

# Strategic Initiative for Tubli Bay Urban Development



A project design prepared for:



By:



**cdcg**

CORNELL  
DEVELOPMENT CONSULTING GROUP

11/20/2006



**cdcg**  
CORNELL  
DEVELOPMENT CONSULTING GROUP

Cornell University  
109 Sibley Hall  
Ithaca, NY 14850  
USA

Mohammed Al Sharif  
Sustainable Development Programme  
UN House 69  
Road 1901 - Hooraa 319  
P.O Box 26814  
Kingdom of Bahrain

Dear Mr. Al Sharif,

In response to your Terms of Reference concerning Tubli Bay, it is our privilege to submit the enclosed draft of our program design of the Strategic Initiative for Tubli Bay Urban Development. This proposal highlights the ecological, economic, and social issues concerning Bahrain and the Tubli Bay area, analyzes the sustainable opportunities for development, and makes strategic suggestions and budgetary recommendations for the next phase of this project.

The Cornell Development Consulting Group organized 15 specialists with expertise in environment assessment, economic development, community development, regulation enforcement, and financing to plan the Strategic Initiative for Tubli Bay Urban Development. The Group conducted a thorough study of the available documents, analyzed the existing policy legislation and enforcement, reviewed the government institutional interventions in environmental protection, and suggested budget allocation.

As a consulting group, we are ready to present our final edition of this proposal on Monday, December 4th of 2006. Your attendance would be an honor. If you have any questions and/or comments regarding the interpretation of this report please feel free to contact me by post or email.

Sincerely,

Matthew J. Hendren, Ioseb Nutsunidze  
CDCG Task Force Delegates  
[mjh225@cornell.edu](mailto:mjh225@cornell.edu)

Enclosure: Strategic Initiative for Tubli Bay Urban Development

# **Strategic Initiative for the Tubli Bay Urban Development Program**

## **Term of Reference**

### **Background**

Tubli Bay is located in the north-east of Bahrain, south of the capital city Manama. It is a sheltered bay with large areas of inter-tidal mudflats and the last remaining stand of mangroves in Bahrain. In addition, Tubli Bay has been a nursery area for fishes and commercially important shrimps and wintering location for thousands of migratory birds. For the past thirty years, however, the Bay has been under threat from human activities. Reclamations around the Bay, sewage outfalls into the bay, silt discharges from sand-washing plants, low tidal flow velocities and reduced flushing of the bay caused by the Sitra Causeway and Maamir Channel have contributed to the heightened environmental sensitivity and 60% reduction of the bay size since 1950.

The environmental and aesthetic degradation of Tubli Bay from economic and urban development activities along its shore threatens the vitality of Bahrain's ecology, economy, and society. Realizing the national and international importance of the Tubli Bay the UNDP in collaboration with the Government of Bahrain seeks to mitigate harmful influences on the bay and rehabilitate the damage it can while strengthening the local community and economy. The Tubli Bay Urban Development Program Initiative arose from this understanding.

### **Purpose and Outcome of Consultancy Assignment**

The purpose of the present consultancy mission is to generate a detailed plan of action of how to approach the problem of the environmental deterioration in Tubli Bay area. The consultants must address the impacts of current degrading activities and generate a strategic vision of transforming current Tubli Bay into International Sustainable Ecotourism Destination. Consultants may expand their vision beyond the environmental processes if they feel it is necessary. They must determine specific parameters to assess the impact of current activities. A coherent solution to reverse the negative impacts caused by the present or future industrial and residential developments in Tubli Bay and its surrounding areas is also expected. Finally, the consultants should determine the possible sources and mechanisms for funding the program at its later stages.

### **Scope of Work**

The Scope of the consultant is expected to assess all the possible primary sources of pollution and other activities that individually or jointly are having a negative impact on the Tubli Bay Environment

### **Role of Consultants**

The consultants' duties and activities include but are not limited to the following:

- Conduct a review of previous environmental studies
- Review the existing legal structure
- Propose a timeline of needed activities

- Identify potential funding sources
- Design mechanisms (public awareness, sustainability, etc) to ensure the successful implementation of the program.
- Look at the Tubli Bay environmental problem within a larger national context
- Identify stakeholders and ensure local community participation
- Identify potential policies and strategies to handle the problem
- Identify the areas where more studies or planning is required
- Generate an overall strategic vision for a sustainable Tubli Bay Urban Development Plan.
- Review the current environmental status at Tubli Bay which is surrounded by different housing and industrial activities
- Identify environmental implications of continuing current trend of land reclamation in the Bay
- Recommended urban planning measures for environmental safeguards of Tubli bay

### **Resources and Constraints**

Consultants should be well aware of the budget and funding issues. They should work closely with the UNDP, Government of Bahrain and any other possible funding sources to assure that the objectives of program realistic within the fiscal limits of this project. Consultants are encouraged to meet with organizations and individuals previously involved in the Bahrain Environment or other related spheres planning process .

Also to identify the right sources of funding and address their interest in accordance to the needs of the project.

### **Role of Government**

Various agencies of the Government of Bahrain will aid in facilitating the success of the project throughout its progress by providing the following:

- Access to archives/reports/rev9iews/data at the line ministries and institutions
- Nominate a focal point to e assigned to this assignment
- Logistics such as field visits, computers, office space and secretarial assistance

### **Submission of Report**

A final report shall be submitted by Monday, November 27, 2006.

### **Deliverables**

- A detailed action plan for the consultancy
- An environmental assessment
- Guidelines for the protection of environmental sensitive areas in the bay
- Complete set of recommended urban planning measures and activities



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DEVELOPMENT CONSULTING GROUP

### **Task Force**

Matthew Hendren  
Economic & Community  
Development Representative

Ioseb Nutsubidze  
Management Group  
Representative

#### **Environmental Group**

Mohamed Shaker Hebara  
Jacqueline Kazembe  
Amal Merabti  
Savitha Rammohan

#### **Economic & Community Development Group**

Aosua Asare  
Rami Chami  
Sukjong Hong  
Belma Pobric  
Elizabeth Seward  
Matthew Hendren

#### **Management Group**

Gregory Ortiz  
Donaldo McPherson  
Abdul Rashid Sheikh  
Xiaoyu Wei  
Ioseb Nutsubidze

## EXECUTIVE SUMMARY

Tubli Bay is a unique wetland and coastal area of the Kingdom of Bahrain. As a wetland and migratory staging area for many species of birds, the nursery ground for fish and shrimp, and home to the last remaining stand of mangroves in Bahrain, the bay is unparalleled in the nation for the range of ecological habitats and species it supports. Its biodiversity value has been recognized nationally and internationally through its designation as a potential World Heritage Site and by the numerous national legislative and executive decrees specifying its protection. However, the impact of urban development and infrastructure in Bahrain, especially in the nearby capital city of Manama, continues to threaten the future existence of the bay's biodiversity and its recreational value for the residents of Bahrain. Therefore, the governance and management of this resource is a key area for future policy and enforcement intervention for the nation.

However, the major challenge in carrying out an environmental program in the bay is that a multitude of economic factors and stakeholders are involved. Contributing factors include urban population growth, industrial resource uses, public wastewater treatment, a key infrastructural causeway, and the private expansion of land into the bay. Compounded with the decline of both fisheries and agricultural sectors, the bay is part of a larger landscape suffering natural resource degradation in the kingdom of Bahrain. At the same time, the government has recognized that the oil-based revenue fueling the nation's current expansion and development is not infinite, and that its eventual depletion requires a shift in the nation's economic development strategy towards a more sustainable, long-term and diversified economic base. This not only requires the technical and environmental know-how, but also the human capacity development of Bahrain's workforce and educational infrastructure. Thus, a national imperative for development is the long-term restoration of Tubli Bay's biodiversity and other natural resources in Bahrain to the benefit of multiple stakeholders, including the general public and private industry.

By incorporating environmental and economic development objectives into one integrated program, with careful consideration of the social and community development possibilities, Bahrain may develop the full potential of unique habitats such as Tubli Bay. The following report outlines the problem, the context of the nation's institutional framework and capacity, and proposes a program organized by three key areas of specialized expertise: comprehensive environmental assessment, economic and community development planning, and a proposal for the centralized management of the various program areas. The proposed program is organized into two phases, beginning with immediate analysis and interventions that inform the following phases of longer-term projects and programs. The first phase requires a series of environmental habitat and impact assessments of industrial activities and infrastructure, surveys of industries that will be affected by changes in policy, an expansion of existing training programs and assistance for workers, and the establishment of an interim coordinating body to manage the program for the mitigation of Tubli Bay's degradation. For this set of integrated studies and assessments, the estimated cost will

be \$1.3 M. The second phase outlines the formal establishment of a centralized Tubli Bay Authority to manage and coordinate public and private agencies and activities, including long-term programming and policy to support sustainable industries such as cultural tourism and establish research institutions, such as a Marine and Coastal Life Research Center, that will contribute to the capacity and knowledge base of Bahrain's people and civil servants. Throughout the program, the introduction of a public awareness and citizen review process is highly recommended in order to ensure the social sustainability of any initiative related to Tubli Bay.

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## **Section 1**

### **CONTEXT AND JUSTIFICATION OF THE PROPOSED PROGRAM**

To address urban development in Tubli Bay, it is necessary to understand the situation within the context of Bahrain's recent political, social, economic, and environmental history. Beyond this background, the apparent needs of the situation present themselves and form the problem statement to be addressed through the Strategic Initiative for Tubli Bay Urban Development Program. With the problem statement in mind, justification for this program is explained and the affected stakeholders and beneficiaries are considered.

#### **1.1 Country Context**

The Kingdom of Bahrain is an island state in the Persian Gulf located east of Saudi Arabia and northwest of Qatar. The Al Khalifa family has been ruling in Bahrain since the transition from Persian rule in the late 18<sup>th</sup> century. During the 19<sup>th</sup> century, Bahrain assumed status as a British protectorate, and in 1971, Bahrain was granted its independence.

In 2002, Bahrain reformed its constitution, changing its governmental structure to a constitutional monarchy. This entailed the creation of an elected parliament, an appointed council, an independent judiciary system, and for the first time in the country's history, women's suffrage. King Shaikh Hamad Bin Isa Al Khalifa writes in Article 4 of the constitution that:

Justice is the basis of government. Cooperation and mutual respect provide a firm bond between citizens. Freedom, equality, security, trust, knowledge, social solidarity, and equality of opportunity for citizens are pillars of society guaranteed by the State.

With this and other foundations, such as: free speech (article 23), social justice (article 10), and environmental protection (article 9), the Government of Bahrain is attempting to create a more equitable and sustainable social platform (2002).

In July 2006, the population was estimated to be 698,585 with an annual growth rate of nearly 2 percent by birth and immigration (Figure 1.1-1). The religious

composition of Bahrain is roughly 80 percent Muslim, (60 percent are Shiite and 40 percent Sunni), 10 percent South Asian and 9 percent Christian. Bahrain has a relatively high number of immigrants and foreign residents which collectively compose 34 percent of the population. Though this figure is high, it is lower than its neighbor Qatar, where non-nationals exceed 50 percent of the population. The people of Bahrain are well educated with a literacy rate of approximately 90 percent of the population (U.S. Department of State, 2006) and approximately 35 percent of the population attends post secondary schooling (UNESCO 2004). The Bahraini workforce continues to make the country an attractive environment for economic development.

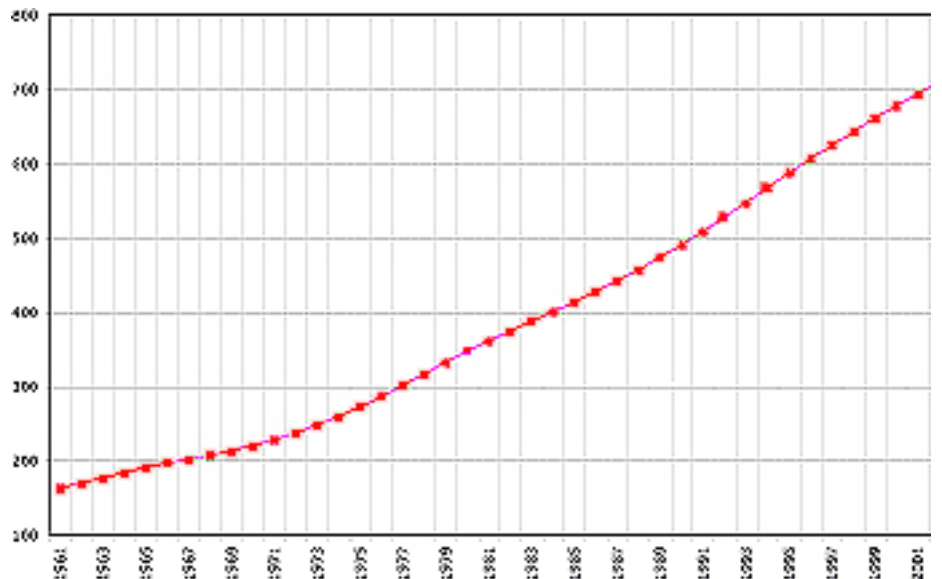


Figure 1.1-1 Increasing Population of Bahrain Between 1961 and 2001 in millions (Source: FAOSTAT, 2005 )

The economy of Bahrain has been steadily growing for the past 15 years and as illustrated by Figure 1.1-2 has more than doubled during this period. The economy of Bahrain is amidst the process of significant diversification which began nearly 30 years ago (Oxford Business Group 2006). As Bahrain foresees the limit of its oil production, investors are continuing to transition from oil production to a broader service based economy. Figure 1.1-3 illustrates the trend in greater service GDP, most notably over the last 6 years. Investment has been increasing in new sectors

such as banking, financial services, tourism, and real estate which constitute over 60 percent of the GDP.

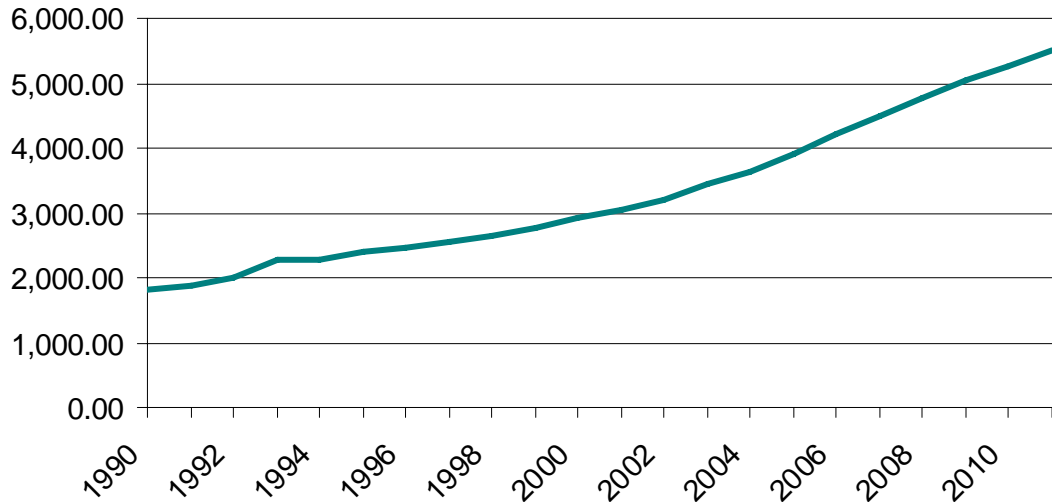


Figure 1.1-2 Real GDP of Bahrain Between 1990 and 2011 (projected) in \$ millions.  
(Source: EIU Data Service 2006)

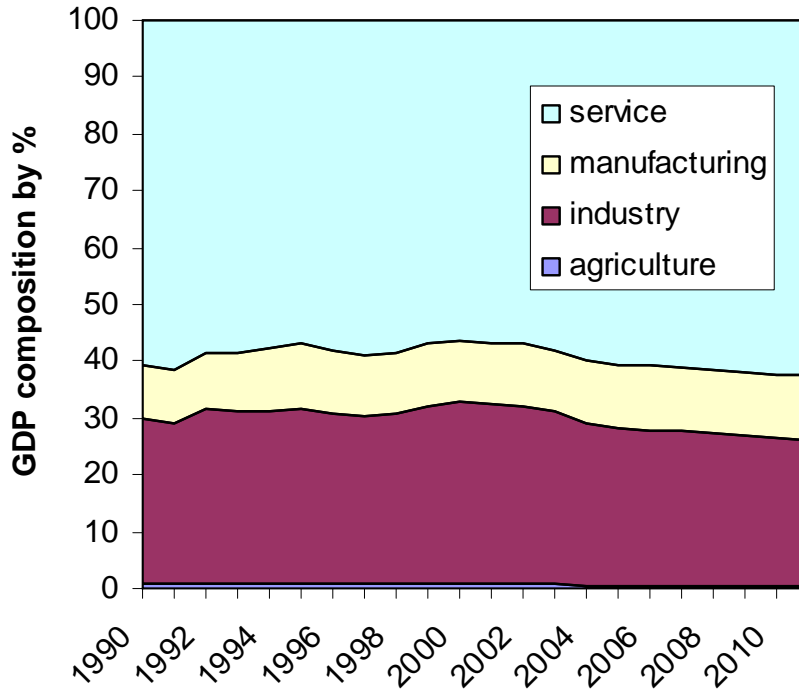


Figure 1.1-3 GDP of Bahrain by Sector Between 1990 and 2011 (projected)  
(Source: EIU Data Service 2006)

The country of Bahrain possesses some environmental resources that are unique to the Gulf Region. Predominantly, the island is known for hosting thousands of migratory birds, several which are threatened or endangered. Additionally, Bahrain is known for its diverse ecosystems which support such large mammals such as dolphin, dugong, and the Arabian Sand Gazelle and also sea snakes and turtles.

Of the unique environments in Bahrain, Tubli Bay is geographically unique and biologically diverse ecosystem situated just south of Manama, Bahrain's capital and largest city (Figure 1.2-1). Tubli Bay is known as the "Jewel of the Kingdom" with both cultural and biological importance for the country. Tubli Bay shelters the island of Al Nabih Saleh which has been a popular cultural location for weekend retreats as a religious center and visiting area. Biologically, Tubli Bay occupies a very important ecological role in the region and providing and maintaining habitat for different species of plants and animals.

During their migration season, the intertidal mud flats in Tubli Bay provide an important staging and wintering area for up to 45 species of water birds. Additionally, Tubli Bay has the last remaining natural mangrove stand in the country. The mangroves and sea grass provide nursery areas for fish and shrimp species (Abdulqader, 1999). This habitat plays an important role in the productivity of coastal fisheries in the surrounding area, where over 90% of Bahrain's shrimp catch is dependant upon the species native to the Bay (Bahrain First National Report to the Convention on Biological Diversity, 2006). In addition to shrimp, the sea grass beds also provide a habitat for endangered species such as turtles and dugong.

These ecological and cultural treasures, partnered with scenic views of the Gulf and the Manama Skyline illustrate just some potential tourism and fishing industries Tubli Bay holds for Bahrain (Image 1.1-1).



