritage interest of the architectural items;
- The establishment of specific building regulations which define the possible types of intervention for each building and open space, according to their heritage interest, typological and architectural components, state of conservation and possible reuse for compatible activities.

In this framework, the identification and establishment of urban conservation zones has only to be seen as an initial but essential step toward the establishment of a conservation plan, whose aim would mainly consist in steering the interventions of the public bodies and the private investors into a virtuous cycle of protection and revitalisation leading to the rehabilitation of the historic asset, through the enforcement of appropriate regulations.

Findings from the initial appraisal:

The negative issues as well as positive elements affecting the core heritage areas of Muharraq and Manama were identified and debated. The debates raised two basic questions:

- What kind of planning and/or conservation and urban design actions are needed, in the short term to stop the undergoing deterioration process, and in the long term to rehabilitate and revitalize the traditional towns?
- How much information and detail is required in order to undertake an appropriate and consistent heritage conservation policy.

The need for some overall protection measures is however largely admitted by all involved, since it is evident that the undergoing deterioration of the urban environment and the decline of the urban liveability in both cities could make useless any effort of rehabilitation, if limited to few selected buildings.

It is clear that the current land use-zoning plan is useless, if not harmful, for the sake of a conservation policy. The zoning plan is very simplistic, and it favours the demolition and reconstruction of large part of the historic fabric, especially in Manama, also in Muharraq. In such a planning framework, no sensitive and foreseeing “special” or “pilot” project could help to stop the overall decay of the urban fabric.



The state of conservation and the priorities:

The state of conservation of the historic urban fabric looks quite different in Manama and Muharraq. In a very schematic way, the following considerations can be put forward which relate to the conditions of:

- The urban fabric
- The architectural heritage

The urban fabric:

In Muharraq and Manama, for different reasons, a widespread deterioration of the urban environment can be noted. In Manama this is mainly due to the lack of maintenance of the open spaces and to the poorer living conditions of the population. In Muharraq a large amount of vacant lands have resulted from house demolitions, these have destroyed in many neighbourhoods the sense of continuity and the coherence of the traditional street pattern

and hence the compactness of the urban fabric, giving place to shapeless and blind spaces often used as informal parking and garbage disposals.

The architectural heritage:

The extent and the characteristics, as well as the overall state of conservation of the architectural heritage also appear very different in the two towns. Muharraq seems to reveal a higher degree of building type diversity and is enriched by a considerable amount of buildings of the highest architectural interest.



Excellent space and renovation with out use

In both cities however, a wide range of historic and traditional building types can be found, which reflect the courtyard house model, with a remarkable variety of spatial solutions, architectural elements, decorative and constructive details. The courtyard house is the premise of the compactness and continuity of the urban fabric. This seems to be a major challenge in the conservation of the urban fabric. For some people; the courtyard house reflects a lifestyle that is no longer compatible with the actual size of the families and the organization of domestic life. The introduction of modern services and air conditioning has modified the sense of some spatial arrangements, but still the courtyard can not be subdivided or ignored without changing radically the meaning itself of the house and its relationship to the urban context.

The negative effects of demolition and new construction of “modern” western building types are more and more evident in these contexts and introduce a radical change in the urban fabric that cannot be mitigated by stylistic or decorative solutions. If the historic urban fabric is to be preserved, a deeper understanding is needed of the spatial and architectural “codes”, which represent the very deep root of such building types in order to define their possible development and the criteria for adaptive and compatible reuse.

Critical issues:

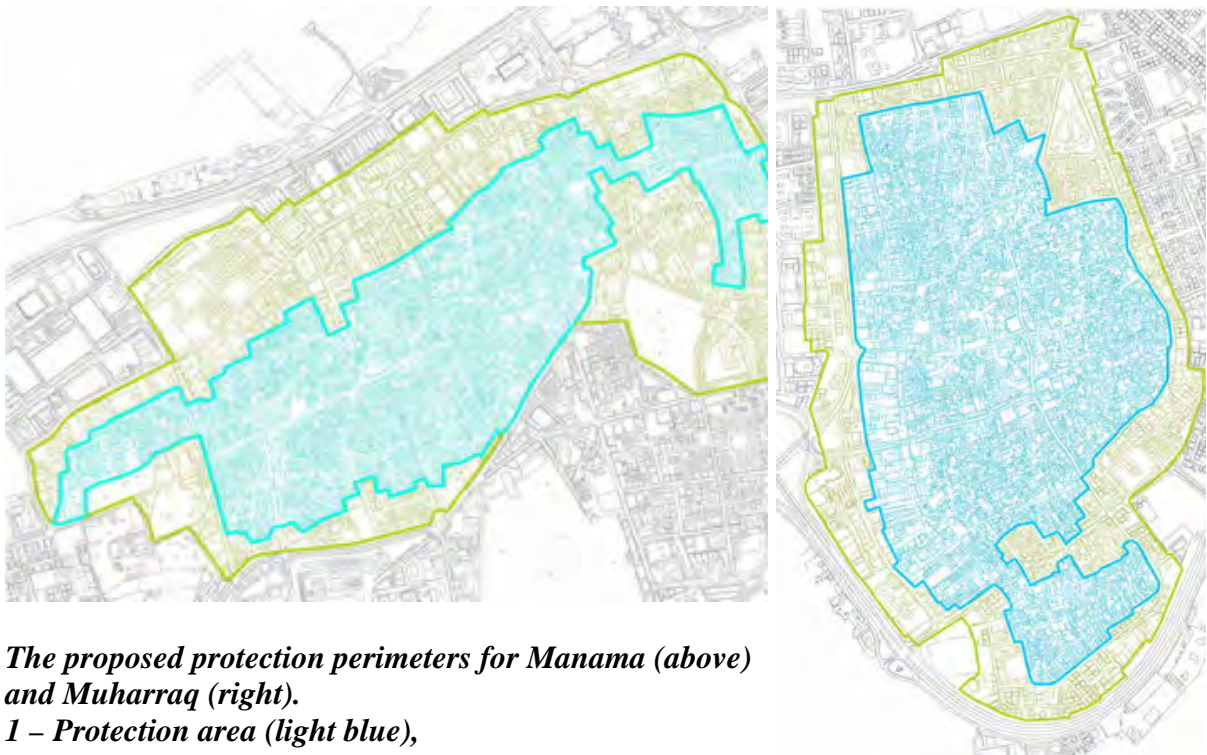
The following critical issues have to be addressed in order to undertake an appropriate conservation policy with the establishment of conservation zones:

- Present planning documents totally neglect the features of the traditional urban fabrics. Zoning regulations allow for the demolition and reconstruction of buildings without any reference to their heritage interest; also, road widening to improve the vehicle circulation has been extremely harmful for the urban fabric.
- The integrity of the urban and architectural heritage is threatened not only by the lack of maintenance but also by various interventions and transformations (including several demolitions) made by the private, as well as by the public sector. These are clearly based on the present land use zoning, but generally show a total lack of concern for the pr
- Preservation of the historic features and characteristics of the urban fabric;
- No record or list with a legal basis of the heritage buildings has been established,
- Certain types of specific information are lacking concerning some crucial topics like land use, building conditions, state of occupancy, and the use of open spaces.
- The existing institutional framework may lead to a lack of coordination and eventually to conflicts. Different ministries (Municipalities, Information and Culture, Housing), besides the Housing and Urban Development Committee, have responsibilities and competences.

Protection perimeters:

The protection perimeters are necessarily larger than the actual traditional areas, which are of heritage interest. These perimeters define the areas where an overall conservation and rehabilitation policy is needed and to be carried out. This will not only preserve the heritage features, but also prevent them from being devalued through inappropriate infrastructure interventions (road widening, etc.) thus reducing their importance as a resource for a sustainable economic development.

These perimeters represent the necessary planning context to undertake a conservation policy, which must be eventually articulated zone by zone with specific building and land use regulations, according to the different degree of heritage interest and cultural value of the urban fabric.



The proposed protection perimeters for Manama (above) and Muharraq (right).

***1 – Protection area (light blue),
2 – Buffer area (light green)***

The maps show the tentative protection perimeters for Manama and Muharraq, traced out based on the available documentation. In particular, the following types of fabrics could be eventually recognised:

- *The historic and “traditional” fabric.* The urban spatial pattern has been preserved and its main components and characteristics are readable (i.e. the traditional street network, the balance between built-up structures and open spaces, etc.), though different degrees of integrity of the architectural heritage could appear;
- *The “transitional” or “mixed” urban fabric.* In these areas, a change in the historic fabric may appear due to the development of the pre-existing open spaces or to localised redevelopment projects. The street pattern and the most relevant components of the historic urban fabric have been preserved, as well as the architectural heritage, to a different extent and degree.
- *New urbanisation.* These areas, inserted within the historic pattern or in some cases surrounding it, show a spatial pattern which results from modern planning regulations and generally do not include any heritage features.

The identification of these types of fabric clearly refers to a possible planning regulation, which will require degrees and measures of protection, to be eventually established. In general, it may be assumed that:

- The historic and “traditional” fabrics should be considered as “conservation areas”, to be preserved as a whole. Specific planning measures should be adopted in order to keep the integrity of the morphology and the spatial pattern, and detailed building

regulations have to be established in order to define the types of interventions admitted for each building;

- The “mixed” or “transitional” fabrics can be considered as “urban regeneration areas”, where planning measures have to be adopted in order to preserve the remaining historic spatial pattern and architectural heritage. At the same time, these measures should address the negative effects of the development and redevelopment interventions including demolitions that occurred in the recent urbanisation process, whilst preventing further changes that could eventually disfigure the remaining historic pattern;
- The new urbanisations have to be considered as “buffer zones” where no interventions are to be admitted that may cause a further decay of the urban fabric and prevent its conservation.

In the sketches, a protection perimeter is proposed, which may include “conservation” and “regeneration” zones, with some limited new urbanisation included in the traditional pattern as well. A “buffer” perimeter is also proposed, which include the ancient seaside, where a new urbanisation exist which may include some building or landscape feature to be preserved as of heritage interest.

Temporary protection measures:

The following general measures should be adopted *within the overall protection perimeters*:

- No new roads or widening should be undertaken in order to facilitate through traffic; the road system should mainly provide access to residents. Only maintenance, repaving and landscaping should be allowed, including the reduction of the width of the lanes and the widening of the sidewalks.
- Rehabilitation and restoration interventions should be carried out using traditional building techniques and materials to be defined;
- No demolition or reconstruction, but only conservation interventions are allowed for the heritage buildings already identified by previous survey and investigations carried out by the Housing Committee;
- No demolitions would be allowed without reconstruction. All interventions of reconstruction and new construction have to respects the basic spatial rules of the historic fabric. The building height should be determined by the average of the buildings of the adjacent blocks (excluding the buildings built according to the present Master Plan), and new buildings have to abut to the plot perimeter and the adjacent houses;
- Only limited redevelopment interventions should be admitted, fixing the maximum surface or the number of plots (no more than 2 or 3), in order to preserve as much as possible, the historic “texture” and the diversity of the fabric.

As for the *buffer perimeters*, the following measures should be adopted:

- No interventions of any type could be admitted whose volume, shape and height could harm the visual channels or the panoramic views on the historic fabric and its

monuments; only landscape or building interventions should be admitted that enhance the visual links between the historic fabric and the seaside;

- No development of the road and parking system should be allowed that makes more difficult the pedestrian accessibility to the historic fabrics and prevent the further establishment of closer links between these and the seaside;
- No demolition or reconstruction, but only conservation interventions are allowed for the heritage buildings already identified by previous survey and investigations carried out by the Housing and Urban Development Committee.

The Inventory and the analyses of the urban fabric:

A survey has to be organised to supply the basic information to establish appropriate conservation measures in the different situations above. This includes:

- The creation of an inventory of buildings and open spaces should be within the protection perimeters. In particular, all the buildings in the “historic fabric” areas should be included regardless of their quality and heritage interest, whilst in the “buffer” areas the inventory can be limited to the heritage buildings and constructions previously identified through accurate site visits and analysis. This includes all the relevant open spaces within the protection perimeter.
- The organising of an exhaustive field survey in the protection perimeters through the preparation of a simple form, to be tested by the consultant whilst training the surveyors. The data would be entered in a specific GIS that would supplement data coming from other sources, so to create a tool for the management of the conservation policy. In parallel, an in-depth and systematic analysis of the recent transformations in the street pattern and the urban fabric should be carried out within the protection perimeters, based on cartographic documents, aerial photographs and field surveys.

Conclusion

The implementation of the conservation policy:

For the reasons outlined above, the specific implementation procedures and tools have to be considered within the framework of a new legislative and institutional set-up. However, it must be stressed to incorporate or at least to integrate the measures and the proposals of the conservation plan in the urban planning land use zoning, codes and regulations, in particular those concerning the conservation zones and the sensitive areas. This would imply a revision of the current planning instruments, as well as the establishment of an appropriate legislative and institutional framework, in order to make the conservation policy implementation efficient and consistent.

5.3. Urban Design/Architectural Guidelines, Rules and Codes:

The proposed protection boundaries and the conservation plan identify the actual areas within which specific proposals for improvement will be applied. Based upon the results of the analysis of the urban environment, a series of specific proposals has been developed to address the issues and problems facing these areas. These proposals for improvement take the form of Urban Design and Architectural Guidelines, Rules and Codes.

Urban Design Guidelines, Rules and Codes: A variety of tools are available to help plan and improve the urban environment. These range from guidelines (a set of official design principles which direct the architect/planner, yet allow freedom for creativity), to rules (a set of prescribed guidelines that must be followed without deviation), and to codes (rules that are reinforced by laws and regulations) for whole towns and districts down to individual streets and buildings.

Many cities and towns are now adopting urban design codes to augment or even replace zoning codes. Urban design Codes are usually presented in simple graphic form, easily understandable to owners, developers, and architects alike. They show how a building is to be placed on its property, the set backs, parking, as well as the design of public open space, public utility buildings (sub-stations, etc.) garbage collection points, parking, and the street itself. The main difference between urban design codes and zoning codes is that the urban design codes are developed to create an integrated whole out of individual parts which harmonize with each other. Zoning codes tend to identify the various components and treat them as separate, individual elements which often lead to disharmony.