Image 1.1-1 View of Manama across Tubli Bay (Source: Nixon 2006)

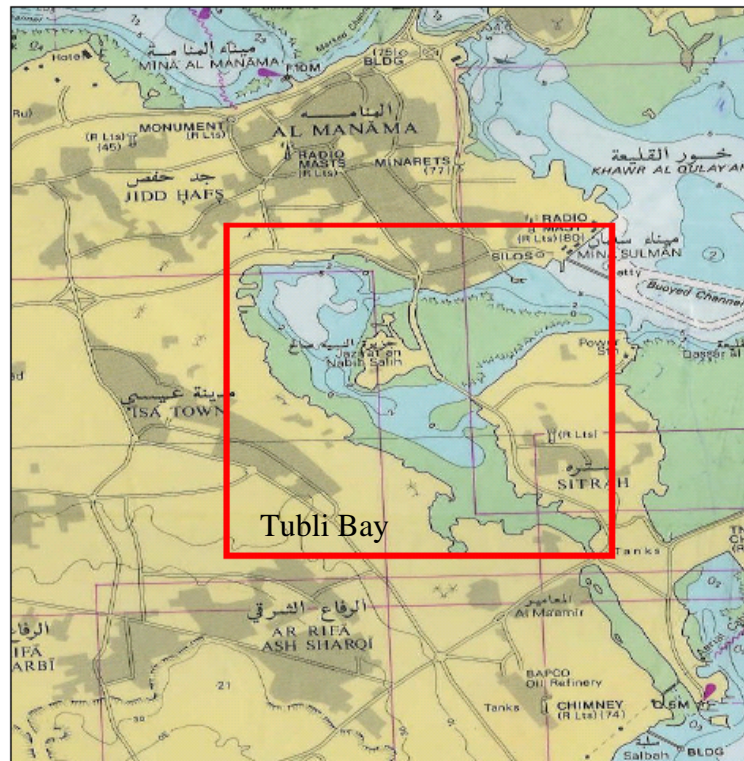


Figure 1.1-4 Tubli Bay Location (source: PHEG 2005)

## 1.2 Apparent Need

The apparent needs involved in Tubli Bay are framed by environmental, economic, and community assessments. They are based upon previous studies in Tubli Bay and reflect foundational priorities of environmental sustainability, economic well being, human health, and societal well being.

**1.2.1 Environmental.** Tubli Bay’s biodiversity has made it a valuable natural resource for the Kingdom; however recent economic development in conjunction with the population growth has introduced a number of environmental and social consequences. Environmentally, major development issues have threatened the Bay’s ecological balance. Some of these issues include: bay infilling, effluents from both sand production facilities and the waste water treatment plant, inadequate solid waste disposal practices, declining fishery and agricultural performance, and the reduced capacity for the environment to recover from such stresses due to large infrastructure projects. The environmental damage is clear in images 1.2-1 – 1.2-4 presented by UNDP consultants Dr. Ahmed Shalaby and Stephan Fuller:



Image 1.2-1 Desiccated Date Palm Plantation, Dumping from Depletion of Groundwater Aquifer (Source: Fuller 2005)



Image 1.2-1 Infill Development and Waste Dumping (Source: Shalaby 2006)



Image 1.1-4: Dead Mangroves (Ibid)



Image 1.1-5: Waste Dumping in Tubli Bay (Ibid)

With growing urbanization, industrialization, and pressure of increasing population, the natural resources of Tubli Bay are under threat. Infilling the coast for

development has caused the size of the Bay to decrease from 23.5 km<sup>2</sup> in 1956 to what was now estimated to be 12.5 km<sup>2</sup> (PHEG, 2005). This trend is illustrated in Figure 1.2-1. As the human population continues to expand and property values continue to rise, a clear balance needs to be sought in order to preserve the unique national treasure of Tubli Bay.

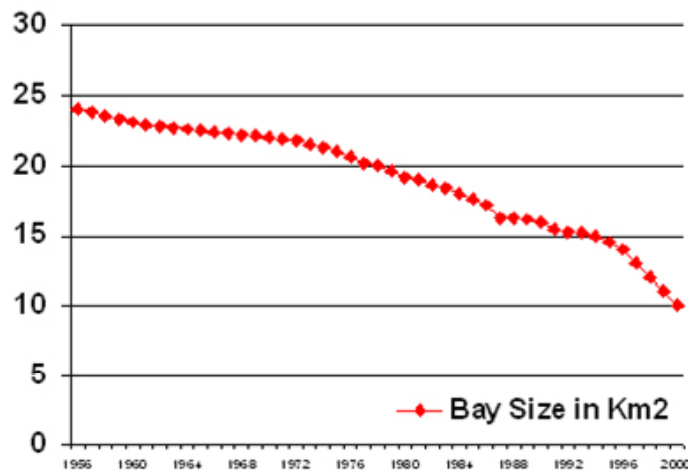


Figure 1.2-1 Decreasing Size of Tubli Bay Between 1956 and 2000  
(Source: Shalaby 2006)

Given the present status of Tubli Bay and its ecological importance, there is an urgent need to arrest further degradation and guide economic development in a manner that will be more environmentally sustainable. The following environmentally unsustainable activities were identified:

- Reclamation around the bay
- Sewage outfalls into the bay
- Silt discharges from sand washing plants into the bay (currently five facilities).
- Reduced tidal flow (caused by Sitra Causeway and Maamir Channel)
- Uncontrolled fishing around the bay
- Rubble and litter dumping into and around the bay.

**1.2.2 Economic.** Over the past decade, the Government of Bahrain has taken



measures to reinvigorate and diversify the Bahrain economy by promoting infrastructure, education and improving the business climate in the region. Although Bahrain still relies on oil income for budget financing, there have been efforts made to promote other industries such as aluminum production or oil refining or sectors such as banking, insurance and tourism. Since 2000, real GDP growth for the country has been above 5% and in 2006 it is estimated to be above 6% (Emerging Bahrain, p 95).

In 2005, a royal decree expanded the authority of the economic development board. Since then the Board has been dedicated to finding new areas of diversifying the economy. The EDB (Economic Development Board) is looking to diversify the economy in areas as tourism, logistics, healthcare, education and real estate. Currently the EDB 2015, strategy is expected to increase the annual GDP by 6-9%, annual employment growth of 5% and doubling GDP by 2015. EDB hopes to increase productivity by creating higher skills and higher wages for the labor force in Bahrain. This economic success increases pressures for new offices, new housing, and infrastructure like roads and transportation. Therefore in order to make any suggestions for sustainable development practically feasible, unsustainable economic activities should be guided and phased out to allow economic diversification at the same time, ensuring that it does not have further repercussions in the area.

**1.2.3 Civil Society & Community Development.** The environmental and economic issues described above present a challenge for the communities living and working around Tubli Bay. This is especially true considering that over 85% of Bahrain's population lives within 10 km of Tubli Bay (UN 2002). In order to mitigate the human stress on Tubli Bay, community members need to be engaged through education about economic, social, environmental issues facing the area. In addition, engaging the community provides the government an opportunity to build local capacity which can be utilized in later stages of the program and in the future.

Though an incomplete representation of the population, some of the issues involved with ethnic and gender relations are highlighted in a labor force analysis. The breakdown of both public and private sectors is illustrated in Figure 1.2-2 below.

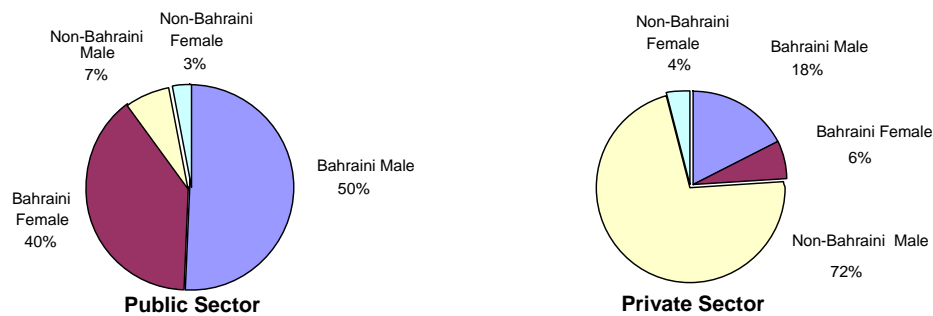


Figure 1.2-2 Sector Labor Segmentation (Source: Kingdom of Bahrain Monetary Agency Report, 2006)

In addition to the noticeable difference between the public and private sector's employment of Bahrainis and Non-Bahrainis, it is clear that women are much less employed in the private sector. According to 2005 Bahrain Monetary Agency Statistics, the private sector employed 89 percent of the population while the remaining of the employed worked for the public sector. The private sector employs over 70 percent of non-Bahraini and 88 percent of Bahraini men. These statistics illustrate that a comparatively small number of Bahrainis are employed by the government, and that foreign workers contribute a significant proportion of labor. Most of these foreign workers are industrial laborers which constitute nearly 80 percent of the national employment.

With such a great degree of labor concentrated within the industrial sector, there is a need for training programs in order to develop the human capital in Tubli Bay community. This will help workers in the area adapt to the transition in the economy, build local capacity, and reduce unemployment. These training programs will provide workers the skills needed to transition from unsustainable work to employment in more sustainable industries. Such opportunities provide economic and environmental benefits while also including the local community in the program's benefits.

**1.2.5 Problem Statement.** The Strategic Initiative for Tubli Bay Urban Development will address the following problem statement as based on the highlighted environmental, economic, and community needs.

*To build the local capacity for a sustainable balance between infrastructure, economic growth, and community demands that would ensure long term sustainability of Tubli Bay's biologically diverse eco-systems.*

### **1.3 Program Justification**

Since the 1970s the Government of Bahrain has been committed to protecting the ecosystem by passing decrees to protect the environment. In 1980, the Environmental Protection Committee and Environmental Protection Technical Secretariat were established under the Amiri decree no. 7. Among their responsibilities was to creating awareness for wetlands. In 1996, an Environmental Affairs office was established to protect, rehabilitate and improve the environment to ensure sustainability. There have been successes in establishing programs to preserve biodiversity and ensuring safe drinking water.

The Government of Bahrain has also signed and ratified various national, regional and international conventions aim at protecting the environment.

In 2006, the cabinet of Bahrain passed the National Environmental Protection Plan as the national strategy for ensuring environmental sustainability in the Bahrain. Additionally the government of Bahrain has passed of governmental legislation to set up the finalized “Red Line” of the bay defining the extent of permitted infill development.

Though these initial steps in legislation present the case that the Government of Bahrain is well aware of the environmental issues, and committed to making them a national priority, significant opportunities exist to discourage degradation of Tubli Bay. Given this context, the Strategic Initiative for Tubli Bay Urban Development is well justified in coordinating efforts toward greater protection of the bay and facilitating more effective implementation of these policies through economically and socially sensitive means.

### **1.4 Stakeholders and Beneficiaries**

Establishing a network of stakeholders is a critical part of implementing the program in Bahrain. Some stakeholders have conflicting interests that could lead to

disagreements over the program direction. With this in mind, it is necessary to understand which stakeholders will be in conflict and what issues drive the conflict. This is illustrated through the assessment of stakeholders and their particular interests. Bringing these diverging interests to the table enables groups to take stake in the improvement of Tubli Bay and avoid any social unrest that can occur when interests are ignored in major decisions over employment issues.

Beyond specific issues like the location of sand washing plants, the economy of the Tubli Bay region should be considered in a stakeholder analysis. For example, the ongoing economic diversification and recommendations to shift employment to sustainable activities will create conflict for declining sectors and displaced workers. Using a stakeholder analysis will help understand how fishing, cultural tourism, agriculture, and transitional assistance are interlinked activities that support the goal of diversifying the economy of Bahrain.

For protecting an area as complex as Tubli Bay, the cooperation and assistance of a number of stakeholders is essential. Stakeholders in Tubli Bay have historically held varied and at times conflicting interests. The Strategic Initiative for Tubli Bay Urban Development addresses some of these hurdles in an effective manner. This initiative aims to bring about sustainable economic development which is environmentally responsive through involvement of stakeholders and community.

In attempting to understand each stakeholder's needs involved in the Tubli Bay Program, it was necessary to consider the nature of interests involved. This initiative will affect stakeholders on international, national, private, and public levels to varying degrees. International corporations and environmental conservation groups hold significant ties to the markets and environment of Bahrain, thus affecting and being affected by development in Tubli Bay.

The Government of Bahrain has several national departments representing concerns in Tubli Bay. Several of these are the Ministry of Housing, The Ministry of Health, The Ministry of Labor and Financial Affairs, the Ministry of Finance and National Economy, and the Ministry of Municipalities and Agricultural Affairs. The present industries of fishing, sand manufacturing, and real estate, currently are significant private local stakeholders in the Tubli Bay region. Additionally, there is a

thriving tourism industry which also has vested interests in the preservation of the bay.

Residents around Tubli Bay represent a final category of stakeholders and should include both residential property owners and the low income community across racial and gender lines. Please see Table 1.4-2 for more information regarding some potential stakeholders and their respective needs.

**Table 1.4-2 Affected Stakeholders and Their Respective Concerns**

<b>International</b>	<b>Governmental Departments</b>	<b>Local Private Sector</b>	<b>Public Sector</b>
<p><b>Environmental and Conservation Groups</b></p> <ul style="list-style-type: none"> <li>• <i>restoration and preservation of unique habitat and wildlife.</i></li> </ul>	<p><b>Ministry of Housing</b></p> <ul style="list-style-type: none"> <li>• <i>residential housing</i></li> <li>• <i>tourism development</i></li> </ul>	<p><b>Local Industry</b></p> <ul style="list-style-type: none"> <li>• <i>satisfying immediate business goals</i></li> <li>• <i>sustainable fisheries and agriculture</i></li> </ul>	<p><b>General Public</b></p> <ul style="list-style-type: none"> <li>• <i>domestic food production</i></li> <li>• <i>water availability</i></li> <li>• <i>waste disposal services</i></li> <li>• <i>affordable housing</i></li> </ul>
<p><b>Corporations</b></p> <ul style="list-style-type: none"> <li>• <i>emerging markets for products and services</i></li> </ul>	<p><b>Ministry of Health</b></p> <ul style="list-style-type: none"> <li>• <i>wastewater treatment</i></li> <li>• <i>safe access to drinking water</i></li> </ul>	<p><b>Tourism Industry</b></p> <p><i>Seeking promotion of tourism through</i></p> <ul style="list-style-type: none"> <li>• <i>recreational</i></li> <li>• <i>ecological</i></li> <li>• <i>and religious sites</i></li> </ul>	<p><b>Workers</b></p> <ul style="list-style-type: none"> <li>• <i>job creation/loss</i></li> <li>• <i>employment advancement</i></li> <li>• <i>political representation</i></li> </ul>
	<p><b>Ministry of Labour &amp; Financial Affairs</b></p> <ul style="list-style-type: none"> <li>• <i>job creation / loss</i></li> </ul>	<p><b>Sand Manufacturing</b></p> <ul style="list-style-type: none"> <li>• <i>incentives for alternative silt disposal or site relocation</i></li> </ul>	<p><b>Women</b></p> <ul style="list-style-type: none"> <li>• <i>employment opportunities</i></li> <li>• <i>political representation</i></li> </ul>
	<p><b>Ministry of Finance and National Economy</b></p> <ul style="list-style-type: none"> <li>• <i>prioritizing infrastructure spending toward national goals</i></li> </ul>	<p><b>Real Estate</b></p> <ul style="list-style-type: none"> <li>• <i>Property values increasing</i></li> <li>• <i>Reclaimed land holdings</i></li> </ul>	

## **Section 2**

### **DEVELOPMENT STRATEGY AND CAPACITY IN BAHRAIN**

Given the context of the program's need and stakeholder involvement, it is necessary to demonstrate the development capacity for this program within Bahrain . This includes understanding overall development strategies, specific efforts the government has made toward the program's objectives, the history of donor support, the absorption capacity, and institutional framework which might support this program.

#### **2.1 Overall Development Strategy of the Country**

Since the late 1990s, the government of Bahrain has approached the issue of rapid urban development and environmental degradation through a sustainable development policy framework. Because land for development is scarce in this archipelago nation, careful planning that balances conservation and growth objectives is necessary. At the same time, recognition of existing human development resources is a key tenet of Bahrain's sustainability orientation. Integrating these areas of concern, the five key aspects of Bahrain's sustainability focus have been in health care, human resources development, the management of natural resources and the environment, economic diversification, and education. The government has prioritized these areas of human development, thus leading Bahrain to become the 38<sup>th</sup> in the world according to latest UNDP Human Development Index report. Thus it is reported that no Bahraini lives in abject poverty. Housing is a right for all citizens, and education and health care are subsidized by government revenues. The sustainability of this approach has been questioned, however, and the government currently seeks a more privately-led, entrepreneurial direction.

A strategic step in the sustainable future of Bahrain is the development of a comprehensive land use plan. The purpose of drafting this plan, which began in the year 2006, has been to give direction to future development while keeping social and environmental considerations central. In many ways, such a plan is intended to preclude random or piecemeal development, to maintain an identity in the built and social infrastructure of Bahrain, and to distinguish its environment for investors and

businesses. The National Planning Development strategies in this land use plan are organized into five categories:

- a physical strategy directing public infrastructure
- an environmental strategy focusing on conservation and setting new standards, an economic strategy building on Bahrain's natural resources and identifying sources of new growth,
- a social development strategy to assist Bahrain in its current transition while maintaining its culture
- an implementation strategy that manages the feasibility and resources required to accomplish this plan.

Currently, the development of Bahrain is directed towards maintaining its competitive advantage in the banking and finance sectors among its Gulf neighbors, while at the same time distinguishing itself for having a high quality of life and emphasizing the development capacity and workforce readiness of its national citizens. Compared to the region, Bahrain's development in the tourism sector emphasizes itself for a more family-friendly, relaxed atmosphere, as well as its capacity to host global events, such as the Formula One Grand Prix tournament.

## **2.2 Specific Efforts of the Government**

The government of Bahrain has promoted environmental awareness in the country through educational campaigns, protecting natural areas and legislative and institutional development. Educational campaigns raise awareness about the need to protect the environment in order to promote economic and social development of the country. Institutions such as the Bahrain Research Centre and the Environmental and Energy Research Centre of the University of Bahrain also conduct research and disseminate information on the state of Bahrain's environment

The government is committed to protecting sites such as Tubli Bay; several international conventions, enacted laws and decrees directly and indirectly protect the bay. Table 2.2-1 below indicates legislative instruments that have been passed to control environmental pollution and land reclamation relevant to the Tubli Bay coastal area.