Architectural Guidelines, Rules, and Codes: To augment Urban Design Codes, often Architectural Guidelines, Rules and Codes are prepared. Architectural Rules and Codes affect what most people see: the facades of the buildings. They can include such items as location of doors and window types and sizes, ornament, signage, perimeter walls, ratio of openings to solid walls, etc. They can also include materials and colors. These codes can be loose or very restrictive in nature depending upon the situation.

The following guidelines, rules and codes were developed for the following problems/issues. Each includes background information explaining the nature of the problem followed by implementation procedures for its successful resolution. Photos support these and sketches, where necessary, for clarification (see Appendix 1, Manual of Urban Design/Architectural Codes, and Restoration for complete details). The following are a simple of the issues covered

- Garbage Collection Points
- Parking distances to front doors
- Fire and ambulance access
- Infill sites and vacant properties
- Property consolidation
- The utilization of the Fina
- Shading and cooling of streets
- Alignment of building edges
- Heights of buildings
- Roof terraces and badgirs
- Location of exterior windows
- Utilities on/within buildings
- Building elevations

The adoption and use of these guidelines, rules and codes will help lead to the physical and visual regeneration of the urban environment including the existing as well as new buildings in a controlled, dignified manner. This will increase the visual attractiveness of the areas for residents and businesses; and will ensure the continuity of the character and sense of place of the heritage areas as a whole.



Ecological and Sustainable Development:

The concept of regenerating the core areas of Muharraq and Manama on an ecological and sustainable basis runs through not only each and every aspect of the Urban Design and Architectural Guidelines, Rules and Codes, but through all the other areas of expertise covered by this project. Although not always specifically stated, these issues are at the heart of the proposals. Such issues include, amongst others, transportation, intelligent land use, public open space and sustainable materials and recycling.

- **Transportation:** Transportation is one of the key problems facing the traditional city. The concept of making the city adapt to the car has reached its limits and has already destroyed much of the urban fabric. The strategies and policies developed in this project place the emphasis of the pedestrian over the car; including the development of alternative transportation linkages to the core areas (park and ride systems), the improvement of the level of bus services (resulting in less reliance on individual cars), the locating of parking areas away from the inner core areas thereby reducing the number of cars in the center (noise, air pollution, etc.), and the locating of schools throughout the core areas (enabling children to walk to school thereby eliminating unnecessary car trips).



Codina and Regulation policy needs to control new building

- **Intelligent Use of Available Land:** The use of the proposed urban conservation codes will aid in the intelligent use of a scarce resource in Bahrain: **land**. These urban codes identify appropriate usages within the core areas (i.e. no heavy industrial or manufacturing), and encourage building on vacant sites thereby increasing the current density within the urban core. By maximizing the usage of existing infrastructure (roads, utilities, etc.) and minimizes the waste of valuable inner city land. This would decrease the pressure to expand the suburbs and with it the associated wastage of valuable land to low density development. Low density development leads to the dependence on the automobile, thus increasing the problems associated with 1) traffic (more roads creates more traffic which generates more noise, congestion and pollution), and 2) infrastructure costs (less density requires longer sewers, utility cables and pipes serving fewer households which means more cost per unit).
- **Public Open Space:** The urban codes include design guidelines for the creation of new, small public open spaces as part of the street network. This will improve the attractiveness of the area and increase the quality of life for the residents (light and air). They also cover the improvement of the public beaches and the pedestrian links from the core areas to them, thereby reducing the number of automobile trips and the associated air and noise pollution. The proposals also encourage the use of native plants and desert-scape design to reduce water consumption, a critical resource that will play a much more important role in the development of Bahrain as the country's population grows.
- **Sustainable Materials and Recycling:** The local tradition of reusing traditional building materials was until recently an economic necessity, people simply could not afford not to. With the rapid economic growth and expansion, this tradition has almost ceased, often-traditional buildings were repaired using modern materials such as concrete and steel. The proposals for the repair of traditional buildings developed in this project specifically encourage the salvaging of building materials from traditional houses that are to be demolished, and the use of these recycled traditional

materials in the construction of new or in the repair of existing traditional buildings. These proposals will eliminate the waste of scarce, traditional resources such as coral stone and timber.



Traditional Building in Muharaq has been neglected and demolished later

Conclusions:

The initial aim of the project was the economic regeneration of the traditional buildings of Muharraq and Manama. It is now clear that this regeneration can only succeed if the whole context is taken into account: the buildings, the street, the streets, the neighborhood (Feraj), and the town as a whole.

In order to regenerate the traditional core areas, however, all the aspects of the urban environment must be addressed; from utilities, to parking, to garbage. This will involve not only the efficient carrying out of public services, but also the repair of the urban fabric itself. This is the reason why the development of urban design guidelines and codes is necessary. In order to ensure continuity of appearance within the areas, architectural guidelines are necessary to control the design of new buildings, leading to the old and the new forming a harmonious whole.

The physical restoration/conservation of the traditional buildings is the other aspect of this project. These buildings must be made structurally sound and equipped with all the conveniences of modern life (kitchen, bathrooms, air conditioning, etc.). Thus, in order to ensure the physical quality of these buildings, architectural guidelines and codes regarding restoration work have also been developed (see next section) and are to be applied to avoid the mistakes of the past and to guide new and future development.

These guidelines and rules, when taken together, form a code which will act to ensure that the traditional areas as well as the buildings will be revitalized and regenerated with the quality they deserve.

5.4. Restoration:

Presented here are the principles and strategies for restoration/conservation work which have been developed through the results of site visits and preliminary survey results. These are then presented in detail, followed by proposals for pilot projects which demonstrate how these principles and strategies can be implemented.

Introduction:

In order to preserve individual buildings as well as the built fabric within the traditional zones in the cities of Manama and Muharraq, three sets of principles and strategies have been developed. The first identifies different types of interventions that are permitted to be carried out to different types of architecturally significant, traditional buildings. The second set offers a series of generic technical solutions that should be followed in correcting common problems found in traditional buildings. The third set of principles deals with conservation issues at the level of the city and neighborhood as a whole, including non-physical aspects such as the concept of the Ferij and public festivities.



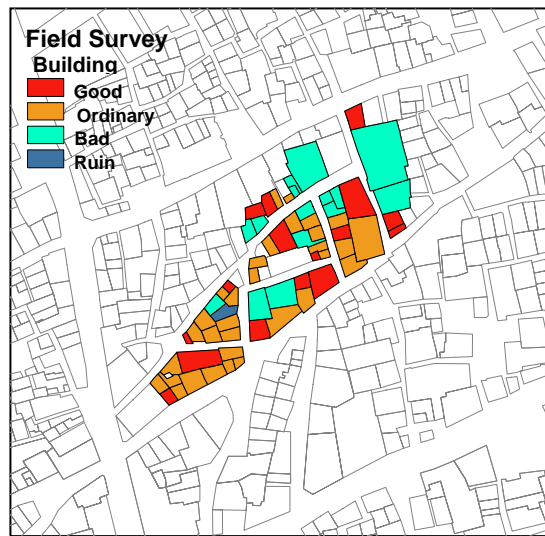
Minaret of the Mosque of Al-Fadil; before and after intervention.
(Bad Intervention: No attempt to indicate historic layering)



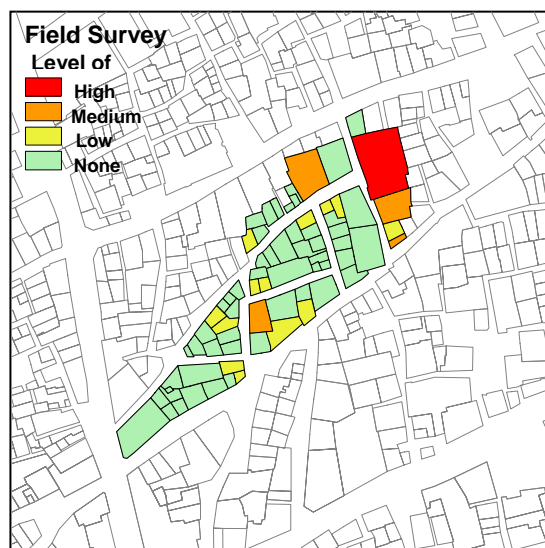
House of Mohammed bin Faris before and after intervention.
(Controversial Approach: No trace of original state)

The Survey and Type of Permitted intervention:

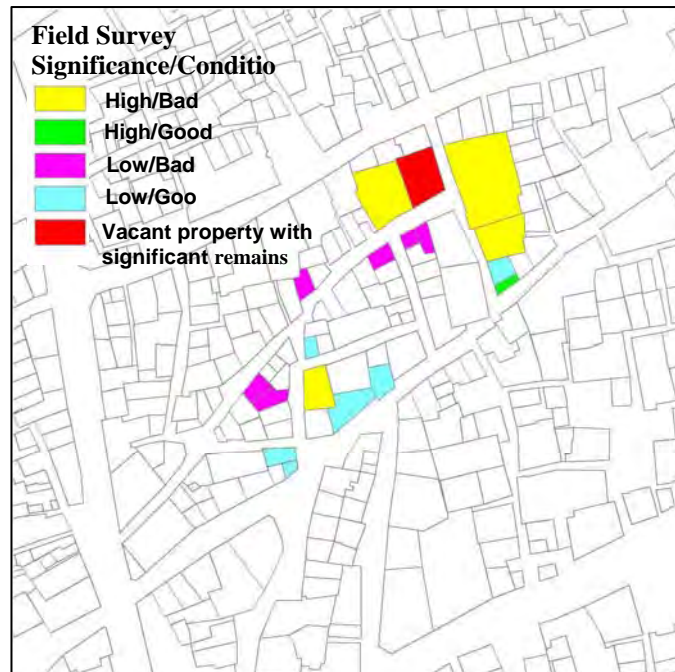
In order to demonstrate how this strategy could be applied, an area in Manama is selected as an example. This area, which was selected without any preset criteria, was surveyed following to the survey sheet that was specifically designed for this project. More details on how the survey sheet was designed, checked and applied are available in the report on the Zoning, and the one of Information Technology. According to the surveying procedures, the information collected are entered in a GIS system that was designed by the IT consultant. The maps below are the selected results of the survey that would benefit to identify the conservation level permitted for each significant building in the surveyed area. The maps used in this case are the ones that show the conditions of the buildings and the level of significance identified for each.



Following the procedures explained above, the buildings which were identified as being “good” and “ordinary” (red & orange) fall in the “good condition” category here. “Bad” and “ruined” (green & blue) buildings fall in the category of “bad condition” category.



This map points to the significant buildings identified by red, orange and yellow. The ones that are indicated by red and orange are considered “highly significant buildings”, and those in yellow color are considered “low significance.”



The map above indicates the high significant buildings which are either in good or bad conditions, and the low significant buildings which are either in good or bad conditions. There is only one vacant lot within this survey area where significant historic remains were found. This survey area contains all five possible scenarios that were explained in the above tables, and which are represented in the map below.

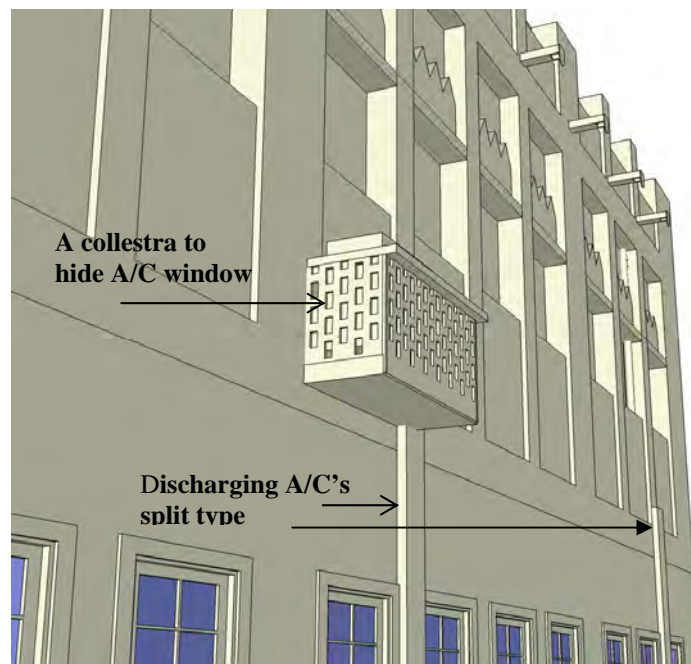
Principles/Strategies: types of permitted interventions:

The first set of principles indicates the different types of interventions permitted to various categories of architecturally significant traditional buildings. An initial survey was conducted and buildings were identified as either being of possible architectural significance or not. The surveyors as to their specific qualities such as then investigated those buildings initially classified as possibly significant in detail: historic architectural elements, the courtyard and its current condition, the use of the upper floor, recent transformations, and an assessment of the compatibility of the current use with the traditional fabric of the area. More importantly, this detailed investigation indicated the level of significance assigned for each building, i.e. high, medium and low. This parameter describes how important the building is from various viewpoints. These include urban status, architectural quality, physical condition, the impact the user of the building has on its surrounding neighborhood, etc.

This set of principles/strategies describes the type of intervention required to target different cases depending upon the buildings' architectural significance and their current physical condition. A set of Principles/Strategies were developed that target the following situations:

- Conservation of highly significant buildings in good condition
- Conservation of highly significant buildings in bad condition
- Rehabilitation of highly significant buildings in good condition
- Rehabilitation of highly significant buildings in bad condition
- Rehabilitation of low significant buildings in good condition
- Rehabilitation of low significant buildings in bad condition

(Each of these principles/strategies is presented in detail within the restoration report in the appendix.)