**Table 2.2-1 Laws specific to the Protection of Tubli Bay**

<b>Legislative</b>	<b>Objective</b>
Government Announcement in 1941	The probation of taking mud & mangroves from the bay
Legislative Decree No. 13 of 1975 and No. 16 of 1989	The probation of dumping wastes on the shore
Municipal Order No. 5 of 1990	Regarding the renewal sites for dumping construction wastes
Legislative decree No. 8 of 1993	With respect to the Territorial Sea and contiguous zone of the state of Bahrain
Council of Ministers Order No. 15 of 1995	The prohibition of reclamation works in Tubli Bay and declaring the whole Bay as a protected area. Controlling development in the existing coast
Central Municipal Commission Order No.15 of 1995	The probation of reclamation works and developments in Tubli Bay and declaring the whole Bay as a protected area. Controlling development in the existing coast
Legislative Decree No. 2 of 1995 and Legislative Decree No. 12 of 2000	The prohibition of dumping wastes in marine environments
Ministerial Order No. 21 of 1996 with respect to the environment	The prohibition of dumping waste in marine environments
Ministerial Order No. 1 of 1998	The implementation of Environmental Impact Assessment (EIA) for projects
Ministerial Order No. 20 of 2002	Organizing fishing and exploitation and protection of marine resources (Articles 18,19,20 and 21)

(Source: *Urban Planning Strategy for Tubli Bay Area Focusing on Conservation and Protection Measures*, Shalaby, 2006)

Though the current state of the bay indicates that there are some challenges in the enforcement of these laws, the National Environmental Action Plan will aid in the enforcement and regulation these laws.

## 2.3 History of Donor Support

In relation to the UNDP, Bahrain is a Net Contributor Country (NCC) that finances all its technical cooperation programs. In addition, Bahrain does not receive funding from multilateral financial institutions such as the World Bank or the International Monetary Fund (IMF). In recent years however, Bahrain has applied for several funding through the Islamic Development Bank (IDB), the OPEC Fund for International Development. The Arab Fund for Economic and Social Development (AFESD) and the Kuwait Fund for Arab Economic Development KFAED have contributed significant amounts towards various public and private sector projects. These projects are listed in the Table 2.3-1.

**Table 2.3-1 Development Lending in Bahrain**

Type	Name	Amount	Dates	Status	Lender
Loan	Expansion Of 66 Kv Network	\$ 4,217,292	1996	Complete	KFAED
Loan	North Sitra Industrial Area	\$ 6,160,000	1980	Complete	KFAED
Loan	Rifa Power Station	\$ 5,956,421	1978	Complete	KFAED
Loan	Aluminium Smelter	\$ 994,307	1970	Complete	KFAED
Loan	Flour Mill	\$ 500,000	1971	Complete	KFAED
Loan	Manama-Muharraq Causeway And Bridge	\$ 498,811	1971	Complete	KFAED
Loan	Financing Of 66 Kv Transmission Development Project	\$ 7,500,000	1999	Active	KFAED
Loan	Expansion And Improvement Of Bahrain International Airport	\$ 9,500,000	6/5/1905	Complete	KFAED
Loan	Sitra Power And Water Station	\$ 7,350,000	1972	Complete	KFAED
Loan	Production & Utilization Of Treated Sewage Effluent In State Of Bahrain.	\$ 10,000,000	1999	Active	KFAED
Loan	Bahrain Development Bank Program Of Operation (1998-2001) Project	\$ 15,348,278	1998	Complete	KFAED
Loan	<u>Muharraq New Hospital</u>	\$ 20,000,000	2004	Active	KFAED
Loan	<u>Expansion of Hidd Power Station</u>	\$ 15,000,000	1905	Active	KFAED

Loan	<u>The Infrastructure of The Port of Khalifa</u>	\$ 17,500,000	1995	Active	KFAED
Loan	Khalifa BinSalman Port	\$ 49,500,000	2005	Active	AFESD
Loan	Bahrain Specialist Hospital	\$ 9,900,000	2001	Complete	AFESD
Loan	Hidd Industrial Area	\$ 82,500,000	1999	Complete	AFESD
Loan	Production and Utilization of Treated Sewage Effluent	\$ 102,000,000	1998	Complete	AFESD
Loan	The Housing Project	\$ 49,500,000	1997	Complete	AFESD
Loan	Transfer and Distribution of Water from Al-Hidd Desalination and Power Station	\$ 69,300,000	1997	Complete	AFESD
Loan	Interconnection of Al- Hidd Production Facility to the Electric Grid	\$ 33,000,000	1997	Complete	AFESD
Grant	Ministry of Commerce and Industry / Strengthening Capacity in the Global Trading	\$ 224,870	2003	Complete	UNDP/ Governance
Grant	Executing Agency the Parliament of the Kingdom of Bahrain to support the newly created Shura Council and building institutional Capacity	\$ 200,000	2006	Active	UNDP/ Governance
Grant	Civil Aviation Affairs- National Execution	\$ 337,560	2002- 2004	Complete	UNDP/ Governance
Grant	United Nations Centre for Human settlements to develop a housing policy and shelter strategy.	\$ 140,800	2001- 2002	Complete	UNDP/ Poverty
Grant	MolSA, BCSR, NGOs, Executing agent ILO/ to enhance social welfare of the needy in the Kingdom	\$ 230,000	2002	Active	UNDP/Poverty
Grant	UNESCO, Strengthening the capacity of the Environmental Reseach Centre at the University of Bahrain	\$ 566,000	1999- 2002	Active	UNDP/ Environment

In addition, the loans that Bahrain has received from AFESD and KFAED have been repaid on average in 22 years at 4.5% annual interest rate. In terms of

success of donor loans and funds, Bahrain seems to possess a sustainable policy environment where most of the projects in the table 2.3-1 have been successfully completed successfully.<sup>1</sup> The past and ongoing donor support to various overtaking in Bahrain is another powerful proof that securing finances for the Tubli Bay Urban Development Program during its implementation Phases be made available - many projects similar to Tubli Bay Urban development plan in their scope and similar funding requirements were financed in the past.

## **2.4 Institutional Framework and Absorption Capacity**

Bahrain has capable legal and administrative infrastructure. The government has carefully utilized oil export revenues over recent decades to develop infrastructure in Bahrain and create a business friendly environment attractive to foreign investors and local entrepreneurs. The government is cognizant of the importance of its environment and capable of protecting it while continuing to develop a growing and more sustainable economy. Bahrain's Economic Development Board (EDB) is proactively engaged in addressing the diverse needs of the country's population and environment. Currently the EDB has a four-pronged national development strategy

- Creating a business friendly environment
- Reducing the role of government in the economy and allowing the private sector to drive growth
- Reforming the regulatory and judicial system and improving enforcement
- Stimulating private sector opportunities by launching targeted initiatives to stimulate private sector growth

For each initiative the EDB has created a project team and a project board comprised with representatives from government and private stakeholders. These teams and project boards demonstrate the Government of Bahrain's commitment and responsiveness to the needs of the development of its economy. Realizing the

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<sup>1</sup> Kuwait Fund for Economic and Social Development. [http://www.kuwait-fund.org/e/ProjectDetails.asp?project\\_ser=572](http://www.kuwait-fund.org/e/ProjectDetails.asp?project_ser=572)

ecological significance and economic potential of Tubli Bay the government, the government will be eager to protect this valuable national resource.

### Section 3

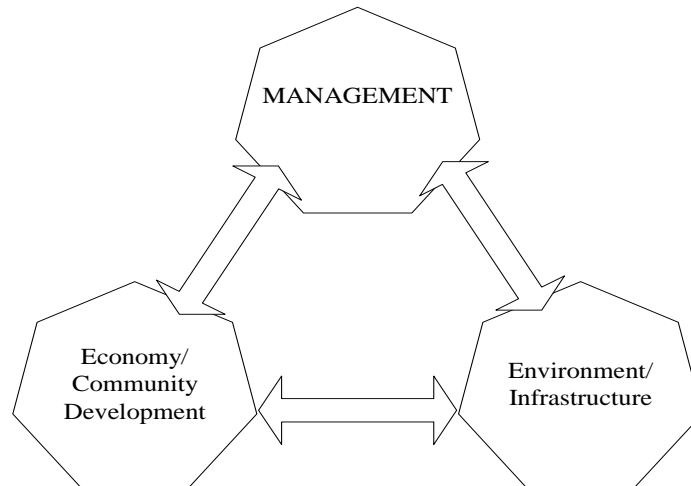
## **PROGRAM STRATEGY AND SPECIAL CONSIDERATIONS**

This section analyzes the general strategies and visions for the Tubli Bay Urban Development Plan and considers complementary Environmental and Economic strategies. Finally, the section analyzes the overall management strategy in relationship with general program structure.

### **3.1 General Program Structure**

The proposed program covers three broad areas of focus. The environmental and ecological conditions of the bay are the most obvious area with apparent needs for improvement. Second sphere, the economy and community of the bay is a less visible, yet equally important issue. The third strategic area focuses on the how aspect of the program. It re-considers the current management and implementation strategies and attempts to design a sustainable fluid management during and after the course of the program. The strategic linkages between the three focus areas are important. The environmental needs and strategies are solved and addressed by the economic strategies. The successes of both economic and environmental strategies are made possible with good management. In addition, some economic strategies cannot work without first addressing environmental problems. Designing a comprehensive and interactive strategy between the three identified areas will enforce each segment while also contributing to the overall success of the project.

Figure 3.1-1 Interaction between three areas of the program



In addition to thematically divided strategies, general strategies must be designed. Some of the programs may distort existing balances and begin to affect communities, thus strategies of alleviating these effects must be designed. As economic and ecological reforms will take place, the program management will ensure that the people of Bahrain and other stakeholders are always addressed as beneficiaries of the program. The result will be a win-win strategy where the costs to the stakeholders are offset by the benefits in public and private spheres.

The Tubli Bay Urban Development strategy also aims at diversifying the economy. The program considers the potentially profitable yet environmentally sustainable areas of business where such transformations and changes may take place. In addition, the strategy attempts to encourage these changes by creating legal and economic incentives which invite the needed behaviors. Both private and public sector will be targeted when designing economic diversification strategies and their inputs will be used during the policy making process.

Transforming the economy, sustaining and improving the environment in the Tubli Bay area, and using incentive-based strategies to promote these changes are not simple linear matters with simple solutions. Complex analysis of the problems and well-designed action plans to adequately address these needs are essential. Successful implementation of the Tubli Bay Urban Development Plan requires two-tier approach to the problem. The program will be split into a relatively shorter planning period (or



as it will later be referred to – Phase I) and much longer implementation period (or Phase II). Although Phase I is largely characterized by the consultation-based activities, its importance for the overall success of the program is equally important.

Consequently, the Phase I activities, budget, and timeline are the main focus of this report. However, the report has been prepared with very specific understanding of what the Phase II should, how the transitions between the two phases happen, and what mechanisms will exist to ensure the success of the Tubli Bay Development Program during both stages.

One of the most important strategies includes the transitional mechanisms enabling a smooth and instantaneous transition between the two phases. As it will later be discussed in the Section 4 (activities) and section 5 (inputs), financing, management, evaluation teams and various consultants will be working during the Phase I to assist this transition from planning to implementation matters.

Even though the main focus of Tubli Bay Urban Development Project is the Tubli Bay area, this strategy also needs to consider the context of Bahrain as a whole. The Tubli Bay Urban Development Program cannot simply be addressed by looking at the few square kilometers of land. Instead, the strategy must account for inter-connectivity of this small geographical area with the larger surrounding capital of Manama, Bahrain, and the region as a whole. For ecologic, economic community, and management improvement strategies to succeed, the context-specific strategy with wide focus needs to be adopted.

**Table 3.1-2 Strategies of Initiative for Tubli Bay Urban Development**

Environmental:	<ul style="list-style-type: none"> <li>• Mitigate harmful activities to Bay</li> <li>• Rehabilitate ecology of Bay</li> </ul>
Economic and Community Development:	<ul style="list-style-type: none"> <li>• Diversify the economy in a sustainable manner</li> <li>• Achieve economic growth in a sustainable manner</li> <li>• Ensure all segments of society are equitably consulted and considered</li> </ul>

Program Management:	<ul style="list-style-type: none"> <li>• Consolidation of Authority</li> <li>• Communication between government agencies</li> <li>• Economic feasibility</li> </ul>
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### 3.2 Environment

In recent years the environment of Tubli Bay has been under immense pressures from a variety of human activities. The infilling of land around the edges of the bay from waterfront residential urban development has significantly reduced the size of the bay. The quality of the water is affected by the discharge of silt from industrial plants and untreated sewage from poorly designed public infrastructure. Another infrastructure related problem is the reduction in volume of the water that naturally flushes out the bay and restores its vitality, due to the environmental unfriendly design of the Sitra Causeway. Local residents discard trash in barren areas around the shoreline. Despite the fact that many of these activities are officially illegal and population and businesses are aware of their harmful effects, the activities continue unabated. Consequentially, the cumulative effect of these human activities has been severe degradation of once very diverse environmental vitality.

To reduce the rate of environmental degradation and reverse the damages sustained by the bay two overarching environmental strategies must be implemented. The first is improving the Bay’s ecology by mitigating detrimental activities. The second strategy is proactively rehabilitating accumulated damages. In order to complement the first environmental strategy, discouraging continued environmentally-unsustainable human activities using enforcement measures while creating incentives for the businesses and public not to engage in unsustainable behaviors will be an effective strategy. In addition, the second environmental strategy considers various proactive measures geared toward rehabilitating the ecology of the bay. Plans for replanting mangroves and reconfiguring the current infrastructure of the Tubli Bay will be considered.

### 3.3 Economy and Community Development

The majority of human activities negatively impacting the bay are related to economic activity, residential urban development, and public infrastructure. In order to smoothly transition away from environmentally damaging economic activities, there will need to be increased economic opportunity in sustainable business areas. These new opportunities can be dependent on or completely independent of the bay, but as long as they are sustainable, they are welcomed. In order to grow these alternate segments of the regional economy, two economic and community development strategies for the sustainable economic diversification and growth can be pursued; they include diversifying the economy in a sustainable manner and achieving growth with a diversified economy. The economic diversification strategy aims to identifying and strengthening sustainable but also profitable areas of economy including tourism, fishing, banking, service sectors, and some possible additions to this list identified by the consultants will also be considered. By creating the incentives for the new businesses in the Tubli Bay area, the strategy aims to diverging away from activities such as sand washing plant to tourism-related or any other type of sustainable and environmentally friendly activities. Finally, a third strategy will properly utilize and unleash the potential for community-led development by helping government to closely consult and consider broadest possible spectrum of society when designing and implementing policy. These three economic and community development strategies will help shift environmentally unsustainable activities towards complementary and related sustainable activities, guide policy creation with regard to improving infrastructure. The goal here is to create a situation where all stakeholders benefit from the transformation. The economic development will be structured so to benefit all segments of society. Opportunities will be created even for the environmentally unfriendly businesses and transitional assistance programs will ensure that there are no disadvantaged. The section economic activities elaborate further on the details.

Within this framework, unsustainable activities can be discouraged and mitigated. The encouragement of sustainable activities that either utilize the bay or are independent of it will allow for sustainable distribution of resources. The government will play an active role in facilitating and assisting this transition.

### **3.4 Management**

An effective management strategic framework focuses on financing various programs in Tubli Bay, implementing activities efficiently and effectively, and coordinating existing agencies and stakeholders in productive ways. The strategic financial framework arises from the costs related to doing the research of necessary activities to move the program forward from initial to implementation phases. Further, once these studies are completed, a mechanism ensuring financial stability of the Tubli Bay Development Project during each stage must be in place. Duties of financial management in the short run include working within the proposed budget, maximizing economical and environmental outputs, and ensuring funds for future activities. This proposal also advises the establishment of an administrative model which timely connects resources with needed programs as given in the critical path. The usage of capital and human resources will be minimized and as a result the efficiency will be maximized.

Management strategies will complement environmental and economic strategies. For example enforcement support from the government of Bahrain in regards to environmental violations will act as one common strategy with strategic economic incentives for the businesses.

In order to link communities, businesses, government, and donors, in order to create cooperation between the various government agencies, to harmonize the complementary aspects of environmental and economic programs, the well-coordinated management authority is needed. It is essential that only one central authority will be in charge of all activities and Tubli related matters in the region; this will result in superior management coordination. Further, the legitimacy of this authority will need to be backed by the Government of Bahrain without jurisdiction conflicts present. This aggregate body will have power to make decisions regarding the budget, implementation, and other matters as development process advances. This structure is an integral part of crucial mechanisms of sustainability, capacity building, efficiency, coordination, administrative support, and evaluation that various proposed

programs have integrated. It is also an aspect which differentiates the Tubli Bay Urban Development Project from the previously conducted programs in the region.

While cognizant of the desire to maintain and improve current standards of economic well-being for all stakeholders, the rate of environmental degradation should not be overlooked. The longer environmentally unfriendly activities continue and longer the unsustainably-functioning infrastructure is in place, the more environmental degradation will be imposed upon the Bay. The longer the status quo is maintained the less there will be to preserve and the more it will take in order to begin rehabilitating the ecosystem. An alternative is a cooperative, sustainable strategy which improves the livelihood of all stakeholders.

## **Section 4**

### **OBJECTIVES, OUTPUTS, AND ACTIVITIES OF THE PROGRAM**

The above described environmental, economic, and management strategies are designed to address the objectives discussed in the section 4. Activities below complement the framework of the general strategy. In addition outputs they produce directly contribute the long term objectives of the program.

## **Section 4**

### **OBJECTIVES, OUTPUTS, AND ACTIVITIES OF THE PROGRAM**

#### **4.1 Guiding Objectives for Environmental Analysis**

In Bahrain the marine area is an important natural resource and the management of the coastal and marine areas has been identified as a national and a global priority by the United Nations through its global program for the Protection of the Marine Environment from land based activities (The Kingdom of Bahrain: Assessment of the Program of Action, 2003).

Tubli Bay occupies a very important ecological role in the region and provides many ecosystems' services to the surrounding environment as well as providing habitats for many different species of plants and animals.

Tubli Bay is the only place in Bahrain, with an ecological interaction between sea grass and mangroves

**4.1.1 Mitigation of Current Detrimental Activities in the Bay.** Mitigation of damaging human activities is an immediate intervention, and it will stabilize the current situation through setting measures to protect the environment of the bay. This will include immediate actions to address the most serious environmental problems. Environmental impact assessment can play an important role in this regard and can provide a quick evaluation for immediate needs in terms of actions and areas.

In doing so, it will be necessary to conduct Environmental Impact Assessments for major projects and activities proved to negatively impact the bay, namely sand washing plants, sewage treatments plants, infrastructure (Sitra Causeway and Maamir Channel) and land reclamation projects. At the same time enforcement of regulations will be of special importance. New enforcement measures will be applied to current projects and it will be strictly applicable to all new projects to make sure that future development will be in full harmony with environmentally positive objectives.

**4.1.2 Restoration and Rehabilitation of Tubli Bay's Environment.** This is a relatively longer term intervention and will focus on improving the current situation through the implementation of rehabilitation and restoration programs. It will depend on the results of the comprehensive studies analyzing and reporting on the ecological, social and economic aspects of the bay and related issues. The overall target of this phase of the program is restoring the natural conditions of the bay. International technical and financial support will be needed in order to achieve this proposal.

The creation of an enabling policy and public awareness environment will help in linking these two broad objectives. The enabling environment can be created through number of activities. Further supporting these activities is a steady public awareness program and a national campaign for protecting the bay that is addressed to the general population of Bahrain. Job training, environmental and technical capacity building, local citizen involvement, and improving the legal framework are all important initiatives that need to be adopted in order to create a positive climate for these broad objectives to function.

**4.1.3 Long-Term Objectives and Outputs.** Four long term objectives have been identified. The first one is improving wastewater management since there is a major sewage outfall causing pollution in the Bay. The projected output for this objective include upgrading the waste water facilities and improving water quality of the Tubli Bay.

The second objective is improving solid waste management. This is especially crucial in Tubli Bay due to illegal dumping of municipal solid waste.

Cessation of all dumping activities in the bay and creation of solid waste disposal facilities is an output for this objective.

The third long term objective is improving the environmental suitability of Sitra Causeway and Maamir Channel. The construction of these infrastructure projects has led to low tidal velocities and reduced flushing in the east of the bay, and a reduced tidal exchange in the west (Shalaby, 2006). The projected output for this objective includes recovered and normally functioning tidal exchange and flushing levels in Tubli Bay.

The fourth objective is to restore the aquatic, wetland and terrestrial ecosystems and ensure the continuing habitat health and integrity of Tubli Bay. Over the last few years as the bay has experienced increasing human induced stresses, the results have been poor ecosystem health and a threat to its biodiversity. The establishment of water quality monitoring program to monitor the status of the aquatic environment is an output resulting in an improved water quality in the bay.

The clean up campaign program established in the area is another output which will result in the restoration of the ecosystems' health and function. Finally, the biodiversity of Tubli Bay will be restored and the fish catches will increase in the surrounding areas of the bay as the water quality improves.

**4.1.4 Immediate Objectives and Outputs** Keeping in mind the current degradation and declining size of the bay as a result of human activities and also appreciating the bay's potential to contribute to the socio-economic development of Bahrain; the focus for the environmental studies in the bay will be in the following areas: environmental assessments of development activities such as industrial plants, infrastructure and reclamation activities covering aspects of pollution and waste disposal and ecological habitat assessments. The ecological habitat assessments will be able to generate the status of the habitats and their biodiversity.

**4.1.5 Immediate Mitigation Measures.** Ensuring the environmental compliance of current activities and infrastructures in order to improve the water quality and habitat status of the bay is the immediate mitigation objective. The following outputs and activities are associated with the objective above:



- Output 1:* Guidelines for Environmental Impact Assessment will be produced. This will allow the planning process for development projects to take the environment into account and improve the quality of decisions for similar projects.
- Activity 1.1:* Identify available researchers, agencies and consultants to conduct environmental assessment studies as well as ecological habitat assessments.
- Activity 1.2:* Establish Environmental Impact Assessment guidelines, procedures and mechanisms for all development activities and projects.
- Output 2:* Interim measures to reduce siltation in order to decrease the negative impact caused by further silt discharge from sand washing plants.
- Activity 2.1:* Conduct an environmental impact assessment of sand washing plants, and identify appropriate mitigation measures and best management practices for this activity.
- Output 3:* Environmental impact assessment reports for the Sitra Causeway and the Maamir Channel will be produced in order to ensure their environmental suitability. A plan for increased flushing of the bay and the causeway will also be prepared to ensure adequate flushing rates and water flow which are crucial for the aquatic ecosystem health.
- Activity 3.1:* Conduct an environmental impact assessment of the Sitra Causeway to identify environmental concerns and provide relevant options to improve the design and implementation.
- Activity 3.2:* Conduct an environmental impact assessment of Maamir Channel and review its existing design and identify alternative design options for the channel.
- Output 4:* A study report to upgrade waste water facilities as a first step to improve the management of waste water.
- Activity 4.1:* Conduct a study of the current sewage treatment plant capacity and the projected residential demand. This study should cover both the collection and treatment system of waste water. This study should also provide a design for an appropriate sewage treatment system.
- Output 5:* A study report and site plan outlining new and alternative facilities for solid waste disposal.

*Activity 5.1:* Undertake a study to identify and create a site plan for future solid waste disposal sites and related facilities.

*Output 6:* A broad-based reuse and recycling program will be developed in order to improve solid waste management in the area.

*Activity 6.1:* Research the feasibility and legal structure required to implement solid waste recycling program.

#### **4.1 Immediate Restoration and Rehabilitation Measures**

The immediate objective in this section is facilitating the restoration of the aquatic, wetland and terrestrial ecosystems of the bay. The following are the associated outputs and the activities related to this objective:

*Output 1:* A quantitative database and inventory of biodiversity (distribution, abundance and status) for Tubli Bay area will be developed to be used for future monitoring purposes. Bahrain released a species list based on preliminary assessments mainly from literature reviews (Bahrain First National Report to the Convention on Biological Diversity, 2006). However the list is provisional since it has still some gaps, especially for species present in marine ecosystems like Tubli Bay.

*Output 2:* Guidelines for the protection of environmentally sensitive areas will be produced to be used for the further protection and conservation of the sensitive environmental areas.

*Activity 2.1.* Undertake ecological habitat assessment studies for all the various habitat types (mud flats, mangroves, sea grass), including the types of species present using quantitative collection methods. Identify areas requiring special conservation measures.

*Output 3:* A program developed for the clean up campaign for Tubli Bay area resulting in an improvement of the status of terrestrial habitat.

*Activity 3.2:* Identify crucial areas in the bay requiring immediate management intervention and establish a site plan, program and schedule for a cleanup campaign that will involve local communities.

*Output 4:* A report on local knowledge and traditional practices in relation to natural resource utilization. This will generate information necessary

in the promotion of traditional practices for the sustainable utilization of natural resources.

*Activity 4.1:* Survey local knowledge and traditional practices related to natural resource utilization in Tubli bay.

The information generated in the studies and activities outlined in the above section will be used in the further development and implementation of the longer term objectives of the project.

#### **4.2 Guiding Objectives for Economic Diversification and Human Development**

Mitigating harmful impacts of industrial activity and infrastructure is the first priority for Tubli Bay development. However, the pace and scale of the policies and actions reducing these impacts must be carefully considered so that the economic and social benefits and costs do not destabilize but in fact enhance the well-being of both affected industries and the population of Bahrain.

While the government of Bahrain has already proceeded with the development of a strategic land use plan that includes physical and economic planning components, Tubli Bay's redevelopment offers the opportunity to pursue additional and complementary long-term policies and measures that guarantee the minimization of environmental impact by these key industry contributors, as well as promote sustainable diversification of the economy to include environmentally friendly and culturally appropriate new sectors (Figure 4.2-1).

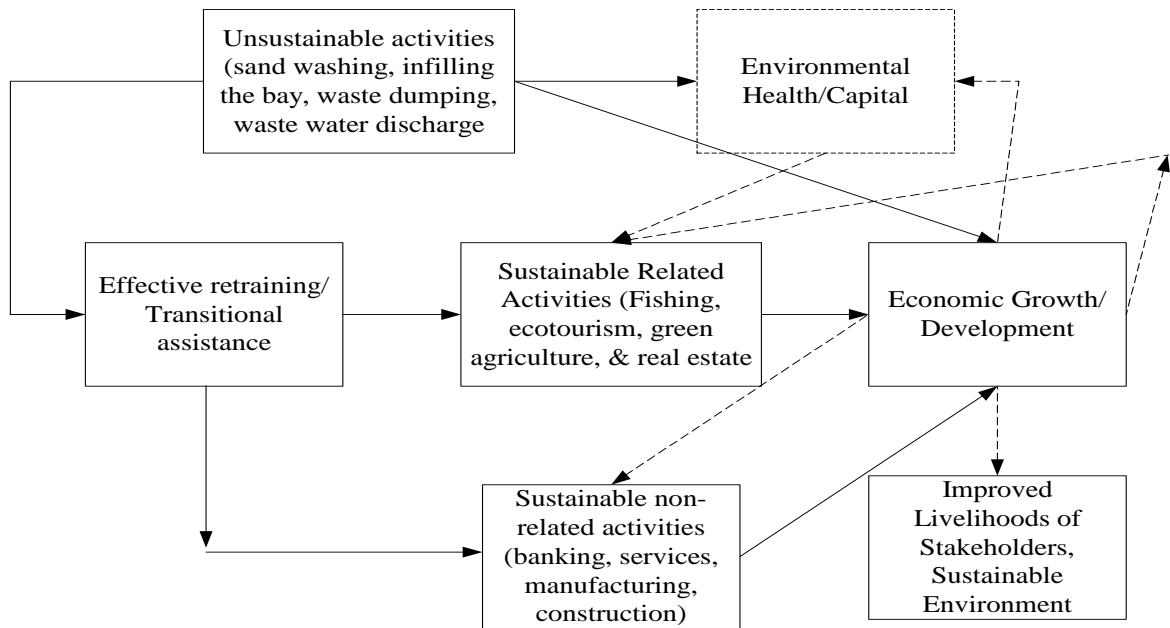


Figure 4.2-1 Economic Diversification towards Sustainable Activities for Environmental Health and Economic Development.

As Figure 4.2-1 shows, the future economic diversification of Tubli Bay can be classified in terms of three inter-related economic groupings:

- unsustainable activities and industries directly related to the bay, such as sand-washing plants and the private reclamation of the bay area
- sustainable activities and industries directly related to the bay, such as fishing and sustainable tourism; and
- sustainable activities and industries not directly related, but complementary to the future health and development related to the bay, such as construction and services.

In directing investment and development to sustainable activities and sectors away from the unsustainable activities degrading the environment, both the economic development objectives and the environmental conservation objectives of Bahrain may be carried out. In addition, the equitable economic growth generated by this new orientation will contribute to a positive feedback cycle that will ensure the continuity of sustainable economic activity.

**4.2.1 Economic Growth and Diversification Strategies.** One key long-term strategy is increasing investment and employment opportunities in both natural

resource and key industry sectors in a sustainable fashion to contribute to Bahrain's continued economic growth and diversification. Natural resource-based industries includes fishing, agriculture, and tourism, while the latter involve the finance, event hosting, construction industries. The sustainable growth of these industries will help facilitate the transition away from the unsustainable activities and scale of activity that degrades the bay and the water and land-based resources of Bahrain as a whole.

**4.2.2 Economic Equity Strategy.** A component of planning that considers the human development needs of Bahrain's residents should accompany the physical and economic planning. Meeting the human development needs and building up the capacity of Bahrain's current working population and its youth is pivotal to accomplishing the shift in the economic activity in an equitable and socially sustainable way. Thus, supporting this transition towards sustainable growth and diversification is an effective and comprehensive transitional assistance and retraining program for the national and migrant population of Bahrain (Figure 3.2.1). This will require a comprehensive plan specifically targeted to the needs of various sectors of the population, from the young to the aging, a significant departure from the former solution of a quota system aimed at nationalizing the workforce.

**4.2.3 Unsustainable and Sustainable Related Sectors.** One of the main industries identified as a cause of environmental degradation is the sand-washing industry, a key input to the construction sector of Bahrain. Sand-washing involves distilling silt from sand particles with water. Following this, the wastewater, along with the distilled silt, is discharged into the bay. However, it is not enough to target this industry in an isolated policy intervention, as any impact on this industry would reverberate through related industries, including real estate, construction, and finance. This is because the real estate sector is the most attractive sector for investors (Oxford Business Group 2006). In turn, the construction of both housing and business-related infrastructure is a major causal factor in distributing population growth and urban settlement in Bahrain.

These related sectors have developed rapidly over the last decade, raising concerns both for the concentration of activity in high-end, intensive development and the social and environmental implications of this growth. As the demand for

luxury housing and tourist accommodations has increased, so has the demand for raw materials, namely sand, for construction. Construction as a portion of the GDP has also been growing over recent years (Figure 4.2.3-1). Because of Bahrain's small land size (655 sq km), it is vital to consider the reorientation of the construction and real estate industry to acknowledge natural resource limitations.

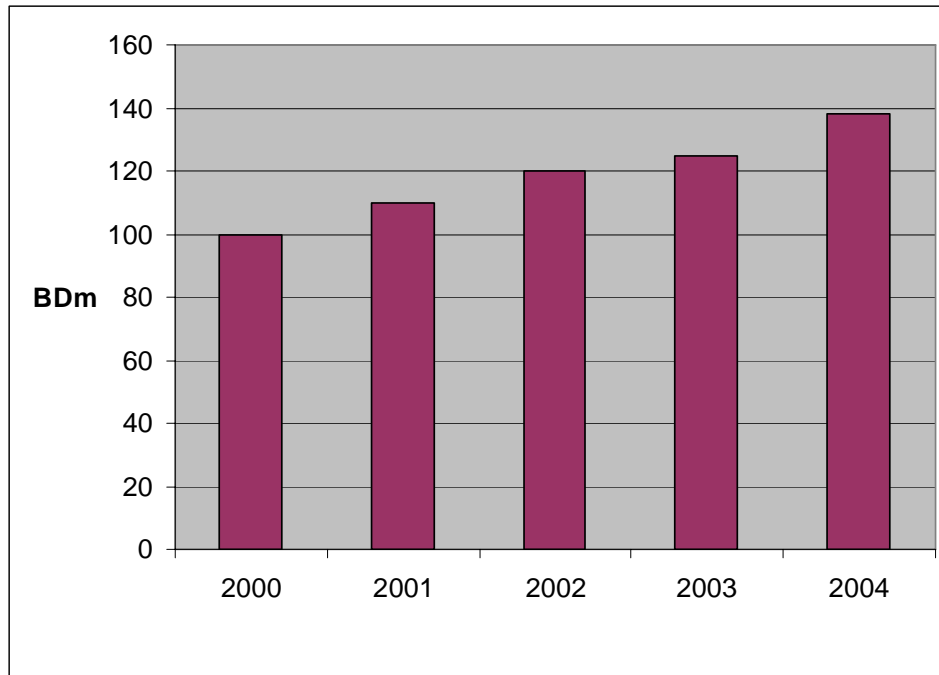


Figure 4.2.3-1 The contribution of the construction sector to Bahrain's GDP, in Bahraini Dinars per million.<sup>2</sup>

Real estate development, in particular, has been booming, resulting in residential property prices doubling or, in some areas, quadrupling, within the last three years.<sup>3</sup> The rapid pace of luxury rental, apartments, industrial complexes, and tourism lodgings is unprecedented, and threaten the unique character of Bahrain.<sup>4</sup> The interdependence of these key sectors, and their foundation on the availability of sand as construction material, means that any strategies to mitigate this industry's impact will affect the tourism and luxury residential market. The scope of the problem also extends beyond national boundaries, as the need for sand has emerged as a regional issue of limited supply and increasing costs, with key sand suppliers

<sup>2</sup> Directorate of Economic Planning

<sup>3</sup> Oxford Development Group 2006

<sup>4</sup> Oxford Business Group 2006, 16

Saudi Arabia and Qatar, nearby neighbors of Bahrain, experiencing their own constraints and limiting the export supply.

#### 4.2.4 Supporting the Services and Small and Medium Business Economy

There is a positive feedback relationship between services provided and other sectors of the economy. As more industries are developed around the Tubli Bay region, there will be an increase in the demand for services. Increases in the provision of services will make investment and employment in Tubli Bay more appealing. However, if the financial industry is solely oriented towards large business lending, small and medium-sized business will find it difficult to access capital and take advantage of the increase in service opportunities (Figure 4.2.4-1).

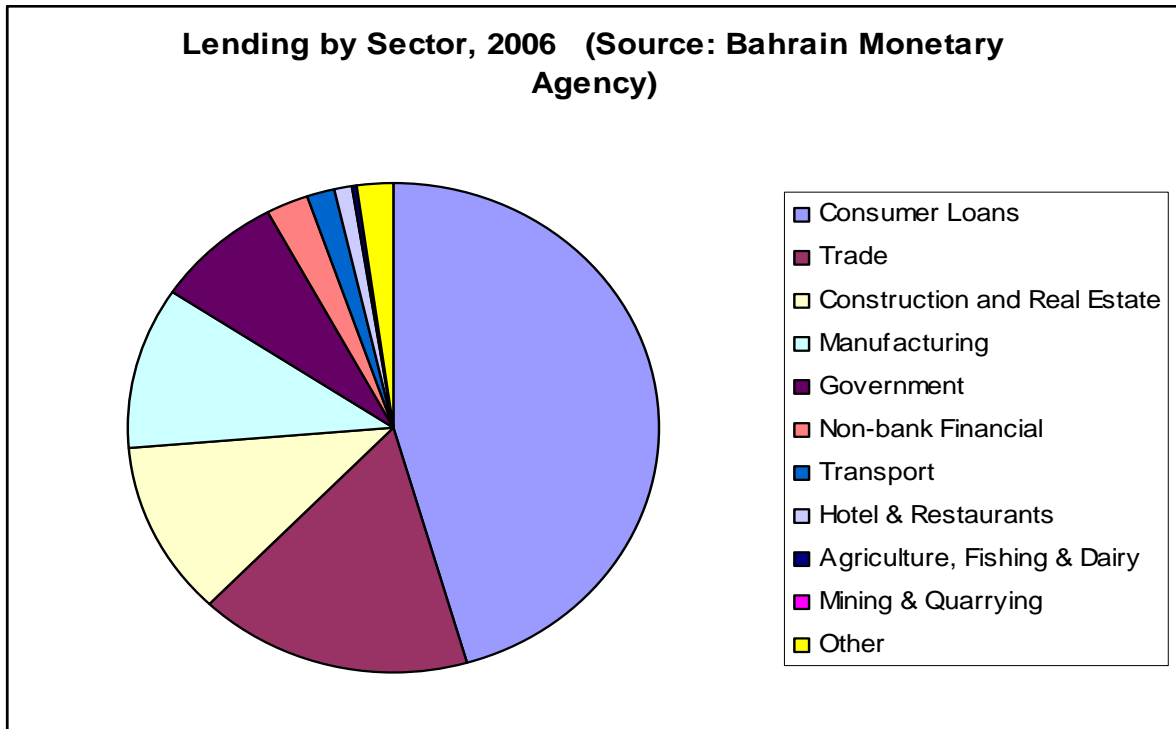


Figure 4.2.4-1 Lending by Sector, 2006. Source: Bahrain Monetary Agency.

As Figure 4.2.4-1 shows, the bulk of lending by Bahrain's banking sector has been to consumers (45.5%), followed by trade (16.6%), construction and real estate (11.5%). And manufacturing (10.8%). However, the number of small firms in these sectors is small to non-existent. Credit is essential to extending opportunities to new

actors in Bahrain's economy and financial planning and capacity-building towards monitoring a smaller-scale lending sector in Bahrain's banking structures should be part of the long-term planning picture for the nation.

As fishery and agriculture sectors are currently contributing to the environmental degradation of Bahrain due to unsustainable levels and types of activity and as these sectors' natural resource bases become increasingly depleted, they have also become less viable livelihood options for Bahrain's residents. The impact of this for all residents is that agricultural production does not meet population growth (Figure 4.2.4-1). As the figure shows, even as total food production has risen until 2000, per capita production of food has dropped significantly since the 1980s.