It should be noted that “conservation” is not an option for buildings with low significance. One of the goals of this project is to promote the rehabilitation of the traditional buildings and to strengthen the possibility of their re-use in order to stress the notion of a “living” city; emphasizing the role each of these buildings could play in the development of the local community. It is for this reason that only a very small percentage of the buildings shall be considered conservation projects since conservation tends to inhibit most of the possible new uses and creates a type of “museum building.”

As for vacant properties, the survey was designed to identify those which contain any significant urban fabric, i.e. remains of a historic city wall, remains of a doorway integrated into a newly built property wall, etc. Two levels of preservation intervention are permitted in these cases. The first: a total or partial reconstruction of the significant building in the case where it is required for an infill building to be built. The second, the conservation of the existing historic remains in the landscape design of the open space as specified by the urban design guidelines.

Principles/Strategies for specific technical issues:

This second set of principles/strategies targets the types of repairs, rehabilitation works, and modifications that tenants and owners of significant traditional buildings periodically undertake. These principles/strategies address the current building practices by explaining the incorrect methods, highlighting damage that often results by their use, and propose alternatives to achieve a correct result but with more sensibility towards the traditional fabric. These include:

- Excessive and improper use of cement over and with historic building materials
- Use of reinforced concrete elements (columns and/or beams replacing traditional construction materials).
- Generic specifications for connecting modern utilities to significant buildings
- Fixing air-condition units (window type or split type)
- Disregarding and disrupting the existing structural system
- Ignoring historic layers in the process of rehabilitation and repairs
- Termite prevention
- Roof slopes/rain water drainage
- Design of *mizrab*: traditional water gutters
- Rising damp in walls, and prevention of street asphalt abutting historic façades
- Mixing of traditional mortars for different uses (wall construction, plastering, roof screed)
- Maintenance of wooden elements
- Maintenance of exterior plaster
- Alternative uses for wall *badgirs* in air-conditioned rooms
- Traditional door and window accessories to minimize harm to wooden leafs
- Conservation of carved gypsum panels
- Stitching gypsum decorative elements on wooden lintels in arched openings
- Corner stitching in upper *Majlis* rooms
- Restoring removed or decayed traditional balconies

Each of these principles/strategies is presented in detail in the individual report contained in the appendix. Background information explaining the problem is given along with recommended implementation methods for repairs and prevention, as well as reference notes where applicable and photographs.

Principles/Strategies for preservation of themes:

This third set of principles and strategies target issues and/or buildings/structures which possess some specific value: i.e. historic, architectural, religious, social or other. The values of these principles/strategies are neither related to the building survey (thus not examined in the first category of principles/strategies), nor are they common enough to all public open spaces to have them included in the second set. They are specific values whose preservation and/or presentation would help to establish the link between the two cities and their past.

These Policies/Strategies concern:

- The visual identification of the *Ferij*
- Post 1930's architecture
- Selected archaeological remains
- Relationship between the traditional city and the sea

- Relationship between the traditional city and the desert
- Traditional and/or religious processions and festivities
- The revitalization of the traditional weekly Markets (*Suq*)
- Conservation and maintenance of important trees

(These are also presented with background information explaining the theme and recommend steps for their implementation in the restoration report in the appendix.)

Pilot Projects:

Pilot projects are proposed that would provide examples of the desired results of each of the principles/strategies. The pilot projects include the following:

- To conserve/rehabilitate an example of each of the building categories described previously (conservation of highly significant buildings in good condition/bad condition, rehabilitation of highly significant buildings in good condition/bad condition, rehabilitation of low significant buildings in good condition/bad condition, etc.) Different building types, not just residential buildings are to be included. It is recommended to select most, if not all, of these projects in one particular area. In such case, the impact will be more noticeable and visible, and these pilot projects will demonstrate how preservation should be carried out in Manama and Muharraq.
- To carry out repair works in accordance with the developed principles/strategies in the Shaykh Salman House in Muharraq. This building could serve as a location where the correct methods and materials could be presented and taught to local builders.
- To select one or two of the thematic issues and carry them out. It is recommended to start with *Awal* movie theater as a representation of the post 1930's architecture, and with the *Ferij* identification through the *Ferij* gate in the city of Manama.

Site Visits:

Site visits were conducted which helped in shaping, checking, and elaborating the list of the technical terminologies, as well as forming the basis for the second set of strategies/principles dealing with incorrect technical methods and materials. In each of the site visit reports, one or two aspects are highlighted that are relevant. (See restoration report in the appendix).

Terminologies:

A list of local terms that describe specific architectural elements and construction systems has been provided. This list was included in the survey sheet in order for the surveyors to be able to identify such elements, and thus to recognize the traditional buildings within the historic areas of Manama and Muharraq. (Please see restoration report in the appendix for the detailed terminology list).

Recommendations:

Several additional recommendations were made which are deemed required for the success of this project and which would be of long-term benefit.

- **Field Survey:** the preliminary assessment of the conditions and the state of the traditional areas proved that the designation and classification of the sites and buildings are neither comprehensive nor complete. A revision is needed based on a comprehensive and exhaustive survey of the built urban fabric of the two cities. It is for this reason that the full field survey be conducted and completed in order to properly identify the types of heritage that exists.
- **Recommended experts:** there are researchers and experts who have studied either the urban fabric or local traditional building construction techniques. It is recommended to consider including those researchers and experts in the project at some level so that their expertise could be benefited from.
- **Project archive:** it is recommended to appoint a full time Bahraini scholar/architect/archivist to gather materials (drawings, maps, photographs, books, etc.) that could be of relevance and to add them to the database.
- **Variety of preservation interventions:** the preservation of certain historic buildings in Manama and Muharraq are based on nostalgic notions and interests. These efforts are undertaken by selected members of society and address specific needs and agendas. It shall be stressed that nostalgia could be an incentive, but not a basis for a comprehensive preservation of the heritage of the two cities, as it risks reinterpreting the historic fabric from a very narrow perspective. Notions such as reversibility, minimum intervention, distinction between the traditional fabric and modern additions shall be adopted, each in different weight depending on the case. It is important to present to the Bahrainis other methods and examples beside the ones that already exist in order to offer a variety of models, examples and techniques on how to preserve the existing traditional fabric. It shall be stressed that there will not be more traditional fabric than what exists today. The more demolition and/or dismantling, even if those are undertaken under a certain preservation scheme, the less traditional fabric, and, thus, heritage remains.

Conclusions:

Much harm has been done to the traditional buildings in Muharraq and Manama. The lack of trained crafts-men and builders familiar with traditional construction methods and materials has often lead to unsuitable materials and methods being used for repairs and renovations, leading to further damage being incurred. The traditional methods were economical, and the materials natural. Combined, they formed the basis for a sustainable architecture that responded to its climate and available resources.

Restoration and conservation, however, are not just about individual buildings, but also involve the urban fabric and environment as a whole, along with such intangible concepts such as memory. Thus, not only the policies and strategies for the conservation and restoration of the buildings' physical condition should be adopted, but also those identified which place the buildings into their current and historic context.

5.5. Information Technology:

In this section, the preliminary research work undertaken is identified and discussed, including the strategies of creating the database, its design, and the establishment of a National Heritage Documentation Center. The issue of the compatibility of the existing government GIS system is addressed, as well as the field survey. Additional information that exists as well as still needed is highlighted, along with technical equipment that could be of valuable use.

Introduction:

The Kingdom of Bahrain has an urgent need for documenting various aspects of its heritage, including its traditional architecture is part of the planned urban conservation zones. Bahrain must also consider documenting other types of zones (not considered in this study), such as the agricultural and natural areas, which will also be affected by development.

A preliminary database has been implemented as part of this project to serve as a first model for documenting Bahrain's heritage. This database, like any other software system, needs to be continuously tested and refined as it is being used and maintained. Such a system must be crafted to suit the needs of the tasks that it will be serving. For example, it is foreseen that this system will be initially useful in city planning tasks. It will also be a good resource for investment and tourism uses, as well as for research purposes.

Thus, a regular forms-based database entry and retrieval system has been developed, permitting the storage of different types of information about historical artifacts. In many cases, the data entered will not be tied to a specific geographic location. However, a database or information system for the documentation and management of urban conservation zones is most useful when linked to geographic information. This permits the use of the database for planning and zoning as well as for producing different kinds of maps. In this light, and because the MoMAA already possesses a functional GIS, it is deemed useful to link the database to the GIS and use it for storing and exploring information about the urban conservation zones of Bahrain. This will facilitate the use of the database in an array of applications including urban planning and Internet applications for facilitating public access to information (see the consultant's full report contained in the appendix for a detailed description of the Information Systems Department's GIS system).

Components of the database:

The database is composed of several related tables. These include the GIS maps of buildings, properties, utilities, etc. The maps and the other tables are linked via a main table called BUILDINGS. The other tables include the PHOTOS, DOCUMENTS, and BOOKS tables. The following is a short description of these tables. Certain technical details are omitted for brevity.

Fields of the BUILDINGS table include: building identification number, address, owner's names, the date of last inspection, structural condition, architectural evaluation, links to photos and drawings of the building, and links to Documents.

Fields of the PHOTOS table include: building ID (if applicable), photo ID, date taken, time taken, photographer's name, description, format (JPG, TIFF, etc.), link to image file.

Fields of the DOCUMENTS table include: document name, author, description, format (Word, DWG, PDF, etc.), link to document file, building ID (if applicable).

Fields of the BOOKS table include: book ID, title, copyright year, ISBN number, publisher name, place of publication, edition number, pages, notes.

Field Survey:

Several meetings were held which were geared toward identifying geographic and demographic data sources. These included the GIS engineers at MoMAA who provided valuable information about the municipal GIS system, its components and uses. They also provided several map layers that were useful for conservation planning and for the preparation of the field survey.

A preliminary survey sheet was developed together with the restoration and conservation zones consultants. An area near to the MoMAA in Manama was selected as a trial. Based upon the initial results of the survey, the survey sheet was modified and adapted to be more responsive.

This modified form was then discussed in detail with the MoMAA GIS engineers. The survey maps were compared and discrepancies were discovered between theory and practice. The maps and database of the GIS system found, for example, that a particular building was four storeys in height while in reality the field survey showed that it was only two storeys. The field survey at a different location discovered two buildings while the GIS showed only one building on the property. Furthermore, the GIS categories of building type and use were discovered to be too general for the purposes of conservation planning (see the consultant's full report contained in the appendix for a detailed description of the different kinds of information that are still required).

However, important information such as correct street addresses, names of owners, etc. were added to the survey sheets; thus ensuring that the data collected could be easily entered into MoMAA's GIS system itself.

A training exercise with approx. 20 surveyors was held over a three day period. This involved the introduction of the project and its goals to the surveyors, and a brief review of certain architectural elements that they would encounter. The survey form was reviewed and the surveyors instructed in its use. Over the following days actual site surveys were conducted and the data assembled for inputting into the database.

It was discovered that the average length of time for a survey sheet to be prepared was only 15-20 minutes. This average included allowances for entering a building itself. This time frame corresponded with the experiences of the consultants on other projects and is deemed to be a good basis for the conducting of a full citywide survey.

Pilot Projects: Equipment Required for Architectural Documentation:

Based on the initial survey results and analysis of the methods used in collection of data, the following tools should be considered if a detailed pilot project is to be conducted:

- Total Station: A station may be purchased or hired for a few days with an operator who is given a specific surveying task.
- Photogrammetry: This can be helpful in drawing architectural facades and interiors from photographs.
- Professional digital camera with different lenses: an expensive item, but is useful in long-term documentation projects.
- A GPS for position finding may be useful. However, due to the relatively small size of the study area, a surveying team may be able to find its way and location using maps only.

Strategies Recommended for Consideration:

Two strategies for the employment of Information Technology in the conservation of the old towns and the architectural heritage of Bahrain are proposed:

- The establishment of a national heritage documentation center
- The development of a decision support system (DSS) for urban conservation planning

National Heritage Documentation Center:

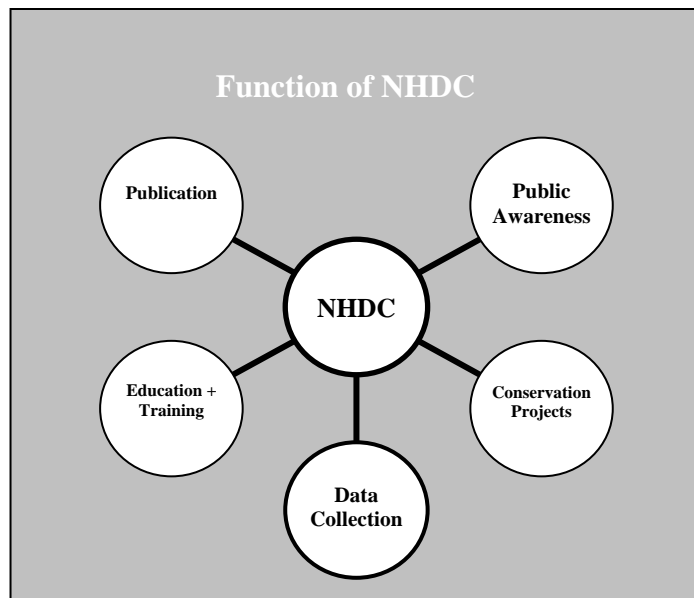
A special government unit must undertake the continuing documentation of Bahrain's architectural heritage. The center may be managed by the Ministry of Information, or by the management framework proposed elsewhere in this project. The reason why such a center is needed is that although some significant buildings have been documented, the vast majority have not been. In order to accomplish this, a specialized documentation center is needed that continues recording the significant architectural heritage of Bahrain within the old towns and elsewhere.

The documentation center has two main objectives:

- 1) Collect data about buildings of architectural and cultural significance, and
- 2) actively promote the use of these architectural records in various applications: publications (print, digital media, and the Web), raising public awareness about national heritage, supporting urban conservation projects as well as preservation projects targeting significant buildings, supporting architectural education and research, and aiding the training of architects and preservation specialists.

The center is to be organized in two main sections:

- 1) Management and services, and
- 2) Studies and research.