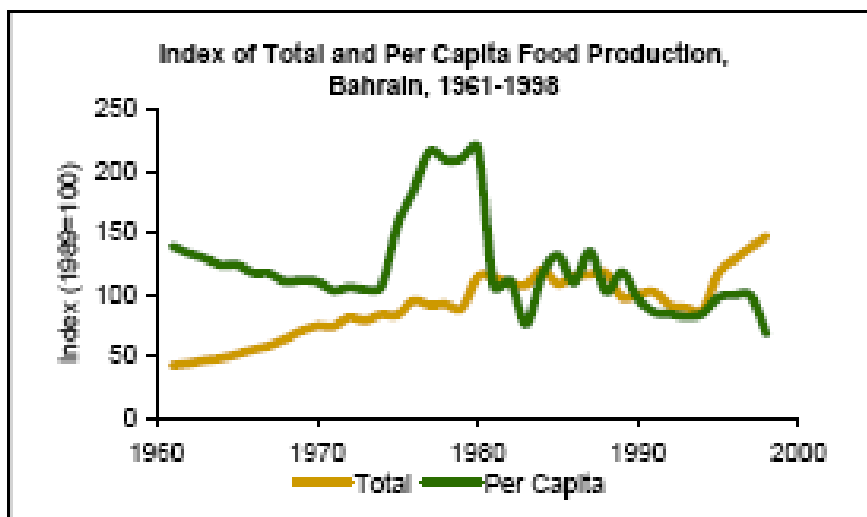


Figure 4.2.4-1 Total and Per Capita Food Production. Source: World Resources Institute, 2003. EarthTrends Country Profiles.

In commercial shrimp fishing, one FAO study similarly revealed that the catch rate has been decreasing over the seasons (Figure 4.2.4-1). Even though the catch rate has increased at various points, the overall trend is that catch rates are far from steady, and thus does not provide a steady source of income to fishers. While several external factors account for this reduction in yield, the government is committed to maintaining a traditional fishing sector and has banned industrial operations since 1998. Small improvements have been made in fish catch, but on the whole, the viability of this sector is threatened. Tourism activity related to fishing activity, or



recreational activity, has even been named as the biggest threat to this sector.<sup>5</sup> Thus, the need for income and the turn to a service-based, recreational tourism sector are the main causes of fish depletion. On the whole, the two economic sectors associated with land and water-based resources make small contributions, with fishing and agriculture comprising less than 1% of the GDP. However, historically and culturally, the fishing and agriculture sectors are important priorities for continued government and public support.

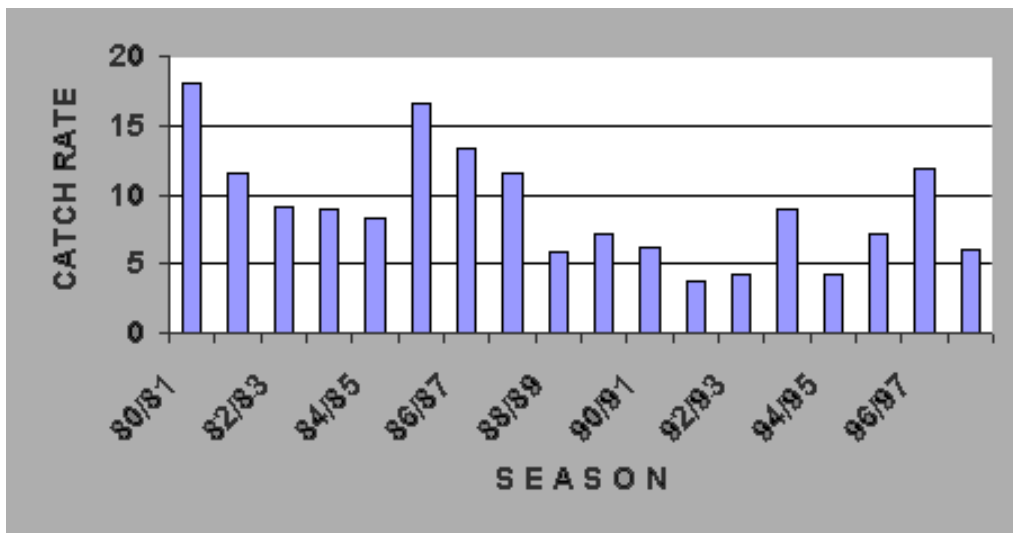


Figure 4.2.4-2 Standard catch rate per unit of effort for the seasons 1980-81 to 1997-98. Source: FAO 2001.

It is recommended that the government of Bahrain directs the currently unsustainable fishing and agricultural sectors towards a more sustainable direction both environmentally and economically. By orienting these two sectors as small-scale, environmentally sustainable, and artisanal sectors, the government may begin to accomplish a number of important economic and social objectives, namely: 1) fostering local stakeholders who will have an interest in maintaining and improving the state of local and regional land and water-based resources; 2) sustaining the traditional knowledge base of fishermen and farmers; and 3) strengthening and diversifying local food sources and, in the medium to long-term, provisioning the service-based and domestic food consumption market.

<sup>5</sup>Oxford Business Group 2006, p45

**4.2.5 Cultural Tourism: A New Sector.** Bahrain has a wealth of cultural resources that range from archaeological sites from 2300 BC to modern structures like the Pearl Monument. As Figure 4.2.5-1 shows, the general tourism sector is projected to grow over the next few years. This form of tourism has primarily been in the form of urban-based tourism, and spurred the unsustainable pace of new construction in hotels, water-based recreational sports, and malls. In order to orient them to a more sustainable form of growth, the fisheries and agriculture sectors could be linked to the development of a new cultural tourism sector and in turn be supported by the new industries and markets generated by this form of tourism. This will require coordination between the government and private sector in Bahrain.

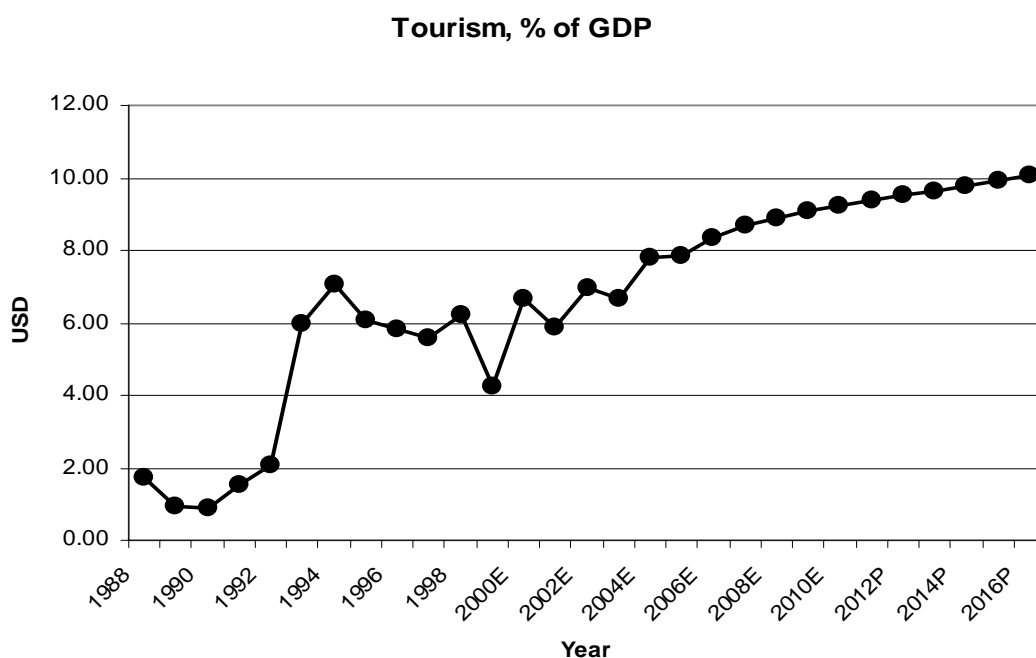


Figure 4.2.5-1 Tourism as a Percent of Bahrain's GDP, 1988-2016. Source: World Travel and Tourism Council, <http://www.wttc.org>.

**4.2.6 Human Development and Capacity.** The Ministry of Education administers the formal education system in Bahrain. Most college graduates concentrate their studies in the humanities and liberal arts. However, in order to further contribute to Bahrain's economic and social development, more graduates with technical, scientific, and social science research skills are needed to support

Bahrain's economic and social development.<sup>6</sup> As the government provides resources to universities to encourage more expertise in natural resources, economic management and community development planning, it has the opportunity to consider the potential long-term benefits of creating a complementary set of training programs.

Beyond the need for scientific expertise, all Tubli Bay-area residents and surrounding communities will be greatly affected by the proposed changes in the economy. Consideration must be given to distinct groups of community members who will be directly affected by those changes as well as those whose input would be vital to the sustainable development of the region. Directly affected include: fisherman who must adopt new fishing practices, farmers who must adopt new farming practices, residents whose on the bay property might be used for redevelopment and residents who seek low income housing in the bay. Residents who are viewed as "untapped" resources and whose input would be vital in the sustainable development of the region include women within and outside the current labor force, migrant workers—mostly those with temporary status and youth and youth organizations.

The three primary objectives of human capital development in Tubli Bay are 1) to assist in the transition of existing labor force from industry into a more diversified economy; 2) improve the well being of disadvantaged Bahraini workers, and 3) draw upon community potential to develop human capacity and support growth. Towards this end, it will be necessary to assess the needs and plan for a comprehensive, multi-sectoral training and assistance program to support the diverse workforce and future population of Bahrain.

**4.2.7 Long Term Objectives for Economic Diversification, Growth, and Equitable Employment.** The following outlines the long-term objectives for economic growth, diversification, and the equitable social distribution of these benefits and changes in the economy, based on the context, strengths, and potential of Bahrain's industries, educational sector, and its working population.

Long-Term Objective for a Regional Finance Economy. Assess the need and benefits of developing a regional finance economy in order to relieve pressure on

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<sup>6</sup> Oxford Business Group 2006, p 69.

existing population centers such as the capital city of Manama. This should include research and planning for new, strategically located commercial districts in addition to those in existence. There are several activities the government of Bahrain can undertake: researching the possibility and impact of land use zoning and infrastructure needs, the utility and benefit of offering grants, low cost loans, and other incentives to financial institutions willing to invest in service and manufacturing enterprises in the Tubli Bay region to develop the amenities and services sectors that finance and other major commercial enterprises need.

Long-Term Objective for the Small-Medium Business Sector. In order to facilitate small and medium sized enterprises (SME) startups the government should encourage the financial sector to be sensitive towards the credit and financial needs of local entrepreneurs. This will require crafting policies that will facilitate this process. Research into an incentive structure for financial institutions to increase their small-medium enterprise lending will be an important next action to consider.

Long-Term Objective for Alternative Construction Materials. It will be important to develop a research and resource assessment plan that gathers expertise and resources for a national and perhaps even regional initiative to develop more environmentally sustainable construction materials and methods. This will require the dedication of national research facilities and trained local personnel to the task.

Long-Term Objective for Small-scale Alternative Production Methods: Assess and evaluate the potential adaptation of environmentally sustainable methods such as aquaculture and permaculture in the fisheries and agriculture sector. Such research will give direction to the current problem of over-fishing and the steady loss of arable land.

Long-Term Objective for Cultural Tourism. To promote tourism in Tubli Bay, stakeholders should use existing resources to create jobs while protecting the environment. This will require a specific plan for cultural tourism based on the natural resources, customs, historical values, and culture of Bahrain. This objective will create an area that is attractive and accessible to both foreign visitors and Bahrainis. Both the private and public sectors are needed to support growth in cultural tourism.

Long-Term Objective to establish a comprehensive Transitional Assistance Program. A program to provide the following set of capacity-building and worker assistance services for Tubli Bay-related plans and for the nation as a whole: a) information and assistance for Bahraini and non-Bahraini citizens and b) the coordination of training initiatives to develop human capital for expanding sustainable economic sectors. The program will primarily help workers affected by potential plant closings or relocations, industrial workers seeking service sector skills, and women looking to expand their skill base as they continue to enter the labor force.

Long-Term Objective to establish a Marine and Coastal Life Research Centre. The crucial importance of understanding Tubli Bay's habitat and the impact of human activities needs to be centralized in a community of concerned scholars and researchers. A Marine and Coastal Life Research Institute should be established near Tubli Bay as an extension of the University of Bahrain's Environmental Research Center.. It should include state of the art laboratory facilities, testing and monitoring facilities and research facilities. The Institute will be the headquarters for study of marine life, wild life and testing and monitoring pollution of water, air, shoreline and aquatic habitats of the Tubli Bay region. The institute should attract researchers from the domestic and international scientific community. The presence of the institute will institutionally reinforce the importance of environmental preservation and provide an up-to-date information database about the state of Tubli Bay and related natural resources

**4.2.8 Long-Term Objective to establish Volunteer Opportunity Program.** This program will encourage adolescents, especially high school students, to join the workforce as volunteers. Volunteers will participate in the restoration, cleanup, and public awareness initiatives as part of the overall Tubli Bay development program. This volunteer program will also connect employers in banking and tourist industries with the volunteer force. The program will promote social responsibility, experience in relevant economic sectors, and social involvement as part of community development. The program would help in creating socially and environmentally responsible generation. A small organization or a coalition of non-profits can be

supported to coordinate volunteers and possibly establish a youth center in Tubli Bay.

**4.2.9 Immediate Objectives, Outputs and Activities.** The following text details, in order, the immediate objective, outputs, and activities required to accomplish the long-term objectives driven by the economic diversification, growth, and equity strategies.

*Immediate Objective 1:* Develop appropriate business incentive and enforcement structures through legal and financial feasibility studies of industry to comply with existing and new environmental codes.

*Output 1.* A comprehensive survey and report of major real estate, construction, and related industries in urban centers, analyzing their cost structures, the cost of changing business practices, required infrastructure needs, and the sourcing of construction materials in particular.

*Activity 1.1.* Research should be conducted to investigate areas for improvement in existing codes and measures to comprehensively address the social and environmental impacts of these types of development, combining both regulatory and incentive-based policies.

*Activity 1. 2.* Study the range of market-based incentives and disincentives to pollution by industries most affecting the bay, including real estate, construction, sand-washing.

*Output 2.* A report summarizing the legal feasibility and economic impacts for all industries affected by the Tubli Bay redevelopment and environmental compliance guidelines.

*Activity 2.1* Conduct a survey of industries that will be affected by changing their operating practices.

*Immediate Objective 2:* Food production in the fisheries and agriculture sectors should be tied to local tastes, skills, and cultural customs and future market opportunities. In order to closely align fishing and agriculture with new and existing markets, the fishing and agriculture sectors first need to be assessed in terms of their present and future potential growth potential.

*Output 1.* An assessment market report on the domestic and tourism market for local produce and seafood detailing present and future supply, supply and input constraints, and new opportunities.

*Activity 1:* Research existing and projected consumer demand based on demographics and tourism industry growth. Receipts from local businesses for the previous years, import shipping records, and the projected world market price for food commodities should be taken into account. Key staple foods as well as traditionally grown and harvested foodstuffs should be the focus of this research.

*Output 2.* A report that details the specific ecologically appropriate food and food products that would be appropriate for a cultural tourism sector should be generated.

*Activity 1.* Research the tourism market for key staple foods, traditionally grown and harvested foodstuffs, and the capacity of production methods to provide for this demand.

*Output 3:* An inventory of existing cultural sites and attraction to develop a master tourism plan that integrates cultural tourism in Tubli Bay with existing tourism activities and regional transportation developments.

*Activity 1.* Conduct an environmental impact assessment and study of the accompanying codes and standards for the tourism industry which will be crucial in maintaining the very aspects of Bahrain that attracts tourists and expands the industry in the future.

*Output 4:* A marketing plan for existing cultural resources and future tourist attractions should be created. The marketing of cultural tourism in Bahrain will be directed at tourists who are likely to visit cultural sites in addition to other holiday activities.

*Immediate Objective 3.* Establish a Monetary Assistance Fund for Displaced Workers in order to provide temporary relief to workers who lose their jobs or those needing to relocate. In addition to easing financial repercussions of job loss, this fund will also give monetary assistance to the firms that were urged to relocate.

*Output 1.* A list of possible funding sources for the monetary assistance program and a set of criteria and guidelines for its disbursement

*Activity 1.* Research the number of affected workers, their cost of living, and length of funding assistance need.

*Immediate Objective 4.* Expand the capacity and curricular offerings of current training programs. The goal of this objective is to develop the existing training programs to accommodate the transition in the economy and the promotion of sustainable economic practices.

*Output 1.* A report detailing potential expansion, extended curricular offerings, and training opportunities

*Activity 1.* Assess whether current training programs may be expanded by opening of additional training locations or expanding the capacity of current centers in the Tubli Bay and capital region.

*Activity 2.* Outreach to and recruit youth or women who are interested in or need to join the labor force, and provide them with training and entry opportunities.

*Immediate Objective 5:* Determine the feasibility of a Marine and Coastal Life Research Institute

*Output 1.* A report that proposes a plan for the establishment of this center, a plan for future collaboration with the University of Bahrain, recruitment of trained personnel, and the required infrastructure necessary.

*Activity 1:* The Ministry of Education, the Ministry of Works and Social Affairs and Bahrain's research universities should collaborate to designate a team to determine the ideal work functions of the above and future centers, conduct impact studies, recruit staff; create a funding plan and site the proposed centers.

*Activity 2:* The designated team will organize the community and involve it in the building of resources as well as organize programs in public schools and universities for awareness building and feedback.

Future Recommendations for Training, Capacity Building and Human Development. Phase II of the development program aims at completing the set of services that the Transitional Assistance Program provides, including services and opportunities for those sectors of the population that are currently experiencing challenges in the workforce. The following elements will help to create a decentralized and comprehensive training and capacity-building program that will not



only enhance the economic but also the social and community life of Bahrainis.

Establishment of Non-Bahraini Workers' Support Centers. The purpose of this program is to support the well-being of the migrant labor force in the region. Most development projects outlined in this proposal, especially those that require new infrastructure and restoration, will need manpower that Bahraini citizens alone may not provide. This program's purpose is to improve the living conditions and quality of life for migrant workers living in Bahrain. Such a program should consider the overall contract labor policy and ensure that these centers do not draw an overflow of migrants to the region, thus cutting out national Bahraini citizens for job opportunities.

The support centers for non-Bahrain workers will provide resources for adaptation to everyday life in Bahrain, teaching Bahrain culture and customs, and Arabic language instruction. The program will provide information on housing, technical assistance, legal and medical advice.

Women's Assistance Program. It is important to assess the services, curriculum and sites for a specific program women workers and incoming women migrant workers, especially domestic workers who are essential service workers in the urban centers of Bahrain. Thus, researching the legal and financial feasibility of an information center for women workers should be included in the second phase of the project workplan. Such a center will provide technical assistance, information about trainings, regularly survey the needs of women workers, and centralize information about new job opportunities.

**4.2.11 Enforcement Objectives.** Effective management of personnel, consultants, and successful monitoring-execution of proposed policies will ensure the success of this large-scale program. The Government of Bahrain has several agencies already in place to deal with the Tubli Bay matters including the Commission for the Protection of Marine Resources, the Environment and Wildlife, Environment and Wildlife Affairs, the Maritime, Safety & Environment Protection, and the Environmental Control Directorate. However, centralization is needed to avoid jurisdiction overlaps and create a fully functional organization.