The database system to be employed must be designed in due course, but would follow the basic preliminary database developed for this project (see **Components of the Database** above). The center is to be suitably equipped and staffed. In addition, the center should actively acquire data that has already been collected from other sources including maps, bibliographies, current projects, previous public reports and studies, historical data from government sources, etc.

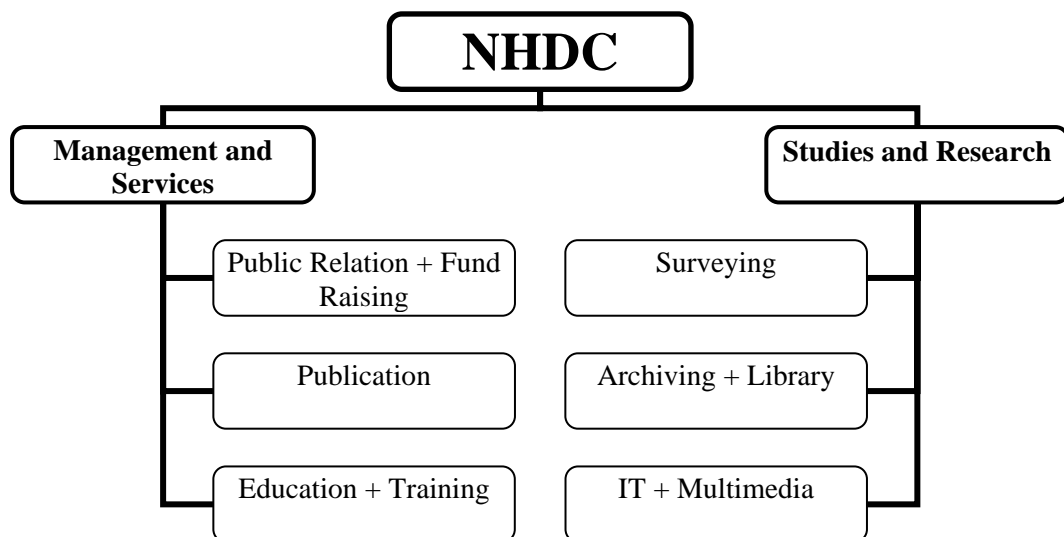
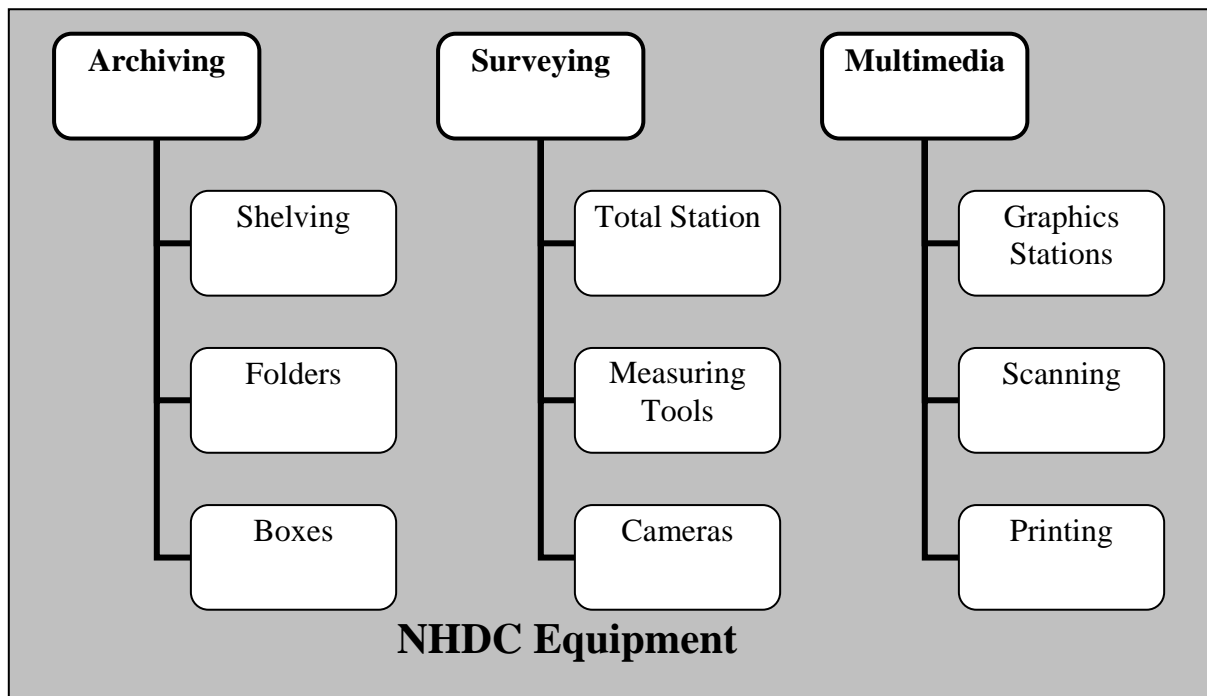


Diagram to Introduce **National Heritage Documentation Center**

A National Heritage Documentation Center would bring together in one centralized place the various types of information that is currently dispersed throughout the public and private sector, and thus support the various initiatives involving the restoration, conservation, and regeneration.

Decision Support System: The government of Bahrain needs a database specifically designed to support decisions concerning conservation. The general-purpose GIS system developed by the government is mainly designed and used for fiscal purposes such as tax and fee collection. This system is useful as a starting point for mapping the urban fabric, but it cannot be relied on for conservation planning due to the lack of some crucial data related to the character and condition of the built environment.

This DSS database is to be linked to the government GIS and use it for storing and exploring information about the urban conservation zones of Bahrain. This will facilitate the use of the database in an array of applications, such as urban planning, zoning, investment and tourism planning, architectural studies and research, and Web publication for facilitating public access to information. This system would also be linked to the National Heritage Documentation Center, providing updated information on significant buildings.



Proposed Database Framework for Heritage Documentation

This system in detail can be used for: supporting planning specialists in the creation of urban conservation zones, document existing structures and their condition in order to assist in decisions concerning their preservation or re-use, to help in the issuance of building permits, and to monitor any unsupervised changes in the historic built fabric.



Traditional Buildings are under threats of neglecting and losing its Sense of Place

The preliminary database developed during this project serves as a basis model for the DSS. It can be built upon and expanded as needed. The database already is linked to the existing GIS, and the survey forms are designed to be compatible for both databases.

Conclusion: The groundwork for the DSS database has been done and should be expanded during the next phase of the project. The creation of a National Heritage Documentation Center is to be seriously recommended. Examples of such centers are found throughout the world and are an effective and respected institution concerned with matters relating to heritage conservation.

5.6. Economic:

The section begins by identifying the perceptions concerning conservation of historical buildings and areas and the latent associated economic opportunities. The problems of city center decline are discussed as well as the ways and methods of breaking and reversing the downward spiral. These methods are presented as strategies that the government, and most importantly, the private sector can use to achieve the economic regeneration of the historic core areas of Manama and Muharraq.

Introduction:

Heritage resources have multiple values: cultural, aesthetic, environmental, educational, social, and others. It is increasingly being learned around the world that heritage resources also can have an important economic value. However, there is a widespread lack of understanding among many of the decision makers, not just in Bahrain but in other countries as well, about the economic potential that heritage resources contain.

Role of the private sectors/need for private capital:

Strategies need to be developed to attract private sector investment capital into historic buildings and areas. Attracting private capital generally requires strategies on multiple levels: a regulatory environment that is clear, consistent and predictable; information about the public goals for the targeted investment area; delivery of public services in an efficient and effective manner; and, particularly in the early stages, a package of financial tools and incentives.

Importance of an integrated, interdisciplinary approach:

Economic change does not come about through economic forces alone. In basic real estate economics (heritage buildings are real estate) there are identified the *Four Forces of Value*. These are: social, economic, political, and physical.

It is important to recognize that the proposals presented here are but part of a larger set of strategies developed by experts in other fields. The expertise and conclusions of the other consultants were essential in creating economic strategies, and the recommendations of the other consultants will have a direct impact on the likelihood of sustained economic success.

Conservation as Economic Development:

In many parts of the world, "heritage conservation" and "economic development" are still deemed to be mutually exclusive: "Either we have economic development *or* we save those old buildings." Fortunately, more and more places worldwide are recognizing that the phrase "economic development *or* heritage conservation" should be replaced with "economic development *through* heritage conservation."

Beginning with the short term are the five major, measurable economic impacts of heritage conservation: 1) jobs creation and household income; 2) center city revitalization; 3) heritage tourism; 4) property values; and 5) small business incubation.

Job Creation: Usually the top priorities for government-led economic development efforts are creating jobs and increasing local household income. In Norway, they've found that historic rehabilitation creates 16.5% more jobs than new construction. They've also calculated that every direct job in the cultural heritage sector creates about 26.7 indirect jobs, compared to the auto industry where the factor is only 6.3 to 1.

These are generally good, relatively well paying jobs, and worldwide there is a scarcity of the required skills, meaning more opportunities in the future. The Aga Khan Trust for Culture has noted that the preservation projects they are funding in the Islamic world are reviving traditional skills, generating new jobs, and providing on-the-job training. Hopefully the training of workers through the Craftsman Center in al-Jassra will prepare more workers in the specialized skills required for the conservation of Bahraini heritage and traditional buildings.

Center City Revitalization:

The departure by families and businesses from the center city triggers a cycle of decline that is manifested in reduced levels of maintenance, decreased levels of public services, disinvestment, and abandonment. However, this cycle of disinvestment and the loss of heritage resources need not be permanent, is not inevitable, and, indeed, has been reversed in cities in every part of the world.

The ongoing efforts in the old medina in Tunis show remarkable results. The middle class is returning, both as residents and as business and property owners. The rates of return on private investment have been high and the leverage of public funds to private funds has been around 3 to 1.

In America, it would be difficult to identify a single example of a sustained success story in center city revitalization where historic preservation wasn't a key component of that strategy. Conversely, the examples of very expensive failures in downtown revitalization have nearly all had the destruction of historic buildings as a major element.

Public resources available for center city revitalization are always scarce. Using the redevelopment of heritage buildings as a key component of the strategy consistently leverages those limited funds and serves as a catalyst for other sources of investment. In the United Kingdom, they found that every £10,000 of heritage funding generated an additional £45,000 of matching private investment and together this acts as a catalyst for creating or sustaining jobs. Center city revitalization is a critical element in a comprehensive economic development strategy, and successful, sustained center city revitalization needs to include the reuse and reinvestment in the heritage resources located there.

Heritage Tourism: While tourism will be one of the fastest growing segments of the world's economy in the 21st century, not every city can or should look to tourism as a major portion of its economic base. There are cultural, economic, logistical, and sometimes even religious reasons why tourism isn't appropriate for every community. Further, it would be a mistake to only connect historic buildings with tourism — there are many more ways that historic buildings can be used as a local resource. In the US, for example, 95% of all of the historic resources in productive use have nothing whatsoever to do with tourism.



Good Examples of Preservation of Traditional Buildings by Private Sector



At the same time, when tourism is identified locally as a component of an overall economic development strategy, the identification, protection, and enhancement of the city's historic resources will be vital for any successful and sustainable tourism effort.

Worldwide, heritage visitors stay longer, spend more per day, and have a significantly greater economic impact per trip.

An even more important conclusion emerges: when heritage tourism is done right, the biggest beneficiaries are not the visitors but the local residents who experience a renewed appreciation for and pride in their local community and its history.

Impact on property values: Internationally, nearly every sustained and successful strategy for maintaining the historic fabric of a city has required the establishment of a protection zone for those resources. However, there is nearly always a concern among property owners and investors when such regulations are proposed, that this additional layer of regulation will diminish the value of their property. Fortunately, that has not proven to be the case.

In England, they've found that a pre-1919 house is worth on average 20% more than an equivalent house from a more recent era. On the commercial side, the Royal Institute of Chartered Surveyors has tracked the rates of return for heritage office buildings for the past 21 years and has found listed buildings have consistently outperformed the comparable unlisted buildings. Far from being a damper on property values, the long term impact of the regulations on historic districts enhances values, because individual owners understand that the value of their property will be protected because other property owners will not be allowed to diminish the overall character of the area through demolition, inappropriate rehabilitation, or intrusive and insensitively designed new construction.

Small Business Incubation:

A frequently underappreciated attribute of heritage buildings is their role as natural incubators of small businesses. In America, 85% of all net new jobs are created by firms employing less than 20 people. In the later developing world, that percentage often rises to 99%. Bahrain has specifically targeted small and medium sized enterprises (SMEs) as critical to the Kingdom's economic future. Special programs have been created for SMEs at the Economic Development Board and through the Bahrain Development Bank.

What is not always clearly understood is that heritage buildings are a superb place to house those businesses. It is no accident that the creative, imaginative, small start up firm isn't located in the corporate office "campus" the industrial park or the shopping center – they simply cannot afford the rents there. Older and historic commercial buildings play that role, nearly always with no subsidy or assistance of any kind.

Using an Economic *Vision* as Strategy (Strategic Objectives)

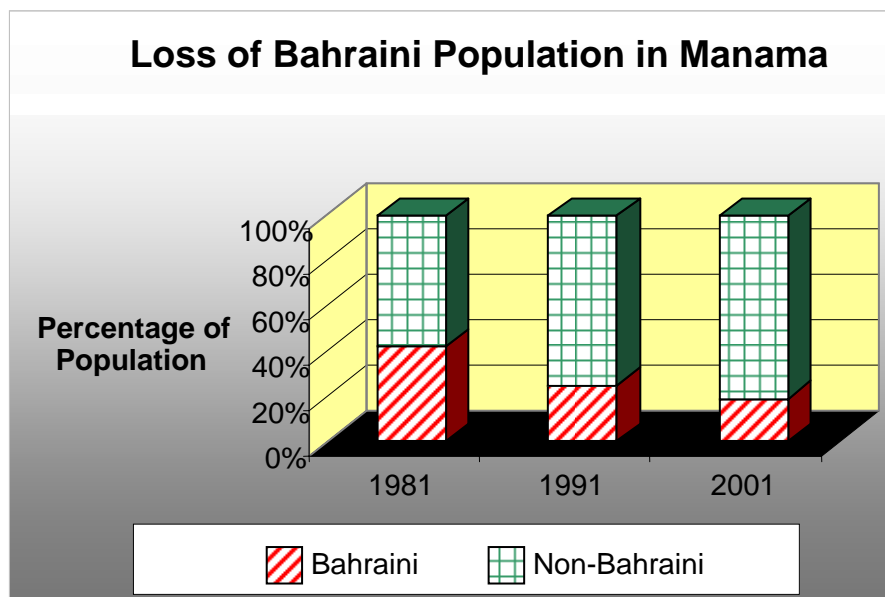
Based on lessons learned from the participants in the charrette processes, discussions with individual stakeholders, and one-on-one meetings with officials from several Ministries, the following

Vision Principles for an Economic Strategy were established:

- The Urban Conservation Zones of Manama and Muharraq will reestablish their role as vibrant, family neighborhoods serving the residential, commercial, social, cultural and religious needs of the residents.
- Owners and investors in the Urban Conservation Zones will be confident that their commitment to the area will be matched by the delivery of efficient and effective public services.
- Businesses will be economically successful by meeting the needs of local residents, nearby workers, and visitors. They will do this by providing a wide range of goods and services. While some goods and services may be the same, the Urban Conservation Zones will provide a shopping and business environment that is not duplicated in suburbs, shopping malls or other venues.

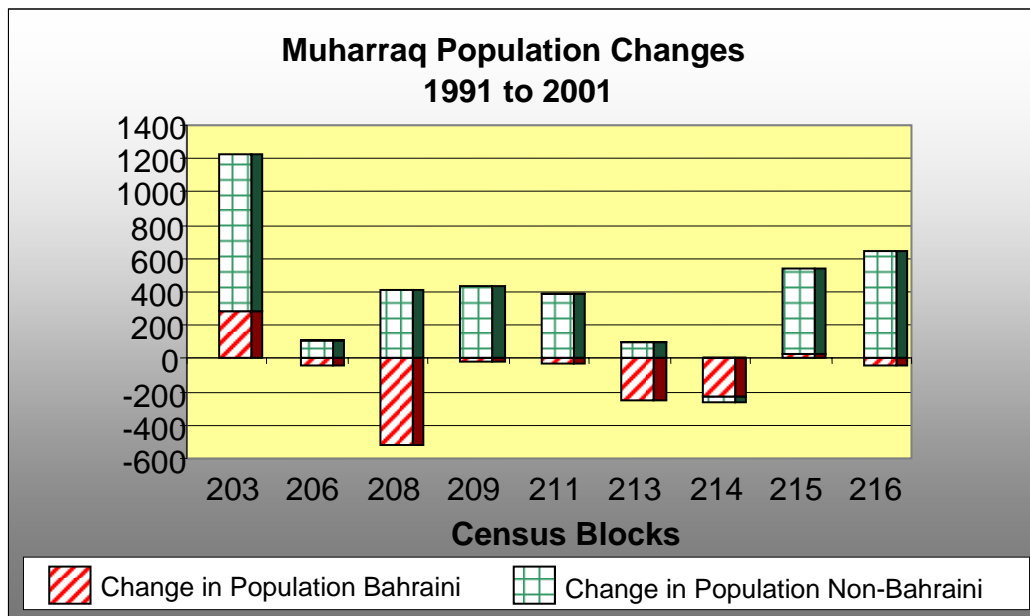
- The Urban Conservation Zones of Manama and Muharraq will serve as natural incubators for small businesses, creative businesses, start-up businesses, and particularly for the rapidly growing work-at-home segments of the professional services industries.
- Heritage tourists will be welcomed to the Urban Conservation Zones, and a level of goods and services will be provided to meet their needs. However, the heritage neighborhoods of Manama and Muharraq will be active, living neighborhoods where heritage visitors are welcome guests, rather than areas ceded as primarily "tourist attractions."
- While the Urban Conservation Zones of Manama and Muharraq will be protected, they will not be neighborhoods in isolation but will be economically, socially, physically and culturally reintegrated into their larger urban context.

Problems/Issues: In discussions with young professionals, both Bahraini and expatriate, both single and married, four major barriers were identified that deter their interest and willingness to move back to the Urban Conservation Zones. These include: the concentration of bachelor laborers, parking, environmental quality of neighborhoods, and high concentration/density/overcrowding.



If these issues could be overcome, some of these young families would consider moving back to the Urban Conservation Zones, but additional challenges were identified:

- Ownership is often dispersed among many family members making it more difficult to acquire a clear and sole interest in a property.
- A lack of credibility in the government's ultimate willingness to improve the Urban Conservation Zones, since earlier commitments to the areas is believed not to have been fulfilled.
- Lack of financial ability of young families to purchase the property, especially when there are inevitable uncertainties in the ultimate rehabilitation cost.



In sum, of the 216 Census Blocks within the two areas, 214 saw a decline in the Bahraini population over the last ten years; one other had virtually no change. There was one Census Block where there was a growth in Bahraini population, but even there, the growth of the non-Bahraini population was nearly four times as much.

International evidence of "Pioneer families": The best evidence is that, when conditions dramatically change, *some* families will, in fact, prefer to live in the heritage areas. The evidence comes from around the globe. Heritage areas once believed to be deteriorated beyond recovery are now the neighborhoods of choice of professional families.

It is important to keep in mind that if only a very small percentage of all young families did choose to move back into the historical center, a significant impact would be made on the quality and the character of the entire areas. These are the *Pioneers*. In some countries, numbers as few as 1% to 3% of young people willing to become *pioneers* have transformed entire heritage areas. Furthermore, these *pioneers* are nearly always a catalyst that encourages new businesses, business relocations, arts and cultural activities, improved retailing, and entertainment to be drawn to the area. Ultimately, families and businesses that are more risk averse than the *pioneers*, will feel comfortable enough to return as well.

Strategies recommended for consideration: The following is a list of the specific strategies developed to address the identified needs in the Urban Conservation Zones of Muharraq and Manama. Some of the strategies are modifications of existing government programs, others suggest the creation of new programs; some are incentives, some are regulations. (Full detailed explanations of these strategies are contained in the Manual of Economic Strategies in the Appendix 1).

No single strategy is sufficient to obtain the desired results. Different strategies address different issues. They need to be viewed as a comprehensive group of strategies necessary for the desired outcomes.

One particular element, however, that should be incorporated in every strategy is the design guidelines that have been recommended by other members of the consultant team. All incentive programs should require as a prerequisite to receiving the assistance, a commitment to rehabilitate the heritage buildings consistent with the design guidelines.

- STRATEGY # 1a and #1b: Occupancy limits for rental property and companion incentives.
- STRATEGY # 2: Fee waiver for traditional houses in neighborhood
- STRATEGY #3: Government has first right of refusal to purchase traditional houses in Urban Conservation Zones.
- STRATEGY # 4: Two year freeze on demolition
- STRATEGY #5: Priority for housing loan for those moving into traditional buildings
- STRATEGY # 6: Priority for Mortgage Guarantee Program
- STRATEGY #7: Two lifetime loans instead of one if the first loan is for a traditional house in the Urban Conservation Zones.
- STRATEGY # 8: Land swaps to consolidate ownership
- STRATEGY # 9: Training program for craftsmen
- STRATEGY #10: Step-down rent subsidy for young couples
- STRATEGY # 11: Specialized loan program for rehabilitation
- STRATEGY # 12: Office of design assistance
- STRATEGY # 13: Zone for mixed use, especially live/work
- STRATEGY # 14: Architectural salvage
- STRATEGY # 15: Parking permits for residents only
- STRATEGY # 16: BDB Service Centers in districts
- STRATEGY # 17: Technical assistance to establish family ownership companies
- STRATEGY #18: Stabilized shell with stub-in mechanicals for young couples
- STRATEGY # 19: Rent to own programs
- STRATEGY # 20 : Shared Equity Investment
- STRATEGY # 21: BDB Incubators in districts

The Importance of Pilot Projects:

Early pilot projects of a variety of types will be crucial to getting a solid start on the revitalization of the Urban Conservation Zones. Pilot projects in Manama and Muharraq will serve at least five important purposes:

- 1) they will demonstrate that the government is serious about making major improvements in the area;
- 2) Pilot projects usually serve as catalysts for nearby property owners to make their own improvements;
- 3) Pilot projects will serve as examples as to how rehabilitation of traditional buildings will take place;
- 4) Pilot projects will provide "hands on" training for apprentices in traditional building crafts and trades; and
- 5) Several strategies above (especially Strategy # 3 , 8, 18, 19, and 20) require that the government acquires and makes some rehabilitation on traditional buildings for an interim period. Each of these Strategies should themselves be seen as pilot projects.

Possible Pilot Projects:

The following are brief descriptions of the projects. More details are available in the full economic report:

- **Pilot Project #1:** Create a "family neighborhood".
- **Pilot Project #2:** Redevelop a traditional building as a "Heritage Conservation Service Center".
- **Pilot Project #3:** Urban Conservation Zones to be used as a "laboratories" for an entire range of government programs, i.e. as "testing grounds" for ideas from various Ministries that seem to be viable but need to be tested on a small scale before being adopted Kingdom wide.

Marketing, Promotional and Organizational Strategies:

The strategies identified earlier in this report are primarily economic and financial strategies. However, the revitalization of older residential areas, both commercial and residential, is more likely to be successful sooner if there is an accompanying marketing and promotional strategy.

This is not an area of particular expertise of the Economic Consultant on this project, but a handful of suggestions are listed below for the consideration of the implementing entity.

- There need to be established **annual events** in the neighborhoods.
- There needs to be the public **celebration of even small improvements**.
- Businesses will generally do better, last longer, and be more profitable if there is an established **merchants' association**.
- It would be useful if a **residents' association** were established.
- The creation of the **property owners association** may be warranted.
- Every pilot project and every property rehabilitated by the Ministry in charge of the revitalization of the Urban Conservation Zones should hold **open houses**.
- There will need to be an aggressive marketing campaign to attract the *Pioneer Families* into the Urban Conservation Zones.

Conclusions:

The Kingdom of Bahrain and especially the old cores of Manama and Muharraq are rich in heritage assets. However those assets are extremely fragile and are being lost daily. An immediate and concerted effort needs to be undertaken if those valuable resources are not to be lost forever.

The *Forces of Value* are today working against the survival of Bahrain's heritage resources. Comprehensive measures need to be taken if those forces are to be reversed.

A comprehensive strategy to do so must include both incentives (carrots) and regulations (sticks). The recommended strategies, if implemented, will make a significant and in many cases immediate difference in the value of the heritage resources, and the likelihood of their survival.

5.7. Legal Framework:

It was generally agreed that it will not be sufficient to protect individual historic buildings in Manama and Muharraq. It will be necessary to define the two historic towns as special urban conservation zones, within specific boundaries. The protection of the two areas will have to include guidelines, rules, and codes for buildings of different categories, from historic and traditional buildings to recent and future infill projects, public spaces, economic development, traffic and parking, municipal services and infrastructure.

Introduction:

The challenge is to propose a legal framework and management system that can cover all these aspects of community development and ensure that urban conservation considerations will have priority amongst all those involved.

This challenge is highlighted by the existence of two legal frameworks: that of civil government law and that of traditional Islamic law. The traditional core areas of Manama and Muharraq were developed through the use of locally based traditions and customs (**Urf**) within the framework of Islamic law that developed over time. Today, a centralized civil administration is responsible for planning and development within these areas. The challenge is to combine the best of both systems in order to create an effective, non-bureaucratic management system that has authority over the various governmental departments while encouraging the establishment of local decision making and reviving the traditional **Urf** as basis for the future development within these areas.

The resolution of this challenge was approached from three directions: the first from a top-down centralized approach identifying how the framework could be developed and managed within the civil government administration, the second from a bottom-up at the local level approach reinstating the traditional framework, and the third through a synthesis of the two to ensure that the management would be effective at all levels: local, municipal, and ministerial.

Legal Basis #1: Existing Civil Government Administration

It was identified that there were several methods for creating a legal framework for the management of the Urban Conservation Zones:

- Alternative A: Use existing laws: Ministry of Information/MoMAA
- Alternative B: A new law: National Assembly
- Alternative C: A decree: The Prime Minister
- Alternative D: Existing Decree of the Housing and Urban Development Committee

Due to the urgent need to introduce improved legal protection of traditional buildings in Manama and Muharraq, to wait several years for a new law would mean the loss of a large number of buildings by demolition or neglect during that period. The procedure to change an existing law would be faster. However, a Decree can be officially approved in a much shorter time than a law.

Future management structure for the development of the Urban Conservation Zones:

Several alternative options were defined and considered for the future management of an integrated urban regeneration program for the two zones. They included options for the public as well as the private sector. Detailed descriptions of each option are to be found in the first legal report in the Appendix. This approach of the management framework from a civil government perspective is a top-down approach. The various proposals have their own individual strengths and weaknesses, some more effective than others. For this approach, two proposals were deemed to be effective. (See the first legal report in the Appendix for detailed descriptions).

either:

Alternative C: Government Model: A supervising board, with a mandate from HUDC, managed by one ministry, with participation from several ministries, departments and municipalities.

or:

Alternative I: Private sector model: A management consultancy, design and build contract with HUDC.

Administrative Resources:

It is still to be discussed to what extent a Steering, Supervising or Technical Committee or a new Directorate should have its own staff of experts to cover various fields of community development, management and preservation, or if the new administrative body should rely on existing expertise in Ministries, Departments and Municipalities.

If the preferred short- or long-term model will be a Supervising or Steering Committee under the leadership of MoMAA to coordinate existing programs and responsibilities of several ministries, departments and municipalities, the committee should have a small staff of experts for coordination of input from all involved agencies and stakeholders.