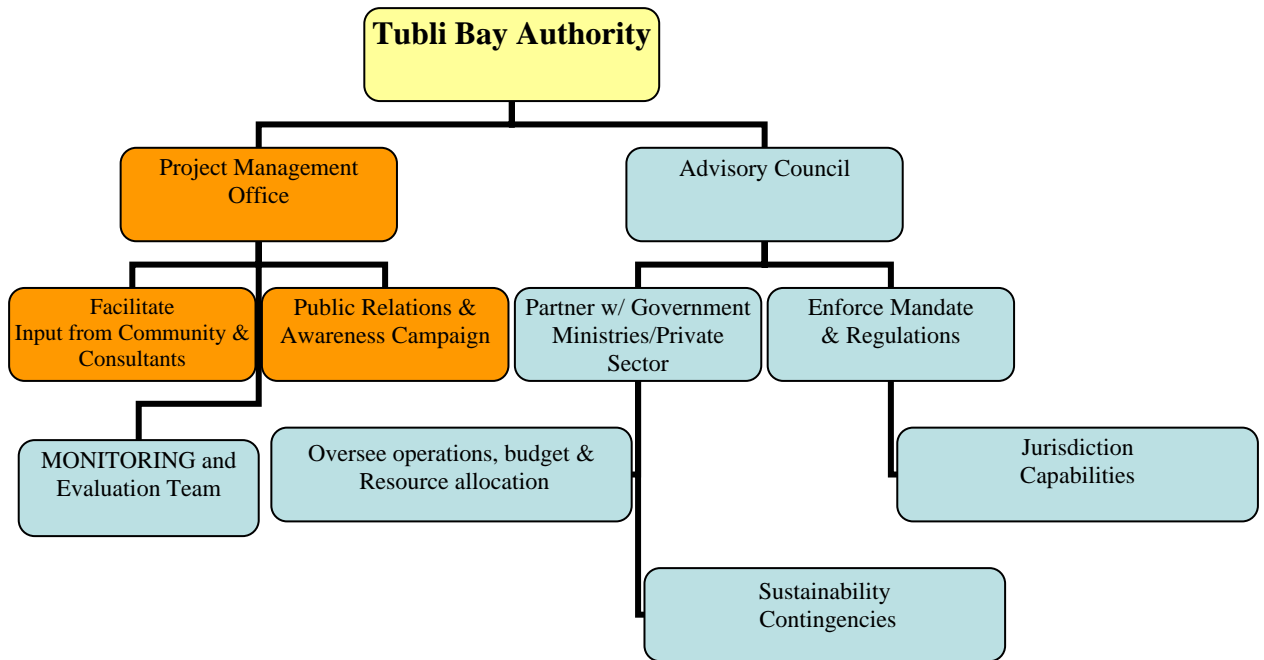
A coordinated central authority will become the hub of activity and resource allocation for the development of Tubli Bay. This Authority, below referred as Tubli Bay Authority (TBA) will coordinate different stakeholders and programs. The TBA will also become a transparent management organization able to receive feedback from the community, receive data from consultants, and synchronize the program operations. The program transparency and monitoring mechanism is designed in the public review section.

Enforcement matters will be consolidated under the newly formed TBA to ensure effective monitoring. Enforcement activities should include but not be limited to voluntary and government agencies around the bay area. It will be essential to work with community and public relations experts to promote public awareness of Tubli Bay matters (as public review section will discuss, informed public will act as the best watchdog). Use of local media outlets including newspapers and radio stations should be utilized to assist in local enforcement efforts.

Legal framework that places emphasis on minimizing the pressure of harmful activities on Tubli Bay area is already in place. Providing an incentive structure for parties negatively affected by those laws is of essential importance to ensure their successful enforcement (please refer to the legal and economic incentive studies in the *economic activity section* and the Legal Terms of References)

Future outputs and activities should be created by the TBA according to the transparency guidelines and stakeholder consensus. Finally, TBA functionality will be evaluated temporarily by the monitoring and evaluation team to design most effective policies and correct mistakes in time. Please refer to the monitoring and evaluation mechanism in section 8.1 – program feedback.

Figure 4.2.11-1 Duties and Functions of the Tubli Bay Authority



**4.2.12 Transitional Advisory Council (TAC)** Creating the initial governing body that will lay the groundwork for the TBA should be the first priority at the project’s start date. The urgency for establishing the Transitional Advisory Council (TAC) is to ensure oversight into future development activities (Figure 3.6). The council requires the following actions:

- Define relevant stakeholders to be in TAC and transition to the TBA
- Define mandate and responsibility of TAC
- Complete the implementation of a red line based on land use plan with the government of Bahrain
- Plan and setup to transition from TAC to TBA
- Coordinate and oversee the various consultancies through the project management office

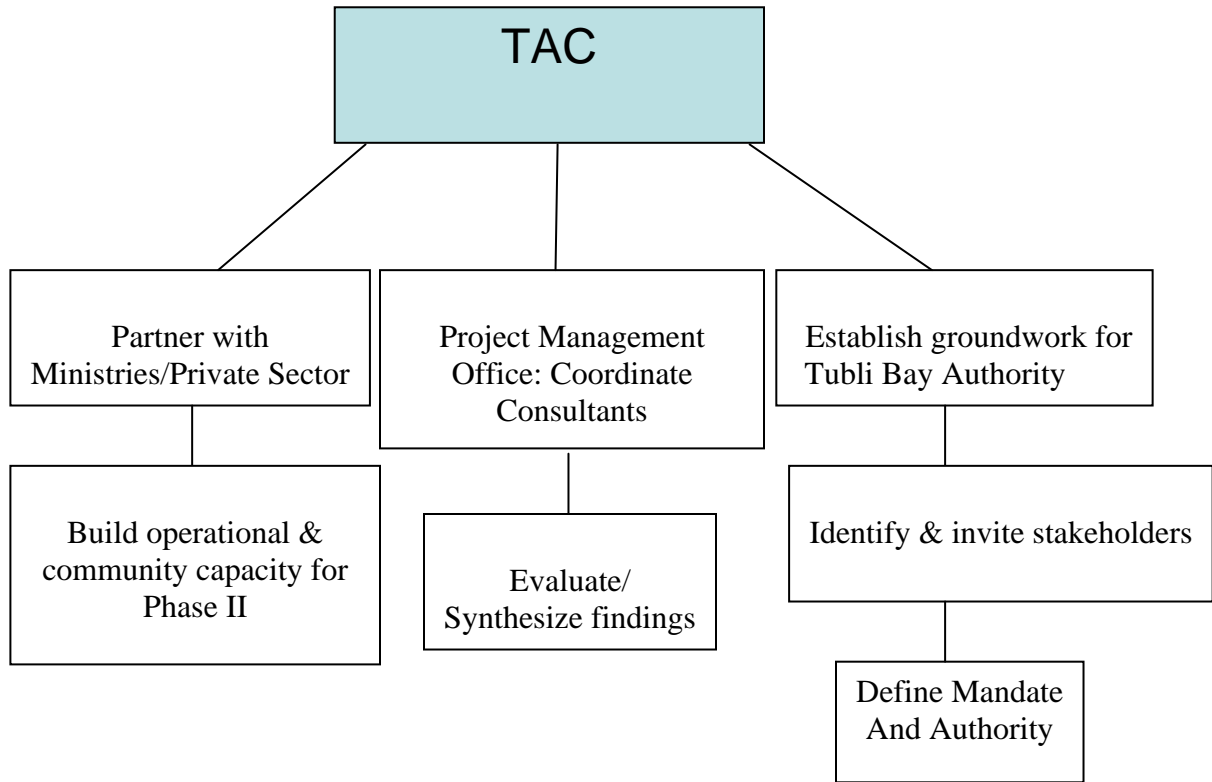


Figure 4.2.12-1 Duties and Functions of the Transitional Advisory Council.

**4.2.13 TAC Outputs and Activities.** The Government of Bahrain has extended capabilities in all the managerial areas. In order to coordinate the governmental resources with particular consultancies and needs of the bay, hiring a management consultant will be the first step. This consultant will aid Transitional Advisory Council which will serve as the preliminary overseeing and steering committee of all development operations.

After the 6 month period of information gathering and pre-planning is complete, Transitional Advisory Council transforms itself to the Tubli Bay Authority. The Authority will act with extended capability and authority.

Transitional Advisory Council will take the inputs from the centrally staffed project management. Project management office will have capacities to receive inputs from the stakeholders, consultants and transfer these inputs into implementable programs.

The TAC must be empowered by the Government of Bahrain to ensure the implementation of development activities in Tubli Bay. The TAC will be comprised

of government officials from Bahrain representing the ministries and disciplines involved in the development (Ministry of Commerce, Housing and Agriculture, Works and Agriculture, Labour and Social Affairs, Finance and National Economy). The transitional authority will work as a centralized planning and organizing council. At the end of Phase I, TAC will be making recommendations on all facts of how the Tubli Bay Authority (TBA) should operate based on their observations and experiences. Seeking the local officials with technical and organization skills but also with community service experience will be one of the requirements for the TBA personnel nomination.

In addition, TAC will engage local resident and businesses in their studies and planning. Various findings from the consultancy missions will be presented to the stakeholders and explained why certain undertakings result in positive outcomes for most stakeholders. The TAC will facilitate workshops with the community for the provision of technical support activities, including training, specific technical assistance and resource networking that will provide the human capacity for the long-term objectives. To sum up, TAC and TBA are essential structures for management and overall success of the project depends on them for four reasons:

- The need for a centralized coordination overseer of all planning and consultancies (TAC)/ activities and outputs and later TBA
- It is an Authority agency legitimizing one comprehensive set of regulations
- Local authority that operates with transparency between community and program management

One of the primary objectives for the TAC is making sure the accountability of the newly established TBA and composition with local community leaders. The duties of TBA member local community leaders will include efforts of developing human skills and societal infrastructures within the existing community. The advisory council will encourage the community to form groups with a specific platform of concern and relay those concerns to the advisory council. To ensure the sustainability of the program and the association with the community at large, at the end of the Phase I TAC will not be completely dissolved but rather restructured for its new

capacity building and sustainable development roles. It will no longer have enforcement jurisdiction but it can take on the advisory role in the community comprised of nominated community leaders. This will reduce the level of risk associated with a regression back to environmentally unsustainable activities in and around the bay.

The establishment of the TBA will require the organization to have legal authority and enforcement capacity to address the needs of Tubli Bay. Hired consultant and the Government of Bahrain will work a training program for TBA members to ensure they have the capacity to fill this important role. In addition, a consultant will research potential managerial frameworks that the organization can then implement for its internal structure and external authority.

*Objective 1* Create a council to become the TBA

*Output 1.1* Hire a consultant to work with the steering committee to manage development in Tubli Bay

- Activity 1.1* Present program to community, describe incentives and discuss expectations with local businesses
- Activity 1.2* Define relevant stakeholders to be represented in the steering committee
- Activity 1.3* Define the mandate and responsibility of the committee to ensure functionality
- Activity 1.4* Complete the implementation of Red Line based on land use plan with the government of Bahrain

## **Section 5**

### **INPUTS AND BUDGET**

Proper fiscal management and budgeting is necessary for the above described activities to succeed. The section below discusses the sources, availability, and amount of funds needed to finance Tubli Bay Urban Development Program. In addition, it is important to note that all indirectly related or supporting activities with funding needs contribute equally to the success and long-term sustainability of the program as do ‘directly related’ activities.

#### **5.1 Preparatory Inputs**

Because Phase I is a preparatory and organizational stage of the program, consultancy time will account for nearly 60 percent of the total budget needs during this stage. When selecting consultants, preference is given to domestic consultants if the needed expertise is present. International consultants will be used in special cases as needed for environmental, economic, and infrastructure related activities. To minimize the consultancy time and costs, data collection and administrative support personnel from the Government of Bahrain should be made available to aid consultants during their assignments.

Budget has been divided into two major sections – activities directly related to Tubli Bay and activities indirectly related to the Urban Development of Tubli Bay. The importance of indirectly related activities should not be underestimated and the financing should be arranged for both phases as indirectly related activities ensure and contribute to further sustainability and successful outcomes in related areas. The chart below displays the general distribution of the budget between related and indirectly related activities, which are further subdivided into three thematic distributions. The three thematic subdivisions are Environmental, Economic, Infrastructure, and Management spheres.

**Table 5.1-1 Program Budget Summary**

<b>Related Activities</b>	<b>International Consultants</b>	<b>Domestic Consultants</b>	<b>Support Staff/Data Collectors</b>	<b>Funding Needs for Each Area</b>
Environmental	3	3	6	\$ 96,201
Economic/Community Development	9	9	15	\$ 281,043
Infrastructure	6	6	12	\$ 192,402
Management	8	14	32	\$ 359,856
<b>Total Time (in months)</b>	26	17.2	62	\$ 929,502
<b>Supporting Activities</b>	<b>International Consultants</b>	<b>Domestic Consultants</b>	<b>Support Staff/Data Collectors</b>	<b>Funding Needed for Each Area</b>
Environmental	0	5	8	\$ 72,660
Economic/Community Development	3	8.5	12.5	\$ 170,331
Infrastructure	3	3	6	\$ 96,201
Management	0.7	0.7	0	\$ 18,918
<b>Total</b>	6.7	17.2	26.5	\$ 358,110
<i>Daily Cost for International Consultant</i>	\$ 500 + \$287 Per Diem = \$787.00			
<i>Daily Cost for Domestic Consultant</i>	\$ 500.00			
<i>Daily Wage fro Support Staff</i>	\$ 120.00			
<i>Number of Days in a month - 21</i>				
<b>Total</b>				\$ 1,287,612

*The budget above summarizes the detailed expenditures on various consultancy missions as given in the appendices. The total budget for related and supporting activities is \$1.2 million. Interestingly, supporting activities account for smaller, yet very important part of the project. Economic and Community Development is the largest sector of spending. Approximately the same number international and domestic consultants will participate in the programs.*

Government-provided resources will become the backbone of organizational operations during the first six months of Phase I. In addition to the budget amount indicated in table 5.1-1, the consultants would need to be provided subsidized facilities by the Government of Bahrain such as work space, computers, administrative support, access to databases and archives, previous study reports, arrangement for field visits, liaison with other organizations, and means of transportation. Recommended resources and cooperation that the government contributes for each consultancy mission are given in detail in all of the attached terms of references.



## 5.2 Financing

At the end of Phase I the transformation from the Transitional Advisory Council to the Tubli Bay Authority will require financing a larger organization. In addition, a transition to an implementation stage will require a larger amount of funds to complete activities such as infrastructure redesigns, economic restructuring, and bay cleanups. Tubli Bay Authority will pool the available resources and donors together. Donors like the UNDP, Gulf Cooperation Council, OPEC, KFAED, AFESD will be solicited to help fund the program. All donors will agree to an 8.5 percent overhead that will go towards administrative support for the Tubli Bay Authority.

**5.2.1 Sources.** During Phase I the Government of Bahrain will finance nearly 100 percent of all operational expenses including logistics, large number of support staff, field visits, and working space for consultants. In addition, the government will pay 30 percent of consultancy and data collector fees. The 70 percent or \$896,000 will be covered by loans from the Arab Fund for Economic and Social Development (AFESD) and Kuwait fund for Arab Economic Development (KFAED) – both at 4.5 percent annual interest rate and 22 year long repayment plan. The UNDP will contribute \$320,013 or 25 percent of the consultancy costs (the UNDP has already sponsored several projects in the similar areas of sustainable development/environmental issues in the past within the \$100,000-500,000 budgets – however, this program is much greater in its scale)

**Table 5.2.-1 Sources of Funding for Tubli Bay Development Program**

Total Consultancy Months	81.9	<b>TOTAL Consultancy Costs for the Project</b>
Consultancy costs paid by UNDP Grants	\$ 320,013	\$ <b>1,287,052</b>
Consultancy Costs covered by the Government	\$ 384,016	Government Total
Government of Bahrain Inkind Transfers	\$ 1,661,000	\$ <b>2,045,016</b>
Loans From Arab Fund for Economic and Social Development	\$ 320,013	Total Loans – 4.5% AIR
Kuwait Fund for Arab Economic Development	\$ 256,010	\$ <b>576,023</b>

The repayment of \$576,023 in loans will be the duty of the Government of Bahrain during the 22-year loan terms.

The fund requirement for the implementation of technical aspects (Phase II) has not been estimated as it depends on the outputs of Phase I. Another team of consultants will be working during the course of Phase I to solicit donor support for Phase II activities. By attempting to secure funding for relatively longer process of implementation, the transition period between Phase I and Phase II should be reduced to minimum and smooth, continues transition will be achieved. Based on the Phase II cost estimates prepared by consultants, the financial consultant group will design thematically segregated budgets (please also refer to Financing Terms of Reference). A fund allocation plan for each component of the Phase II activities must be prepared by this team of experts. Some possible funding may come from loans from IFC, Gulf cooperation Council, and many regional and international NGOs. Scandinavian and EU nations may have possible interest in financing several infrastructure improvement proposals such as causeway restructuring or sewage disposal plant capacity expansion.

## Section 6

### **SCHEDULE AND PERFORMANCE**

This section presents a detailed outline for the planning stage (Phase I) of the Tubli Bay Urban Development Program. The workplan schedule below includes all activities necessary to complete the Phase I in addition to those activities required for smooth transition to the implementation stage.

#### **6.1 Workplan Schedule**

The following workplan schedules initial activities necessary to achieve the program's overall objectives for Tubli Bay. The activities described pave the way for Phase II. The workplan details a schedule for planning the first stages of coordinated management and preliminary studies that will produce information needed for decision making during Phase II. Phase I is scheduled to begin on July 2<sup>nd</sup> 2007 and end on August 21<sup>st</sup> 2008. The last three activities in Phase I will drive the initial Phase II activities. These include:

- Identifying relevant stakeholders, preparation of management plan and establishment of Tubli Bay Authority
- Identifying sources of funding for Phase II
- Creating the Tubli Bay Transitional Program to support the residents of Tubli bay and workers directly affected by the transitions in the economy of the Tubli Bay region.

The Public Awareness Campaign for the Tubli Bay program will start on July 2<sup>nd</sup> 2007, and will continue throughout Phase I. It will ensure public support for activities that will take place in Phase I and Phase II. The public will be informed of the current degradation of Tubli Bay and how this program proposes to address this challenge.

Deliberations to define the mandate and responsibilities of the TAC will begin on July 2<sup>nd</sup> 2007 and after two months TAC will be established with the legal and

administrative support to begin the proposed Phase I studies. The TAC and the Government of Bahrain will review the results of the studies still needed.

Upon the establishment of the TAC, on November 10<sup>th</sup> 2007, the Government of Bahrain and the TAC will coordinate to complete the implementation of the “red line” based on the land use plan. This activity will last for 3 months, and will be directly followed by the establishment of a site plan and a cleanup campaign. The site plan is dependant on the land use plan since the planning for reconstruction and cleanup will be tailored to fit the site plan.