Legal Basis #2: Traditional Framework

This suggested approach for the management and development in the traditional sectors of Muharraq and Manama is based on creating a contemporary version of the traditional system that created those areas in the first place. Towns planned and built since around the mid-20th century in Bahrain were based on a static plan in the form of a blueprint, commonly known as a “master plan” that describes what needs to be done through detailed regulations.

A generative program, such as the one proposed here for the revitalization of Muharraq and Manama, describes implementation as a process and includes instructions on how to do so. In essence a generative process states what to *do*, what *actions* to take, step by step, to build or revitalize buildings, rather than detailed drawings that show what the *end*-result is supposed to be. Such a generative process was a part of the production process of traditional Bahraini society. Therefore, to truly revitalize and preserve the cultural integrity of the historic sectors of Muharraq and Manama the conditions that will allow a generative process to function and thrive must be reinstituted.

A crucial aspect for such conditions is the ethical/legal norms that were understood and followed in the traditional Arabic-Islamic city. In addition the Rights and Responsibilities of the Public and Private sectors provided the framework for decision-making relative to building activities and generally the urban process. **The following are the essential seven ethical legal norms:**

- 1. The basis for action is the freedom to act, without using buildings for show off and arrogance.**

In principle, people are free on how to use and plan their properties, but they should not use the design of buildings for show off. Islam respects beauty as long as it does not convey arrogance.

- 2. Good intentions are the basis for sound decisions.**

Good intentions ensures harmony with neighbors, and is a necessary prerequisite for decisions affecting building design or changes to an existing building in the urban context of the heritage areas.

- 3. Avoid harm to others and oneself, and if two damages occur then, and only if necessary, implement the lesser of the two.**

Building activities can create damages to adjacent structures in the heritage areas; therefore it is necessary to avoid doing so. Occasionally, however, more than one type of damage could occur and impossible to avoid, then it is necessary to tolerate the lesser damage.

- 4. Necessity of interdependence and cooperation between people, and to respect the rights of older established buildings.**

The heritage areas were built incrementally over a number of decades. This principle stipulates that when later property owners decide to build, they have to respect the realities of adjacent existing buildings and respond accordingly. This should reinforce the importance of cooperation within neighborhoods (Ferij).

- 5. Respect the privacy of the private domain of others, particularly avoiding the creation of direct visual corridors.**

In Islam, respecting the privacy of others is very important, and sightlines into the private domains of adjacent or opposite neighbors must be avoided.

- 6. Changes or uses that would debase the social and economic integrity of adjacent or nearby properties must be prevented.**

The Quran clearly stipulates that debasing the value of people's properties is not allowed. Therefore, decisions that affect the design quality and use of a building should not create a situation that would negatively impact the status, integrity, and value of adjacent or nearby properties.

- 7. People's customs must be respected and followed, however time might change those customs and new solutions will be needed.**

The rules and codes for this project will incorporate traditional local customs and it will also add new elements that are a result of new technologies, building materials, and methods of construction. Those will become a part of the contemporary Urf. With the passage of time it might be necessary to make improvements and changes.

In addition, the following issues were identified: Public and private rights are fairly and equitably exercised. Public and private responsibilities are properly allocated and implemented. These are identified in detail in the charts below.

Private and Public Rights are fairly and equitably exercised.

الحقوق العامة Public Rights	الحقوق الخاصة Private Rights
1- حق الطريق Rights of the street.	1- حق الارتفاق Right for abutting and servitude.
2- حقوق المساجد Rights of mosques.	2- حق الخصوصية والمحافظة عليها Privacy rights and its protection.
3- حقوق الأسواق Rights of the Suq.	3- حقوق مالك البناء الأقدم Rights of original or earlier usage.

4- حقوق المرافق العامة: كل منها لها حقوقها الخاصة مثلا المدارس والمستوصفات. Rights of public facilities and buildings.	4- حق الانتفاع الكامل للملك ويشمل زيادة المساحة مثلا بناء الساباط وتعلي البناء ضمن ضوابط الارتفاق. Rights of full utilization of one's property that include the right to increase useable areas such as building a Sabat or increasing the height of the building within stipulated restrictions on height.
	5- حق استعمال الملك أو جزء منه للرزق. Right of using part or all of one's property for income.
	6- حقوق الجيران والمحافظة على حدود أملاكهم. Respect the property boundaries of adjacent neighbors.
	7- حق الشفعة للجار (حالياً للشريك في البحرين). Right of pre-emption of an adjacent property.
	8- حق الوقف. Right of Waqf.
	9- حقوق المواريث وتأثيرها على تقسيم الملك. Right of inheritance by taking in to consideration its impact on divisions of property.

Private and Public Responsibilities are properly allocated and implemented.

Public Responsibilities المسؤوليات العامة	Private Responsibilities المسؤوليات الخاصة
1- المحافظة على المصلحة العامة. Protecting rights of the public.	1- الاستفادة من الفناء الخارجي. Utilization of exterior Fina.
2- الطرق العامة. Public streets.	2- المحافظة على نظافة الفناء الخارجي. Keeping Fina areas clean.
3- المجاري الرئيسية. Main sewer lines.	3- إدامة وتصليح المجاري الفرعية الخاصة. Maintenance and repair of private sewer lines.
4- المياه. Water.	4- إعلام السلطة بأي خلل يضر العامة، مثلاً الحائط المائل. Informing local authority of any danger that might be eminent to the public, such as a leaning wall.
5- الكهرباء. Electricity.	5- إعلام السلطة بأي تعدي من الجيران. Informing local authority of any transgression from neighbor(s).
6- القمامة. Garbage disposal.	6- المحافظة على السكنية والسلام بين الجيران. Maintaining condition that foster tranquility between neighbors.
7- سلامة الناس في الطرق والفضاءات العامة. Safety in streets and open spaces.	7- تيسير شروط الوقف. Facilitating the implementation of Waqf stipulations.
8- المحافظة على كيان العرف السائد. Protecting the integrity of local customs.	
9- القضاء بين الناس وحل النزاعات. Resolutions to problems arising between property owners.	

Control and Management Framework:

The following three alternatives were developed with the assistance of the Legal consultant from the College of Law of the University of Bahrain. They are based on the legal issues described above:

- **Alternative One:** Establish a control and management mechanism for the position of the Mukhtar from each Ferij, the Council of Mukhtars, and the Muhakkim in each of the two heritage areas.
- **Alternative Two:** Establish the position of the Muhakkim who will coordinate with members of the Municipal Council who represent the heritage areas.
- **Alternative Three:** The Municipal Council will nominate a Muhakkim who will fulfill his/her duties as a member of the Technical Review Board (al-Jihaz al-Fenni) that will be established by Housing & Urban Development Committee.(HUDC).

All three alternatives share principles that are related to the Muhakkim and his duties by abiding to the seven ethical/legal norms, and the rights and responsibilities of the public and private sectors operating in these two heritage areas. All these principles and stipulations are detailed in the second legal report in the Appendix.

Legal Basis #3: Synthesis of Existing Civil Government Administration and Traditional Framework:

Although it would effectively coordinate all levels of government in the regeneration of the central core areas, it was determined that the civil administrative approach did not allow for enough freedom of maneuver for decision making at the local level. It did not give enough say in the development of the areas to their inhabitants.

While the traditional framework would restore the decision making to the residents, it was found that it would not have the wider authority necessary to effectively utilize and coordinate the resources of the civil administration that will be necessary in order to physically and economically regenerate the areas. Therefore, a synthesis was needed between the two; a third way that would combine the forces at all levels: **A Technical Board to be established by the HUDC.** This synthesis resulted in the following strategy/policies after a thorough review of existing laws and regulations. **The main strategies were identified as:**

- To use the existing laws, decrees, **Lawaih**, and regulations in the Kingdom of Bahrain, particularly the Bahraini Constitution and the decree (**Marsoom**) number (29) for the year 2001 for establishing the Housing and Urban Development Committee, and the Municipal Council law number (35) for the year 2001 and its implementation **Laiha**, and decision number (27) for the year 2005 which was issued from the Ministerial Council regarding construction regulations for various parts of the Kingdom, which will also provide the legal basis for implementing the project's strategies.
- To establish the **Technical Review Board (Al-Jahas Al-Fenni)** which is going to be established by the Housing and Urban Development Committee according to paragraph nine of article three from the decree number (29) for the year 2001 that includes the goal for establishing such a Technical Board (or Panel or Body?).
- To develop the necessary legislation and regulations for implementing the various ideas and suggestions by the project's consultants within the Kingdom's long term strategy for revitalizing the heritage areas.
- To establish the legal basis for preserving the Arab-Islamic character of the heritage areas according to the principle that decisions taken within those areas are from the bottom up and without being in conflict with the hierarchy of current laws. In addition the Municipal Councils should nominate who might represent the

designated heritage areas in the **Technical Review Board** that is going to be established by the Housing and Urban Development Committee.

It is not possible to implement the goals and strategies of this project without the necessary laws (**Tashriat**), decree (**Lawaih**), and rules (**Anthema**) that will enable the agencies in charge of implementing this project to fulfill their duties within a legal framework for protecting the heritage areas from neglect and demolitions, and revitalize it within the goals and policies of the project.

Therefore, it is necessary to create the legal framework so as to enable implementing the various ideas and suggestions by the consultants representing various disciplines, and avoid the danger of their work remaining on paper.

- **The Constitution of the Kingdom of Bahrain:** The constitution of the Kingdom of Bahrain addresses the issue of the Arab-Islamic heritage and its importance for the constitution in Part two regarding the foundation of the society in Article (6). “The country protects the Arab and Islamic heritage and its contribution to human civilizations, and works to strengthen relationships between Islamic countries, and endeavors to work towards the unification and development of the Arab nation.”. Therefore the constitution obligates the country the importance of preserving the Arab and Islamic heritage and this is exactly the essence of this project. The constitution has established the legal basis for ensuring that the laws and regulations function within the parameters of this constitutional principle for preserving the Arab and Islamic heritage.
- **Ordinary Laws:** A large number of the ideas and suggestions can be implemented within the specific stipulations of the Municipal Councils regulation number (35) for the year 2001 and its implementation resolution (**Laiha**) number (16) for the year 2002. The duties of the Municipal Councils that are in Article (19) for the law has the breadth and variety that can be used as a legal basis for many of the activities that the project requires to achieve. These Municipal Councils have the legitimacy to act because their members are directly elected by the residents of these heritage areas who can work cooperatively with the residents to preserve the Arab and Islamic heritage of these areas.
- **Decision Number 27 for the year 2005:** This decision was issued by the Ministerial Council (MoMAA) for establishing organizational regulations for developing various parts of the Kingdom. This decision clearly points in its last paragraph of Article (1) to the heritage areas that embody unique characteristics and defined thus “Those historic heritage areas that have a special urban character”. This implies that these areas require special rules and codes that should be followed for preserving their character.
- **The Prince’s decree (al-marsoom al-ameeri) Number (29) for the year 2001 for establishing the Housing and Urban Development Committee:** After

studying this decree and its various stipulations it is clear that the HUDC, which is headed by His Highness the Crown Prince Sheikh Salman bin Hamad Al Khalifa, (*wali al-ahd*) and Chief of the Bahraini Defense Force, and that includes in its membership a number of Ministers, and Mayors (*Muhafedeen*), and Heads of Municipal Councils- is the prime agency in the Kingdom that has the authority and legal mechanism for implementing the goals and policies of this project, for the following reasons:

- The HUDC is specialized in addressing the housing conditions in the Kingdom.
- It lays down the policies, plans, and programs for housing and urban development.
- It studies and follows up the implementation of various revitalization projects in towns and villages for the purpose of elevating their environmental and health standards and to protect buildings of heritage value, and provides services and public facilities for its residents according to section (3) of Article Three of the decree.

Therefore, it is clear that the project of revitalizing and preserving the heritage character of the historic areas of Muharraq and Manama are well within the jurisdiction and responsibilities of the HUDC.

The legal mechanism needed to implement the project in light of the above mentioned principles: The following are the necessary legal steps needed to commence implementing the project:

- 1- A decision should be issued by the Housing and Urban Development Committee **HUDC** to delineate the boundaries of the heritage areas of Muharraq and Manama according to section (3) of Article (3) of the decree number (29) for the year 2001, and according to the maps that the Consultants to this project prepared.
- 2- A decision should be issued by the HUDC to establish the **Technical Review Board (Al-Jihās Al-Fenni)** according to the regulation nine from Article three of the decree (*marsoom*) number (29) for the year 2001 whose stipulation allows the implementation of this project. This Technical Review Board **TRB** should be composed of a number of consultant's participants as (**Project Task Forces**) and the agencies that are involved in housing policy, urban renewal, and issues related to heritage areas and buildings (Please refer to Annex number 1- The Administration and Organization of the Technical Review Board.
- 3- The site surveys of Manama and Muharraq started in February 2006 should be completed as soon as possible. The Technical Review Board (Al-Jihās Al-Fenni) shall decide the method to conduct the site survey for the heritage areas according to the planning and design guidelines and associated criteria that address the urban heritage of the Kingdom of Bahrain.
- 4- The necessity to establish the required legal principles for the restoration or demolition of buildings within the designated heritage areas of the project by the

technical skills available within the HUDC according to the decree number (29) for the year 1995, and that shall also address regulations for building within areas surrounding the heritage areas.

- 5- It is necessary to clearly establish the distinction between buildings that are considered to be of heritage value and those that are considered to be of historic value (*Atheyry*) significance that are under the jurisdiction of the law of archeological (*Athar*) number 11 for the year 1995.
- 6- Implementation of the regulations stipulated in section (2) of Article (98) of the decision number (27) for the year 2005, which was issued from the Ministerial Council regarding building regulations. This will necessitate a decision from the Minister of Municipal and Agricultural Affairs to establish a “Technical Consultative Committee that would undertake to study requests for projects that are related to areas of unique urban characteristics and those projects that do not fall under current building regulations (See Appendix number 2),(in Arabic).

Conclusions:

The proposals for the legal basis and framework of the project are of the utmost importance. Extreme care has been taken in identifying which existing laws could be used to support the proposals made here, especially in the crucial early stage of the project. Any delay caused by the need to modify, reform or even pass a new law could endanger the success of the project due to the factor of time. It must be remembered that the buildings and areas are continuing to suffer decay and decline, and any further delay only worsens the situation.

The proposals for an effective management framework were developed with the knowledge that no matter which one is selected, someone or some agency will not agree. The goal was to identify and recommend a framework that would be efficient, not bureaucratic, and be able to be created within the shortest possible time under existing laws, yet still have the authority over existing institutions and agencies in order to implement the project within the heritage areas. This needs to be balanced with the goal of giving the residents more control in the development of their neighborhoods, so as to be able to direct their own future. Such control at the local was an essential attribute of the traditional system that generated the characteristics and sense of place that this project was created to preserve through a continuous process of change, adaptation and revitalization.

The recommended proposal does this by balancing the traditional system which created Manama and Muharraq with today’s civilian administration.

6.0. Recommendations and Closing Remarks:

The project has been carried out as an integrated whole, as shown by the backgrounds of the consultants themselves: legal, economics, conservation planning, urban design and coding, restoration, and information technology. This demonstrates the importance and interrelationship of each of these areas to the issues involved.

Therefore, it is recommended to adopt the goals, policies, strategies, guidelines and codes as presented in 3.0 and 4.0 as well as in each of the individual areas of expertise (5.1-5.7) of this report. To summarize, it is recommended:

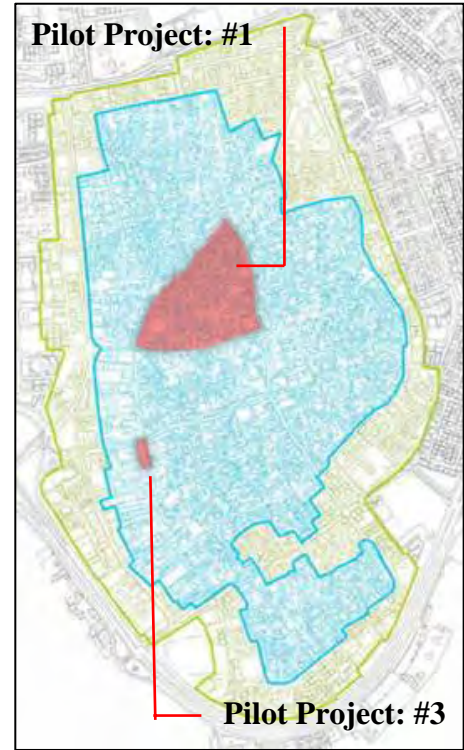
- To adopt the proposed legal framework for the creation and effective management of the conservation zones.
- To adopt the proposed economic strategies for the economic regeneration of the buildings and neighborhoods for both the public and private sectors.
- To develop the conservation plan leading to the establishment of the urban conservation zones and their boundaries.
- To adopt temporary protection measures including two large protection perimeters for the traditional core areas of Muharraq and Manama to be enforced during the preparation of the conservation plan.
- To adopt the proposed urban design/architectural guidelines, rules and codes within the protected zones.
- To adopt the policy of conducting the necessary, detailed survey of the buildings, streets, urban spaces, etc. within the protected areas in order to properly define the types of buildings, their condition, the category of heritage importance and their relationship to their neighbors and urban fabric.
- To adopt the policy of creating an inventory of buildings and open spaces within the protection perimeters based upon the results of the detailed survey.
- To adopt the policy of further developing the database as a necessary resource for policy decisions and implementation strategies regarding, amongst others: urban planning, architectural guidelines for new buildings, and restoration of individual existing buildings.
- To adopt the policy of demonstrating to investors, businessmen, and residents, the government's commitment to these areas through the implementation of pilot projects.

Pilot Projects:

Pilot Projects of a variety of types will be crucial to starting the revitalization of the Urban Conservation Zones in Manama and Muharraq. These Pilot Projects will serve four important purposes: firstly they will demonstrate to businesses and residents that the government is serious about making major improvements in the areas; secondly they will serve as catalysts for nearby property owners to make their own improvements; thirdly they will serve as examples as to how the rehabilitation of traditional buildings will take place; and fourthly they will provide "hands on" training for apprentices in traditional building crafts and trades; these apprentices will eventually make themselves self-employed in good paying, private sector jobs.

It is proposed that the pilot projects in Manama and Muharraq be conducted as the second stage of this current project: “Capacity Building for the Enhancement of Urban Governance”, under the direction of the Project Director, responsible to the Ministry of Municipalities and Agriculture Affairs together with the UNDP. The Project Director will make use of the staff of the Research Studies Section, Department of Research and Development, MoMAA.

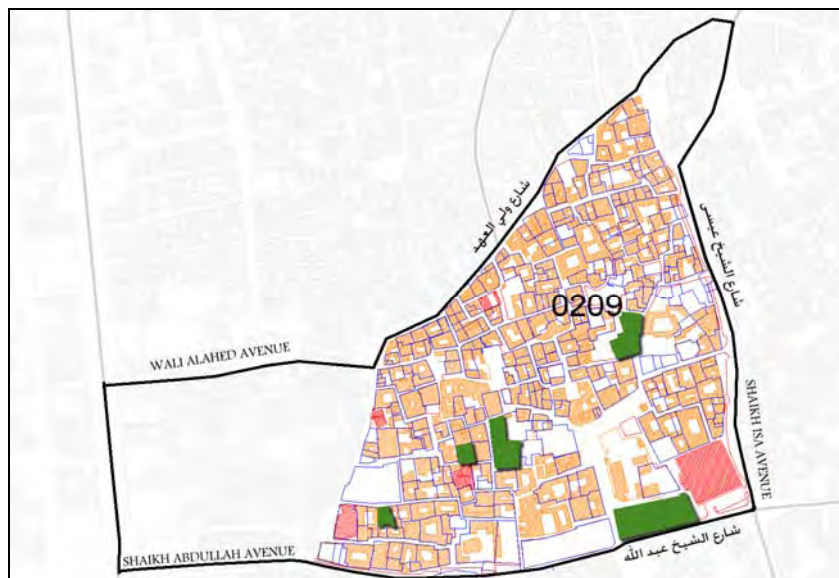
The goal of this second stage is to develop by the end of 2006, the detailed designs, plans, bills of quantities, and the tender documents for the pilot projects, with the aim of commencing construction work in early 2007. The budget for 2006 will include the fees for professional consultants and staff, the carrying out and analysis of the detailed field survey within this area, and provisions for any necessary structural surveys of the existing traditional buildings. Based upon the initial data of the survey, and a review of the current situation, the following Pilot Projects are recommended to be implemented.



Muharraq Conservation Zone

Pilot Project: #1 Muharraq: Cultural Heritage Area:

It is proposed to carry out the first pilot project for Muharraq in the area of Block 209 which contains many of the recently modernized cultural heritage buildings. The object of this pilot project is to develop a concept of linkage between the main heritage buildings to stimulate cultural tourism, to improve the general quality of the urban environment, to repair and improve the traditional buildings through appropriate methods and materials, and to initiate the creation of small businesses to service the cultural heritage tourism industry.

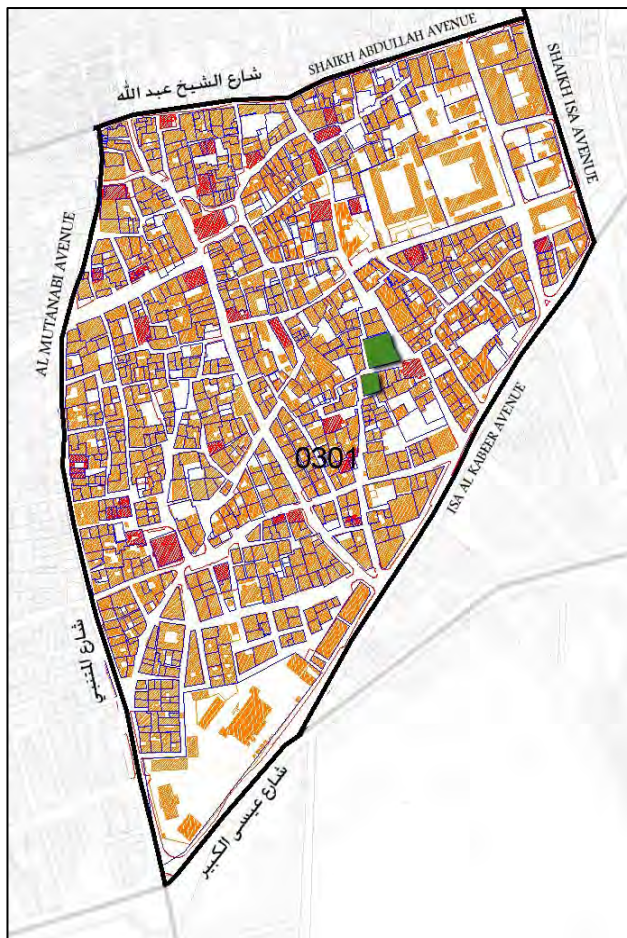
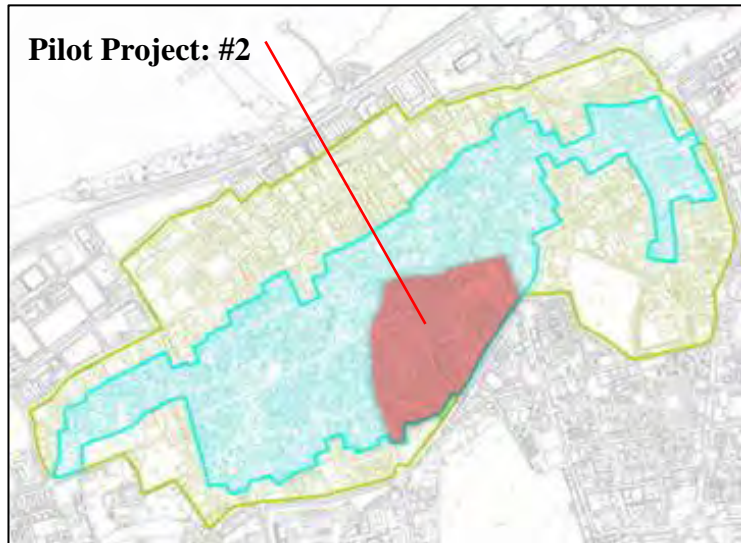


Pilot Project: #2: Manama: Al Haman Neighborhood.

It is proposed to carry out the first pilot project for Manama in the area bounded roughly by Bab Al-Bahrain Avenue, Isa Al Kabeer Avenue, Al Zahra Avenue and Sheikh Abdulla Avenue **in the Al Haman neighborhood**. This project is intended to complement

the current proposed project for the redevelopment of the area around Bab Al-Bahrain being organized by The Ministry of Works and Housing. That project

has as its goal the upgrading of the Bab Al-Bahrain Avenue through the construction of a free-standing structure with a fixed roof as sun shading, the conversion of the old post office into an indoor shopping mall, and the construction of a new public open plaza at the junction of Bab Al Bahrain Avenue and Sheikh Abdullah Avenue.



The object of this pilot project is to link up with the Ministry of Works and Housing project in order to revitalize the main commercial area south of Sheikh Abdulla Avenue, as well as to repair the urban fabric of the **Al Hamam neighborhood** which contains a high quantity of significant traditional buildings. The implementation of both of these projects would create an attractive, middle to upper class commercial axis that will be able to compete with the shopping malls. This will not only improve the level and quality of goods and services available to the local residents, but would also help attract Bahraini families to move back through the rehabilitation and upgrading of the buildings and neighborhood.

Close cooperation between this project and that of the Ministry of Works and Housing project will be essential. If done correctly, each project will benefit from the other, thus increasing the level of success of both.

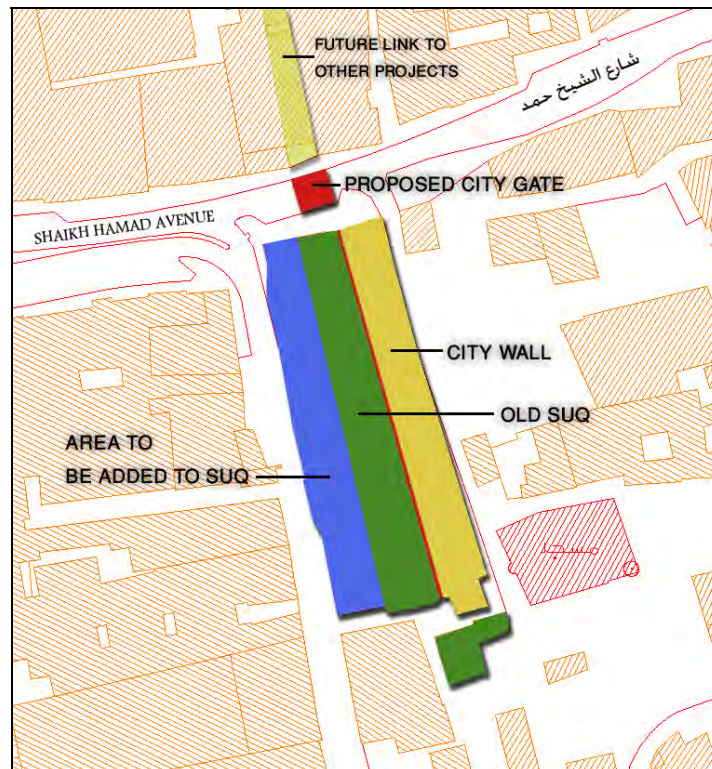
Pilot Project #3: Muharraq: Conservation and Development of the old Suq Al- Quassaria and City Wall and Gate:

This project, covering an area more than 2000 square meters within Block 215 would be the smallest and quickest of the three Pilot Projects. A study has already been developed by the Research and Development Department (MoMAA) and negotiations with the owners and the tenants are ongoing.