Upon the establishment of the TAC, three studies will be initiated: environmental assessments of infrastructure (related to the aquatic habitat - pollution and low flushing), environmental assessments of silt washing plants and reclamation (related to decrease in bay size and terrestrial habitat degradation) and environmental impact assessments of infrastructure (including pollution impacts of the wastewater treatment facility, Maamir Channel, and the Sitra Causeway). These studies may be conducted simultaneously and consultant teams are encouraged to consultant one another and share findings. These studies should be conducted first, since the recommendations of the economic development depend on the findings of the environmental studies. For example, if environmental studies determine that fisheries should be protected for some time, then the economic team should devise a set of incentives for fisherman to behave accordingly.

The above three studies will be followed by a survey on local knowledge and traditional practices, including the survey of natural resource utilization (including fisheries) on December 24<sup>th</sup> 2004. This study will be conducted in coordination with a study of the regional produce and fish market. A survey of local knowledge will be completed in 60 days, on May 2<sup>nd</sup> 2008, and the study on the market for produce and fish will begin on January 2008 and will conclude on May 2<sup>nd</sup> 2008. A local historian will be employed for the local knowledge and traditional practice study. Along with the information from the environmental studies, these three studies will be able to determine to what extent local practices help or hurt the environment of Tubli Bay. It will be determined which of the local practices should be encouraged.

On December 24<sup>th</sup> the study of Economic Impact Survey for effected industries (e.g. sand washing and construction) will begin. The survey will take three months and will end on April 5<sup>th</sup> 2008. This study will look at the findings of the environmental studies and local practice surveys to determine the necessity of shutting down sand washing plants and how best to help companies relocate.

Research of recycling and waste reduction options (including municipal waste) will draw from the findings of the Environmental Impact Assessment on infrastructure and cultural customs. The assessment will begin on March 2<sup>nd</sup> and will last for two months, ending on May 10<sup>th</sup> 2008.

The following studies will start upon the completion of economic impact surveys, market research on fisheries and tourism studies and will build on those studies (It may also employ some of the same consultants). They will take the recommendations of what industries should be developed and work on the incentives and legal feasibility to develop those industries. Legal and Economic Survey will be conducted will last for three months and will end on July 20<sup>th</sup> 2008. Research into alternative building materials will last of one month and will conclude on May 8<sup>th</sup> 2008.

Feasibility study for Marine and Coastal Life Research Institute will last for 3 months and will conclude on July 20<sup>th</sup> 2008. It will look at the environmental needs of the region, determined by the environmental studies, and conclude whether Tubli Bay can host an Institute for protection and research of natural resources.

**6.2 Funding Activities.** In order to secure funding for Phase II of the Program, two consultants will be hired to identify sources of funding on May 5<sup>th</sup> 2008 until June 17<sup>th</sup> 2008. Studies conducted so far would make recommendations of the development of Phase II. This information is necessary to determine the types of donors and the amount of funding for the next phase.

Preparation of the management plan for the Tubli Bay Authority and creation of the Transitional Assistance program will take place within the last month of Phase I, from July 19<sup>th</sup> 2008 until August 21<sup>st</sup> 2008. These last two activities will depend on the recommendations and findings of studies conducted in Phase I.. The Transitional Assistance Authority will be set up to administer support for the development of

human capital for the residents of Tubli Bay. During this phase TOR's for Phase II will be devised. After determining the scope of Phase II projects, TAC will grow into a central authority body with the ability to support the next phase of activities.

**6.3 Holidays and Working Hours.** In accordance with Bahrain's labor laws, local consultants working on the project will observe the national and Islamic holidays. There will be no work on the national holidays of the 16<sup>th</sup> and 17<sup>th</sup> of December and 1<sup>st</sup> January. The following Islamic holidays will be observed based on their dates on the Islamic Calendar

- Eid AL Fitr (Celebration of the Feast)
- Eid Al Adha (Celebration of the Sacrifice),
- Mawlid Al Nabi (The Prophet's Birthday),
- Hijra (Islamic New Year's Day)
- Ashura holidays.

The budget is appropriated for the above activities in the indicated span of time. Urgency of the project calls for an important consideration: if additional funds were appropriated to hire another consultant for Environmental assessments of habitat, infrastructure, and silt washing, (activities starting in September 2007) those studies would be shortened by a month, and the entire project could be finished in July, instead of August 2008.

Table 6.1.1-1 and Figure 6.6.1-1 below provides a summary of the consulting projects and the work schedule respectively. Table 6.6.1-1 outlines the consultancy studies, the number of national and international consultants required, as well as the length of the projects. Figure 6.6.1-1 provides a summary of the schedule of activities for Phase I as discussed above.

**Figure 6.6.1-1 Work Schedule of Activities for Phase 1**

ID	Task Name	Start	End	Duration	Q3 07			Q4 07			Q1 08			Q2 08			Q3 08		
					Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
1	Public Awareness Campaign for Tubli Bay Project (1 consultant)	7/2/2007	8/21/2008	358d	[Gantt bar spanning from July 2007 to August 2008]														
2	TOR #1 Define Mandate and Responsibility of the Transitional Advisory Council (1 consultant)	7/2/2007	9/9/2007	60d	[Gantt bar from July 2007 to September 2007]														
3	TAC and Government of Bahrain complete implementation of red line based on land use plan	9/10/2007	12/23/2007	90d	[Gantt bar from September 2007 to December 2007]														
4	Establish a site plan, program, and schedule for a cleanup campaign	12/24/2007	5/11/2008	120d	[Gantt bar from December 2007 to May 2008]														
5	TOR # 2 Environmental Impact Assessment Study--Infrastructure (2 consultants)	9/10/2007	12/23/2007	90d	[Gantt bar from September 2007 to December 2007]														
6	TOR #2 Ecological Habitat Assessment--Silt, Plants, Reclamation (2 consultants)	9/10/2007	12/23/2007	90d	[Gantt bar from September 2007 to December 2007]														
7	TOR # 3 Economic Infrastructure Assessment (4 consultants)	9/9/2007	12/22/2007	90d	[Gantt bar from September 2007 to December 2007]														
8	Survey on Local Knowledge and Traditional Practices--Natural Resource Utilization and Fisheries	12/24/2007	3/2/2008	60d	[Gantt bar from December 2007 to March 2008]														
9	TOR # 4 Market assessment for Produce and Fish (1 consultant)	1/28/2008	3/2/2008	30d	[Gantt bar from January 2008 to March 2008]														
10	TOR # 5 Research on Recycling or Waste reduction Alternatives (2 consultants)	3/2/2008	5/10/2008	60d	[Gantt bar from March 2008 to May 2008]														
11	TOR # 6 Conduct legal feasibility and Economic impact Surveys for Industries effected--Sandwashing and Construction (2 consultant)	12/24/2007	4/6/2008	90d	[Gantt bar from December 2007 to April 2008]														
12	TOR # 7 Tourism Feasibility Analysis (2 consultants)	12/24/2007	1/27/2008	30d	[Gantt bar from December 2007 to January 2008]														
13	TOR # 8 EIA for Expanding Tourism (1 consultant)	1/28/2008	3/2/2008	30d	[Gantt bar from January 2008 to March 2008]														
14	TOR # 9 Legal and Economic Surveys conducted to determine incentive structure for business practices and regulations (1 consultant)	4/7/2008	6/15/2008	60d	[Gantt bar from April 2008 to June 2008]														
15	Research into alternative building materials	4/7/2008	5/11/2008	30d	[Gantt bar from April 2008 to May 2008]														
16	TOR # 10 Feasibility Study for Marine and Coastal Life Research Institute (2 consultants)	4/7/2008	7/20/2008	90d	[Gantt bar from April 2008 to July 2008]														
17	TOR # 11 Identify funding for Tubli Bay Authority (2 consultants)	3/5/2008	6/17/2008	90d	[Gantt bar from March 2008 to June 2008]														
18	TOR #12 Prepare a management plan for establishment of Tubli Bay Authority--mandates and responsibilities (1 consultant)	7/21/2008	8/24/2008	30d	[Gantt bar from July 2008 to August 2008]														
19	TOR # 13 Create a team to organise all the components of Transitional Assistance Program (2 consultants)	7/21/2008	8/24/2008	30d	[Gantt bar from July 2008 to August 2008]														

## **Section 7**

### **RISK ASSESSMENT**

There are a number of risks associated with the different dimensions of this proposal. Without adequate forethought or contingency planning these issues have the potential to undermine the achievement of the proposal's objectives. Some of the potential risks identified thus far are:

- Conflict among stakeholders.
- Availability of Funds in a timely manner
- Environmental Risks
- Suitable Consultants
- Conflict with the other development initiatives
- External Regional impacts on the economy of Bahrain
- Competing demand for development resources
- Inadequate collaboration between government agencies

Conflict among stakeholders would most likely arise from people, groups, and industries that are asked to cease economic activity or give up property near the Bay. If these individuals and entities are not adequately compensated for their sacrifices they may oppose the program.

The proposal includes a number of activities that need to be implemented sequentially; without adequate and timely funding, many of these activities may be delay or never carried out. The proposal also calls for several technical studies on specific questions on how best to protect the Tubli Bay and support the economy of Bahrain. The studies need to be conducted by professionals with considerable understanding of Bahrain's politics, society, economy, and environment. The consultants will need to work closely with the Government of Bahrain and be adaptive to the government's needs. The proposal also calls for close coordination between various component of the Government of Bahrain to support the work of the consultants and to implement the recommendations of the proposal. The Economic



Development Board of Bahrain will need to ensure the objectives of this proposal align with their overall national development objectives to avoid redundancies or conflicts between government activities. The EDB will also need to ensure that resources for development initiatives are efficiently and adequately allocated within the government and collaborative efforts with consulting agencies.

Throughout the duration of the project, the possibility of unexpected regional and international factors to influence the project or priorities of the Government of Bahrain needs to be kept in mind. It is recommended that basic contingency plans be investigated with considerations to changes in funding and support from foreign donors.

## **Section 8**

### **PROGRAM FEEDBACK**

This section discusses the issues related to Program's feedback such as Monitoring and Evaluation covering the reporting and feedback framework as well as the monitoring indicators related to the various objectives and activities of the Program. This is followed by a section on Public Review featuring aspects of public engagement and public awareness which are crucial in creating and maintaining public support for the Tubli Bay Urban Development Program.

#### **8.1 Monitoring and Evaluation (M & E)**

Monitoring and Evaluation are important components in project management. Monitoring helps to ensure that a program is on the right track by monitoring its physical and financial progress, and provides data to evaluate if the program has achieved its designed objectives and what its impacts are, and suggests for future development. In this program, M & E aims to:

- contribute information for governmental policy making in Tubli Bay;
- facilitate in program planning for the Phase II;
- assist day-to-day management; and
- improve communication between institutions and the affected communities.

In order to achieve the above purposes, a Monitoring Framework with indicative indicators (see the below table) is developed based on the project objectives, outputs and activities. Project day-to-day monitoring is suggested to be conducted according to the indicators identified in the Framework by an internal Project M & E team organized within TAC. The collected data will be reported in Monthly progress report, Monthly financial report, and in the end contribute to compiling six monthly report, annual plan and project completion report.

The tasks of the M & E team include: 1) conducting periodical project monitoring based on the indicators listed in the Monitoring Framework; 2) updating the Framework with the development of the Project, 3) compiling the monthly

progress report, and assist in writing the six-monthly report, Annual Planning and Project Completion report; 4) facilitating the Public Review process and 5) feedback to the M & E result users.

To assist the Team in fulfilling the tasks and smoothly transferring from TAC stage to TBA stage, one international and one national M & E expert will be recruited for periodical input to provide technical support and develop a complete package of M & E knowledge and skills trainings to build the Team's capacity. The international and the national experts' tasks are listed in the attached ToRs in detail. These two experts will conduct post project evaluation based on the continuous data collected during the project life and public review results (see Public review in next section). Evaluation of TBA performance is suggested to be conducted during the public review process. This will contribute to enhancement of accountability, ownership and participation in decision making of the local communities and empowering the public in the long run.

Timely feedback the results of M & E activities will not only be a big help of policy making, program planning, project management and knowledge updating, but contribute to building ownership and accountability. The project identifies the following users to maximize its benefits, they are:

- Bahrain government
- UNDP
- TBA
- Research Institutes
- schools
- affected communities
- Private companies
- Industrial Investors

**8.1.2 Reporting.** Monitoring and Evaluation results will be reported periodically in a timely manner. The reports will include:

- Monthly progress report, reported by the Project M & E team
- Monthly financial report, reported by the Project M & E team

- Six-month report, reported by TAC with assistance of the Project M & E team
- Annual plan, reported by TAC with assistance of the Project M & E team
- Project completion report, reported by TAC with assistance of the Project M & E team

The Project M & E team will play a key role in reporting and feedback. Based on the users' different interest and roles in the Tubli Bay development and restoration, the above mentioned reports will be submitted to different users at a different time framework. The below table shows the details.

### Reporting and Feedback Checklist

Report	contents	Who conduct?	Report or feedback to ?	How often?
Monthly progress report	Project physical progress, Issues and recommendations	Project M & E team	Bahrain Government TBA Affected communities	Monthly
Monthly Financial Report	Monthly financial situation	Project M & E team	Bahrain Government TBA	Monthly
Six-month Report	Overall physical progress, outcomes financial situation, issues, environmental situation, recommendation for next six months	Project M & E team	<ul style="list-style-type: none"> <li>• Bahrain government</li> <li>• UNDP</li> <li>• TBA</li> <li>• Research Institutes</li> <li>• schools</li> <li>• Residential communities</li> </ul>	Bi-annually
Annual Plan	Overall physical progress, financial situation, outcomes, flaws, planning for next stage, environmental situation and trend, social change,	TAC Project M & E team	<ul style="list-style-type: none"> <li>• Bahrain government</li> <li>• UNDP</li> <li>• TBA</li> <li>• Research Institutes</li> <li>• schools</li> <li>• Residential communities</li> </ul>	Annually
Project Completion Report	Overall evaluate project progress, some initial impact lessons learned from the past years	TAC Project M & E team	<ul style="list-style-type: none"> <li>• Bahrain government</li> <li>• UNDP</li> <li>• TBA</li> <li>• Research Institutes</li> </ul>	By the end of project

	suggestions for next stage, environmental situation and trend, social change,		<ul style="list-style-type: none"><li>• schools</li><li>• Residential communities</li><li>• Private companies</li><li>• Industrial Investors</li></ul>	
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**Table: Monitoring Framework with indicative indicators**

Code	Narrative summary	Indicators	Remarks
Environment Sector			
Objective to ensure environmental compliance of current activities and infrastructures in order to improve the water quality and habitat status of the bay			
Output 1	Guidelines for Environmental Impact Assessment		
Activity 1.1	Identify available researchers, agencies and consultants to conduct environmental impact assessment studies as well as ecological habitat assessments.	<ul style="list-style-type: none"> <li>Set up a database for qualified and accessible researchers, agencies, and consultants</li> </ul>	
Activity 1.2	Establish Environmental Impact Assessment guidelines, procedures and mechanisms for all development activities and projects.	<ul style="list-style-type: none"> <li>Develop practical EIA guidelines, procedures</li> </ul>	
Output 2	Interim measures to reduce siltation established in order to decrease the negative impact caused by further silt discharge from sand washing plants		
Activity 2.1	Conduct an environmental impact study of sand washing plants, and identify appropriate mitigation measures and best management practices for this activity.	<ul style="list-style-type: none"> <li>An EIA report and management plan for sand washing plants</li> </ul>	
Output 3	Environmental impact assessment reports for Sitra causeway and Maamir channel will be produced in order to ensure their environmental suitability.		
Activity 3.1	Conduct an environmental impact study of the Sitra Causeway to identify environmental concerns and provide relevant options to improve the design and	<ul style="list-style-type: none"> <li>Conduct an EIA study</li> <li>An EIA report</li> </ul>	

	implementation.		
Activity 3.2	Conduct an environmental impact study of Maamir Channel and review its existing design and identify alternative design options for the channel.	<ul style="list-style-type: none"> <li>• Conduct an EIA study</li> <li>• An EIA report</li> </ul>	
Output A.4	A study report to upgrade waste water facilities as a first step to improve the management of waste water.		
Activity 4.1	Conduct a study of the current sewage treatment plant capacity and the projected residential demand.	<ul style="list-style-type: none"> <li>• A report of current sewage treatment plant capacity</li> <li>• A report of projected residential demand</li> </ul>	
Output 5	A study report and site plan outlining new and alternative facilities for solid waste disposal.		
Activity 5.1	Undertake a study to identify and create a site plan for future solid waste disposal sites and related facilities.	<ul style="list-style-type: none"> <li>• A report on feasible solid waste disposal</li> </ul>	
Output 6	A broad-based reuse and recycling program will also be developed in order to improve solid waste management.		
Activity 6.1	Research the feasibility and legal structure for the solid waste recycling program.	<ul style="list-style-type: none"> <li>• A report on legal framework for solid waste management</li> </ul>	
Objective	to facilitate the restoration of the aquatic, wetland and terrestrial ecosystem of the Bay		
Output 1	A quantitative database and inventory biodiversity for Tubli Bay		
Output 2	Guidelines for the protection of environmental sensitive areas		
Activity 2.1	Undertake ecological habitat assessment studies	<ul style="list-style-type: none"> <li>• A report of Ecological habitat assessment study for mud flats, mangroves, and sea grass</li> <li>• Zoning for land use</li> </ul>	
Output 2	A clean up campaign program		
Activity 2.1	Contract a consultant to identify the crucial areas for clean up campaign	<ul style="list-style-type: none"> <li>• A consultant report for clean up campaign regarding the site, strategy, schedule, and target communities</li> </ul>	
Output 3	A study report for local knowledge and traditional practices		

Activity 3.2	Conduct a survey on local knowledge and traditional practices	<ul style="list-style-type: none"> <li>• A report of local knowledge and traditional practices</li> </ul>	
Output 4	A report on local knowledge and traditional practices in relation to natural resource utilization.		
Activity 4.1	A survey on local knowledge and traditional practices related to natural resource utilization in Tubli bay.	<ul style="list-style-type: none"> <li>• Conduct a local knowledge and traditional practice survey</li> <li>• Submit the survey report</li> </ul>	
<b>Economy and Community Sector</b>			
Objective	Develop incentive structures through legal and financial feasibility studies of industry to comply with existing and new environmental codes		
<i>Output 1</i>	comprehensive survey and report of major real estate, construction, and related industries in urban centers,		
<i>Activity 1.1</i>	Research should be conducted to investigate areas for improvement in existing codes and measures to comprehensively address the social and environmental impacts of these types of development, combining both regulatory and incentive-based policies.	<ul style="list-style-type: none"> <li>• Research report</li> </ul>	
<i>Activity 1.2</i>	Study the range of market-based incentives and disincentives to pollution by industries most affecting the bay, including real estate, construction, sand-washing	<ul style="list-style-type: none"> <li>• report</li> </ul>	
<i>Output.2</i>	A study examining the legal feasibility and economic impact for all industries affected by the Tubli Bay redevelopment and environmental compliance guidelines.		