Concepts have been prepared involving the renovation of the shops that have been found to be structurally sound, the demolition of those that are not, and the provision of new rental accommodation along with a covered arcade. In addition, proposals for parking either on the site or across the street have been developed.

The old city wall and gate were located on this site. As part of the project, proposals will be developed in cooperation with other Ministries and Departments as to how best preserve and possibly restore the historical city wall and gate .

The project is currently being run by the Research and Studies Section, Department of Research and Development, the same who is running this project: “Capacity Building for the Enhancement of Urban Governance”. The implementation of the project Conservation and Development of the Old Suq Al-Quassaria would give valuable experience to the team on a smaller project right at the beginning of the revitalization of the conservation zones, and send a clear message to the residents, and more importantly to businesses, that the government is serious and committed to the economic regeneration of the traditional core areas.





Recommendations:

It is recommended that effective, close coordination is conducted between those responsible for the various public and private sector projects that are either planned or already ongoing in the protected zone areas and the management of the conservation zones project. In particular, the Housing Rehabilitation Program conducted by the Ministry of Works and Housing is of exceptional importance since their designs for the housing units will be affected by the guidelines, rules and codes that will be in effect within the protected zones

Closing Remarks:

Through their work, the consultants all developed a deep sense of commitment and loyalty to this project. It must be stated that all the consultants commend the foresight and vision of the initiators of this project; it is the right project at the right time with the right goals. It is the deep sentiment of the consultants that it was an honor to be involved on such a project, and that everything must be done to ensure its implementation; it must not end up as another study in the bookshelf. This is why it was decided from the beginning to approach this project with the aim of developing realistic goals, policies, and strategies that can be implemented to the greatest extent as possible under the existing laws, legal framework, and economic programs of the Kingdom of Bahrain.

It is now for the government to decide their level of commitment to this project. It is clear that several governmental departments wish to run this project themselves. However, it has been identified that the management framework is of critical importance to the success of this project, especially in the early stages. Time is working against the traditional buildings and areas of Manama and Muharraq, each day another building is lost, each day another Bahraini family moves to the suburbs. A management framework with the necessary power and authority must be created from the start, one that can quickly and efficiently act and carry out projects. The proposed framework is designed to do just that. This type of framework will ensure the initial success of the project, buying enough time that other, long term management structures (e.g. a Ministry of Conservation Heritage) to be instituted if desired.

This project is the last chance to save an important part of Bahrain's culture and history, and to incorporate it into the basis of the Kingdom's post-oil economic future. As the economics consultant has stated, it's not just about saving "those old buildings"; it's about economic development *through* heritage conservation. The result will be the physical and economic revitalization of the traditional areas of Manama and Muharraq into active, living neighborhoods, providing jobs and higher standards of living for their inhabitants, while conserving and restoring the proud cultural heritage of the area for all Bahraini.

7.0 Attachments

7.1. Attachment 1: Proposal to Establish the **Technical Review Board**, According to the Regulation 9 from the Article 3 of The Decree Number 29 for the year 2001.

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Attachment 2: Proposal to Establish the **Technical Consultative Committee**, According to the Ministerial Council of the Building Regulations and Coding, Section 2 of Article 98 o the Decision Number 27 for the Year **2005**.

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Attachment 1:

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7.2. Attachments of Information System, 1. Field Survey Form

Ministry Of Municipalities Affairs & Agriculture –Kingdom of Bahrain
Manama and Muharraq Survey Form

Identification number:		Block No:	
Street name if available:		Road No(s):	Building No(s):
Date of survey:			
Name of surveyor 1:		Surveyor 2:	
Current state of activities <input type="checkbox"/> Construction <input type="checkbox"/> Demolition <input type="checkbox"/> Rehabilitation <input type="checkbox"/> No activity			
Property Ownership and Uses			
Ownership		<input type="checkbox"/> Private <input type="checkbox"/> Public <input type="checkbox"/> Waqf	
<input type="checkbox"/> Building		<input type="checkbox"/> Open spaces outside the building	
<input type="checkbox"/> Residential <input type="checkbox"/> Residential & Commercial <input type="checkbox"/> Residential & offices <input type="checkbox"/> Residential & other <input type="checkbox"/> Religious <input type="checkbox"/> Educational <input type="checkbox"/> Storage	<input type="checkbox"/> Cultural <input type="checkbox"/> Public administration <input type="checkbox"/> Health (clinic, hospital) <input type="checkbox"/> Commercial (shops) <input type="checkbox"/> Commercial & others <input type="checkbox"/> Private and public services <input type="checkbox"/> Other:	<input type="checkbox"/> Existing before 1998 <input type="checkbox"/> Created after 1998 <input type="checkbox"/> Fenced <input type="checkbox"/> Walled <input type="checkbox"/> Not fenced/walled <input type="checkbox"/> Historic remains	<input type="checkbox"/> Parking <input type="checkbox"/> Garden <input type="checkbox"/> Garbage dump <input type="checkbox"/> Vacant <input type="checkbox"/> Other uses
Building Details			
Name of building (if available):			
State of occupancy		<input type="checkbox"/> Occupied <input type="checkbox"/> Partially occupied <input type="checkbox"/> Not occupied	
Typology of the building		<input type="checkbox"/> House <input type="checkbox"/> Shop <input type="checkbox"/> Warehouse <input type="checkbox"/> Public building <input type="checkbox"/> Majlis <input type="checkbox"/> 'imara <input type="checkbox"/> Mosque <input type="checkbox"/> Informal shacks <input type="checkbox"/> Apartments <input type="checkbox"/> Factory <input type="checkbox"/> Ma'tam <input type="checkbox"/> Others	
Prevailing construction system		<input type="checkbox"/> Concrete <input type="checkbox"/> Stone and wood <input type="checkbox"/> Mixed <input type="checkbox"/> Other structures	
Number of floors		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4-5 <input type="checkbox"/> More than 5	
Estimate date of construction		<input type="checkbox"/> Before 1950's <input type="checkbox"/> 1950's-1997 <input type="checkbox"/> After 1998	
Occupants		<input type="checkbox"/> One family <input type="checkbox"/> More families <input type="checkbox"/> Bachelor labourers <input type="checkbox"/> Families & bachelors	
Nationality of occupants		<input type="checkbox"/> Bahraini <input type="checkbox"/> Foreigners <input type="checkbox"/> Both	
General condition of the building		<input type="checkbox"/> Good <input type="checkbox"/> Ordinary <input type="checkbox"/> Bad <input type="checkbox"/> Ruin	
Type of significance (multiple choice)		<input type="checkbox"/> Historic/Cultural <input type="checkbox"/> Religious <input type="checkbox"/> Architectural <input type="checkbox"/> No significance	
Buildings of Architectural Significance			
Internal open space (courtyard)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> No need to enter building		<input type="checkbox"/> Entered building <input type="checkbox"/> Not permitted to enter building	
Significant architectural elements		<input type="checkbox"/> Wall <i>badgir</i> <input type="checkbox"/> Traditional balcony <input type="checkbox"/> <i>Badgir</i> tower <input type="checkbox"/> Gypsum ornament <input type="checkbox"/> Arches <input type="checkbox"/> Old door <input type="checkbox"/> <i>Hama'im</i> <input type="checkbox"/> <i>Danjal</i> <input type="checkbox"/> Minaret <input type="checkbox"/> Other:	
Level of architectural significance		<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	
Upper floors in use		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Partially	
Recent building transformations		<input type="checkbox"/> Vertical addition <input type="checkbox"/> Horizontal addition <input type="checkbox"/> Other transformations	
Courtyard modification (if entered)		<input type="checkbox"/> Original state <input type="checkbox"/> Subdivision <input type="checkbox"/> Merging <input type="checkbox"/> Intrusions	
Overall compatibility of current use		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Partially	
Permitted intervention		Preservation <input type="checkbox"/> Conservation <input type="checkbox"/> Restoration <input type="checkbox"/> Clearing inconsistent additions <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Reconstruction New Construction <input type="checkbox"/> Re-development <input type="checkbox"/> Infill <input type="checkbox"/> Re-landscaping <input type="checkbox"/> Integration of façade Demolition <input type="checkbox"/> Partial demolition <input type="checkbox"/> Total demolition	
Type of intervention		<input type="checkbox"/> Total intervention <input type="checkbox"/> Partial intervention	

7.2. Attachments of Information System, 2. Screen Capture of the Data Entry Form

Bahrain Conservation Planning Survey Form			
Identification No.	302XX01	Block No.	302
Street Name		Road No.	243
		Building No.	2865
Survey Date (mm/dd/yyyy)	1/23/2006		
Surveyor 1	Ehsan	Surveyor 2	
Current State of Activities	Rehabilitation		
Property Ownership and Uses			
Ownership	Private	<input type="checkbox"/> Open Space Outside the Building	<input type="checkbox"/> Parking
Building Use	Residential	Date of Space	
		<input type="checkbox"/> Fenced	<input type="checkbox"/> Garden
		<input type="checkbox"/> Walled	<input type="checkbox"/> Garbage Dump
		<input type="checkbox"/> Historic Remains	<input type="checkbox"/> Vacant
			<input type="checkbox"/> Other Uses
Building Details			
Name of Building		Occupants	
State of Occupancy	Not Occupied	Nationality of Occupants	
Typology of Building	House	General Condition of Building	Bad
Prevailing Construction System	Mixed		
Number of Floors	2		
Estimated Date of Construction	Before 1950's		
Type(s) of Significance	<input type="checkbox"/> Historic/Cultural	<input type="checkbox"/> Religious	<input checked="" type="checkbox"/> Architectural
Buildings of Architectural Significance			
<input type="checkbox"/> Courtyard	Entered Building?	No Need	
<input type="checkbox"/> Wall Badgir	<input type="checkbox"/> Traditional Balcony	<input type="checkbox"/> Tower Badgir	<input type="checkbox"/> Gypsum Ornament
<input type="checkbox"/> Old Door	<input type="checkbox"/> Hama'im	<input type="checkbox"/> Danjal	<input type="checkbox"/> Minaret
			<input checked="" type="checkbox"/> Other Element
Level of Significance	Low	Upper Floors in Use?	No
Building Transformations	<input type="checkbox"/> Vertical Additions	<input type="checkbox"/> Horizontal Additions	<input checked="" type="checkbox"/> Other Transformations
Courtyard Modification(s)	<input type="checkbox"/> Original State	<input type="checkbox"/> Subdivision	<input type="checkbox"/> Merging
			<input type="checkbox"/> Intrusion
Overall Compatibility of Current Use	No		
Permitted Intervention			
Preservation	New Construction	Demolition	
<input type="checkbox"/> Conservation	<input type="checkbox"/> Redevelopment	Type of Intervention	
<input type="checkbox"/> Restoration	<input type="checkbox"/> Infill		
<input type="checkbox"/> Clearing	<input type="checkbox"/> Landscaping		
<input type="checkbox"/> Rehabilitation	<input type="checkbox"/> Integration of Facade		
<input type="checkbox"/> Reconstruction			

8.0. Appendices

8.0. Appendices:

Appendix 1: Conservation Planning Issues: Strategies

**Appendix 2: Manual of Urban Design, Architectural,
& Restoration Codes**

Appendix 3- Manual of Economic Strategies

9.0. Appendices in (CD Format)

**Appendix 1: Main Report, Attachments, and
Appendices,**

Appendix 2: Individual Consultants Reports:

9.1 Conservation Zones Report

9.3 Urban Design Report

**9.4 Control, Management, and
Coding Report**

9.5 Restoration Report

9.6 Information Technology Report

9.7 Economics Report

9.8 Legal Reports

Acknowledgement

I would like to express my sincere gratitude to the honorable Minister **H.E Ali bin Saleh Al Saleh**, the Undersecretary **Dr. Jumma Al-Khaabi** and the Assistant Undersecretary **Mr. Mohammed Noor Al-Sheik** for giving me the opportunity to direct this project : **Capacity Building for Enhancement of Urban Governance (Conservation of Traditional Building)**. Furthermore, for their continuous support and guidance in achieving successful completion of this project.

My gratitude is also extended to all the staff at United Nations Development Program in Bahrain, particularly **Mr. Ali Salman**, Programme Analyst. I also wish to express my gratefulness to the consultants, who came all the way to Bahrain to participate in the project and played a vital role in bringing this project to its successful outcome. In conclusion, I owe special thanks to my staff at Research and Studies Section, who helped and supported me to undertake this project with an indefinable team spirit where it is difficult to acknowledge them all by their names.

Dr. Falah Al-Kubaisy, Project Director
Research & Development Advisor
Ministry Of Municipalities & Agriculture Affairs

What is in the CD

- 1. Main Report, Attachments and Manual Appendix**
- 2. Individual Consultants Report**
 1. Conservation Zones Report by **Prof. Daniele Pini** – Protective Zones (Prof. University of Ferrara, Italy, UNESCO Consultant)
 2. Urban Design Report by **Mr. Duane Phillips** - Co-ordinator and Urban Designer (KEOIC,DPZ-Europe)
 3. Control Management and Coding Report by **Prof. Besim Hakim** - Arab Islamic Heritage & Coding Specialist (FAICP,AIA Consultant)
 4. Restoration Report by **Dr. Alaa Elwi El-Habbashi** - Conservation/Restoration Consultant (ARCE, University of Monofiyaa, Egypt, World Monuments Fund Consultant)
 5. Information Technology Report by **Dr. Osama Tolba** - Information Technology Consultant (Asst. Professor, Department of Architecture, Cairo Branch, Arab Academy for Science & Technology)
 6. Economics Report by **Mr. Donovan Rypkema** - Economic Advisor (Heritage strategies International)
 7. Legal Reports by
 - 7.1 **Mr. Audun Engh** - Legal Advisor (CNU/CEU, Intbau, Princes's Foundation)
 - 7.2 **Dr. Salih Ibrahim Ahmad** - Legal Consultant (Assistant Professor, College of Law, University of Bahrain).