<i>Activity 2.1</i>	Conduct a survey of industries that will be affected by changing their operating practices.	<ul style="list-style-type: none"> <li>• A survey report</li> </ul>	
<i>Objective 2</i> Food production in the fisheries and agriculture sectors should be tied to local tastes, skills, and cultural customs and future market opportunities			
<i>Output 1</i>	An assessment market report on the domestic and tourism market for local produce and seafood detailing present and future supply, supply and input constraints, and new opportunities.		
<i>Activity 1</i>	Research existing and projected consumer demand based on demographics and tourism industry growth.	<ul style="list-style-type: none"> <li>• A research report</li> </ul>	
<i>Output 2</i>	report that details the specific ecologically appropriate food and food products that would be appropriate for a cultural tourism sector should be generated.		
<i>Activity 1</i>	Research the tourism market for key staple foods, traditionally grown and harvested foodstuffs, and the capacity of production methods to provide for this demand	<ul style="list-style-type: none"> <li>• A research report</li> </ul>	
<i>Output 3</i>	An inventory of existing cultural sites and attraction to develop a master tourism plan that integrates cultural tourism in Tubli Bay with existing tourism activities and regional transportation developments.		
<i>Activity 1</i>	Conduct an environmental impact assessment and study of the accompanying codes and standards for	<ul style="list-style-type: none"> <li>• An EIA report</li> </ul>	

	the tourism industry which will be crucial in maintaining the very aspects of Bahrain that attracts tourists and expands the industry in the future.		
<i>Output 4</i>	A marketing plan for existing cultural resources and future tourist attractions should be created. The marketing of cultural tourism in Bahrain will be directed at tourists who are likely to visit cultural sites in addition to other holiday activities.		
<i>Objective 3</i>	Establish a Monetary Assistance Fund for Displaced Workers in order to provide temporary relief to workers who lose their jobs or those needing to relocate.		
<i>Output 1</i>	A list of possible funding sources for the monetary assistance program and a set of criteria and guidelines for its disbursement		
<i>Activity 1</i>	Research the number of affected workers, their cost of living, and length of funding assistance need.	<ul style="list-style-type: none"> <li>• A baseline data for the affected workers</li> </ul>	
<i>Objective 4</i>	<i>Expand the capacity and curricular offered by current training programs</i>		
<i>Output 1</i>	A report detailing potential expansion, extended curricular offerings, and training opportunities		
<i>Activity 1</i>	Assess whether current training programs may be expanded by opening of additional training locations or expanding the capacity of current centers in the Tubli Bay and capital region	<ul style="list-style-type: none"> <li>• An assessment report</li> </ul>	
<i>Activity 2</i>	Outreach to and recruit youth or women who are interested in or need to join the labor force, and provide them with training and entry opportunities.	<ul style="list-style-type: none"> <li>• Trainings to the chosen youth or women</li> </ul>	
<i>Objective 6</i>	<i>Determine the Feasibility of a Marine and Coastal Life Research Institute</i>		
<i>Output 1</i>	A report that proposes a plan for the establishment of this center, a plan for future collaboration with the University of Bahrain, recruitment of trained		

	personnel, and the required infrastructure necessary.		
<i>Activity 1</i>	The Ministry of Education, the Ministry of Works and Social Affairs and Bahrain's research universities should collaborate to designate a team to determine the ideal work functions of the above and future centers, conduct impact studies, recruit staff; create a funding plan and site the proposed centers.	<ul style="list-style-type: none"> <li>• A team consisted of staff from the MoE, the MoLSA and the research institutions</li> <li>• impact study reports</li> <li>• qualified staff recruited</li> <li>• operational funding plan developed</li> </ul>	
<i>Activity 2</i>	The designated team will organize the community and involve it in the building of resources as well as organize programs in public schools and universities for awareness building and feedback.	<ul style="list-style-type: none"> <li>• Community involved plan</li> <li>• Awareness building plan</li> <li>• Feedback plan</li> </ul>	
<b>Management Sector</b>			
Objective 1	to create a council to become the TBA		
Output 1.1	create steering committee to manage development in Tubli Bay		
Activity 1.1	Present program to community, describe incentives and discuss expectations with local businesses	<ul style="list-style-type: none"> <li>• Community meetings</li> <li>• Meeting with local business</li> </ul>	
Activity 1.2	Define relevant stakeholders to be represented in the steering committee	<ul style="list-style-type: none"> <li>• A list of stakeholders after consultation and survey</li> </ul>	
Activity 1.3	Define the mandate and responsibility of the committee to ensure functionality	<ul style="list-style-type: none"> <li>• Documents of mandate an responsibilities</li> </ul>	
Activity 1.4	Complete the implementation of Red Line based on land use plan with the government of Bahrain	<ul style="list-style-type: none"> <li>• Define the Red Line</li> <li>• Make it aware in the government and get support form the government</li> </ul>	

## 8.2 PUBLIC REVIEW

Engaging the general public, local communities and citizen stakeholders' participation during the analysis and implementation phases is crucial to the sustainability of the program. The next discussion explores the background regarding this issue within its cultural and political framework. The public review process for this program will integrate public awareness and review procedures to ensure timely feedback and involvement of citizens and civil society groups.

**8.2.1 Islamic Perspective.** Islam is a prominent component of culture in Bahrain. Thus it is important to review the perspective of Islam on environmental protection and consider the ways that this cultural and religious can be applied to support the protection strategies in Tubli Bay.

Islam focuses on protecting the environment and sets general principles to protect natural resources. Conservation for the common good is not only supported by Islamic teaching, but is also encouraged and enforced by the Islamic law. Under Islamic law, governing authorities have the right and obligation to establish reserves '*Alhema*' and protected areas '*Alharam*' for purposes pertaining to the public good. The Islamic law designated various kinds of protected areas, reserves, inviolable zones, charitable endowments areas known as the '*Waqf*' and others. Since it is estimated that about 85% of the population of Bahrain is Muslim, a great majority of the people of Bahrain abide by and are familiar with the environmentally sustainable principles.

**8.2.2 Public Engagement.** Article (13) of the CBD (Convention of Biological Diversity) urges parties to encourage public engagement and to preserve traditional knowledge towards the conservation and sustainable use of biodiversity. The public engagement process should solicit the public's perspectives and concerns about relevant issues and develop a partnership or institution that can respond to concerns in a timely manner.

Public awareness is an important component of this engagement process. A partnership in Bahrain has been established with some schools at various educational levels to undertake joint programs intended to raise the student awareness about the

protection of the environment. The Ministry of Education has initiated the incorporation of various subjects pertaining to environmental protection, including the conservation and sustainable use of biodiversity, in the national educational curricula.

The involvement of local people in the decision making process has increased recently. For instance, representatives of local municipal councils are consulted during the Environmental Impact Assessments (EIA) of large-scale industrial, housing and resort developments. NGOs, another new sector in Bahrain's civil society, participated in the preparation of the National Environmental Strategy.

**8.2.3 Integration and Participation.** Due to the absence of an overall national sustainable strategy for development and the dominance of sectoral development policies, the level of integration and coordination among various sectors and institutions has been limited in past years. The National Action Charter of 2001 significantly improved the legal conditions for ensuring the right of all individuals to participate in important public decisions. On one hand, it acknowledged the role of civil society and strengthening the role of these associations, and allowed for wider and more effective participation of stakeholders. A good example of integration and participation is expected during the preparatory process of National Environmental Strategy and Action Plan, where full participation of stakeholders will take place and concerns of all sectors will be taken into consideration. A reasonable level of public participation, including women's participation, on environmental issues has been reached. However, the role of public is still consultative in nature when it comes to decision-making process.

**8.2.4 Public Review Process.** This public review process needs to work on two levels. First, it will assure the accountability of Tubli Bay Administrative officials and policy makers to the stakeholders. Second, this process will ensure the participation of communities in the decision making process by enabling those affected to voice their opinions and concerns. The Tubli Bay Authority (TBA) will be the organization where public review capacities must be built. TBA will be capable of processing inputs and feedback, and it then will consider the general direction to push policies when implementing various Tubli Bay Urban Development programs.

After monthly evaluation reports are generated, Tubli Bay Authority must release these reports to the public through a well-developed public awareness program. Furthermore, Tubli Bay Authority will be required to recruit and invite active members of the community to the policy meetings. The public will have a right to bring inputs and feedback to the Tubli Bay Authority using both written and verbal communication. Each month, TBA will have deadlines by which to accept these inputs.

Such an effective public review process will enable Tubli Bay Authority to identify and address the actual needs of the stakeholders instead of perceived ones and use tools available to them to result in the outcome most effective to the stakeholders.

### **8.3 Public Awareness**

Public awareness will play a crucial role in the Tubli Bay Urban Development Program. The objectives of public awareness include enhancing the public's understanding of the importance of Tubli Bay, understanding various alternative measures required for the restoration of the environment, and finally, updating the public on ongoing issues concerning the Bay and providing progress reports on implementation. Building transparency within the policy-making process will be achieved through the use of various mass media tools, direct communication requirements, and educational workshops.

Through the use of the radio, television and newspapers, TBA will be required to make announcements and provide timely information to the public. Direct communication with the public will play an important role - through workshops, seminars, lectures or special public awareness events in public spaces, such as schools, universities and community centers. Finally, indirect communication means with the public may include the production of posters and various brochures available to the public in timely manner.

Public awareness activities are expected to be conducted throughout the implementation and planning phase of the Tubli Bay Urban Development Program, thereby ensuring a timely flow of information to the public but also the input of timely and informed feedback. The Government of Bahrain in collaboration with

TAC will be expected to play a crucial role in the coordination of public awareness activities during the first phase of the program. Allowing the public to have access to the useful and timely information is a requirement if the Tubli Bay Urban Development Program is to address the true needs of citizen stakeholders.

## **Section 9**

### **CONCLUSION**

The comprehensive development program will ensure that the future course of action and activity surrounding Tubli Bay as the area shifts to a new phase of sustainable and diversifying development. Phase I outlines the immediate needs for the program. The next step is the transition to Phase II, the long term phase, which will not only build on the goals of the bay but see them all the way through to sustainability. The region's future is related to the successful preservation of this unique environment. In addition, renewed activity around Tubli Bay will provide the area with new jobs, education, and a place to enjoy the natural beauty of the bay.

Both national and international experts play a central role in helping the program started by July 1, 2007. The consultants themselves will be part of a diverse and well-coordinated team. Local consultants have a distinct advantage over foreign consultants and so are needed to incorporate their familiarity with Bahraini culture into the program.

The preceding section lists the specific terms of reference for the wide-ranging needs of Phase I. The research, studies and reports expected from the consultants provide a body of background research needed to understand the issues while establishing the specific path of the program's future.

Terms are outlined for every need in the process based on three broad categories: economic and community development, environmental, and management. Even though the consultancies are separated by focus, each assignment is intrinsically linked to the other two categories. For example, environmental impact assessments are needed to project the impact of economic development and infrastructure projects. Together, the consultancies from the three categories will define the actions taken to achieve the long term goals of the program.

Within the aforementioned framework are environmental assessments of current infrastructure that needed to be completed to understand the impact on aquatic



habitats from pollution and flushing in the bay. Environmental assessments of silt-washing plants and reclamation related to a significant decrease in bay size and terrestrial habitat degradation will require studies and advising from several experts. A detailed report of the findings on the effects of the sand washing plants that have and continue to encumber the bay with will be necessary towards beginning the accountability process. Basically, the consultants must establish the environmental impact from current and future activities before attempting to meet the long term objectives of the program.

With so much going on and research being invested on the bay and surrounding region there will need to be agencies pulling everything together. This is where a management entity is needed to facilitate everything into an efficiently run machine with as little obstructions as possible. The managerial authorities need to be analysis and assisted when taking on such a large responsibility. The Transitional Authority Council (TAC) will need guidance towards remaining focused to their goal of establishing the framework for the Tubli Bay Authority (TBA). Both authorities will need consultants to guide the start up process, lend support, and most of all observe its functionality. In correlation the evaluation and monitoring process will need proper assistance and supervision form outside professionals. To ensure that these operations and the process as a whole are being translated properly to the public there will be a public awareness campaign that will need some extra and enlightened vision on what are the best ways to present this development and show how the community is the force behind all of its aspects.

Consultation and review is critical for determining the economic outlook of the bay and the financing available for completing the ambitious objectives. Consultants will submit notice and credentials to the TAC. Of course all of this will need financing and the best ways to go about when, who, and where to ask for funding will certainly need the aide of a professional expert. A series of project analysis and evaluations to determine the best course of action for directly and indirectly related activities as well as securing the necessary long-term financing will be the primary objectives for the consultant.

It is necessary to define data needs and assess the availability of this information in order to determine the cost effectiveness of the infrastructure changes. The functions and feasibility of the Sitra Causeway and Maamir Channel will require many studies both from an engineering and environmental standpoint. Review of current infrastructure including the waste water treatment facility with current and projected future demands on the facility will require substantial assessment. These components will be coordinated with the Ministry of Public Works and Agriculture in Bahrain.

The utilization of fisheries and other natural resources including traditional fishing practices will need to be assessed in order to understand the feasibility of such culturally and economic significant practices. Strengthening local provisioning of the food market and increasing the participation of local stakeholders who are farmers and fisherman will also be addressed. Major factors towards sustaining this development are dependent on the future of the fisheries and those efforts will be directed towards the Ministry of Fisheries. Also included will be research on recyclables and alternative building materials. In addition, a feasibility study for establishment of Marine and Coastal Life Research Institute in Tubli Bay as an extension of the University of Bahrain's Environmental Research Center will be needed. These studies support the idea of sustainability and renewal which characterizes this development process.

Consultants will be needed to determine the support needed to establish or expand training programs and information centers to address the needs of workers. In addition, the Government of Bahrain to develop a set of incentive structures to encourage business development in the bay while adhering to the environmental standards. Research on ways to bring money into the region by utilizing what is already present, can be revived, and possibly added to the bay region. One of the major initiatives will determine the impact and potential of cultural tourism in and around the bay. With many cultural and religious features, Tubli Bay can most likely extract more interest and capital out of its cultural amenities.

Consultants needed for Phase II will be sought at a later period most likely during the final months of Phase I. Consultants are the impetuses that make the connection between ideas and implementation. Consultants will compensate for aspects that would otherwise go unnoticed, forgotten, or importance devalued. With successful research and thorough analysis this development plan will enter the implementation phase by making the linkage between many ambitious smaller goals to the overall aspirations for developing Tubli Bay.

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**Appendix A**

*Budget*

**Appendix B**

*Terms of References*



**Detailed Budget for Related and Supporting Activities; Funding Source Details for Each Activity.**

<i>Activities directly related to Tubli Bay Development Project</i>											
Activity Category	activity	Length in months	Number of International Consultants	Number of Local Consultants	Number of Support personnel/Data Collectors	Other Types of Facility and Input needs	Total Number of Consultancy Months in each category	Amount Paid by the UNDP	Amount Paid by the Govt. of Bahrain	Loans From Arab Fund for Economic and Social Development	Loans from Kuwait Fund for Arab Economic Development
<b>Environmental</b>	Environmental assesment of Silt Washing Plants and Reclamation Assesment	3	1	1	1	The Bahrain Government (Ministry of Environment) & UNDP to provide reports on previous study and facilitate plant/ field visits.	6	\$ 22,160	\$ 26,592	\$ 22,160.25	\$ 17,728.20
<b>Economic</b>	Legal and economic surveys to determine incentive structure for business practices and regulations to become more environmentally sustainable	3	0	2	3	The consultants to be provided project plan and list of activities including availabe data about the legal provisions and economic activities in Tubli Bay.	6	\$ 21,420	\$ 25,704	\$ 21,420.00	\$ 17,136.00
	Economic Impact of Infrastructure	3	3	1	2	The Bahrain Government (Ministry of Environment) to make an arrangement of an office and a vehicle for the consultants and also provide available data & reports on previous study. The government to facilitate survey research as well.	12	\$ 48,841	\$ 58,609	\$ 48,840.75	\$ 39,072.60
<b>Management</b>	Cleanup Campaign/Site Plan	1			4		0	\$ 2,520	\$ 3,024	\$ 2,520.00	\$ 2,016.00
	Public Awareness Campagin	6		1	2	The Bahrain Government to facilitate the consultant's liaison with the media and the public. Also to pay for the cost of advertisements and the related materials.	6	\$ 23,310	\$ 27,972	\$ 23,310.00	\$ 18,648.00

Activity Category	activity	Length in months	Number of International Consultants	Number of Local Consultants	Number of Support personnel/Data Collectors	Other Types of Facility and Input needs	Total Number of Consultancy Months in each category	Amount Paid by the UNDP	Amount Paid by the Govt. of Bahrain	Loans From Arab Fund for Economic and Social Development	Loans from Kuwait Fund for Arab Economic Development
	Securing the Funding Sources for the Phase II	6	1	1	2	The Bahrain Government to furnish the project plan details together with list of activities. Additionally, the cost of each activity and the total cost of the project including implementation and enforcement cost to be provided to the consultants. The Government & UNDP would need to indicate the share of funding which they would contribute to the cost of the project. The contingency fund to be committed by the Bahrain Government would also need to be mentioned.	12	\$ 48,101	\$ 57,721	\$ 48,100.50	\$ 38,480.40
	Defining Mandates for and establishing TAC and TBA/Creating legal guidelines	2	1	1	2	The details of the project objectives together with plan and activities as well as the targetted outputs to be provided and explained to the team of consultants. Similarly, the impact studies for various sectors & activities completed/ undertaken to be provided and explained. Besides, the Government of Bahrain to provide an office to the consultants.	4	\$ 16,034	\$ 19,240	\$ 16,033.50	\$ 12,826.80
<b>Infrastructure</b>	Study of current sewage treatment plant capacity and projected residential demand	3	1	1	2	The Bahrain Government to provide an office and one vehicle, plus available study and also arrange for field study surveys	6	\$ 24,050	\$ 28,860	\$ 24,050.25	\$ 19,240.20
	Infrastructure Assessment	3	1	1	2	The Bahrain Government to provide the available data & study reports to the consultants and arrange for an office and a vehicle. The government to facilitate the liaison of the consultants with other stakeholders.	6	\$ 24,050	\$ 28,860	\$ 24,050.25	\$ 19,240.20

<i>Activities Indirectly Related to Tubli Bay Development Project</i>											
Activity Category	activity	Length in months	Number of International Consultants	Number of Local Consultants	Number of Support personnel/Data Collectors	Other Types of Facility and Input needs	Total Number of Consultancy Months in each category	Amount Paid by the UNDP	Amount Paid by the Govt. of Bahrain	Loans From Arab Fund for Economic and Social Development	Loans from Kuwait Fund for Arab Economic Development
<b>Environmental</b>	Do a feasibility study for Tubli Bay marine and coastal Life institute	3	0	1	2	Available data and study works to be provided. Also arrange for field survey visits	3	\$ 11,655	\$ 13,986	\$ 11,655.00	\$ 9,324.00
	Undertake fisheries research, survey and monitoring program for the purpose of reforming the management and regulation of fisheries	2	0	1	1	The Bahrain Government (Ministries of Environment and Natural Resources) to provide available study and data to the consultant and arrange for field surveys whenever required	2	\$ 6,510	\$ 7,812	\$ 6,510.00	\$ 5,208.00
<b>Economic/Community Development</b>	Survey of local knowledge and traditional practices related to natural resources	2	0	1	2	The Bahrain Government (Ministries of Environment and Natural Resources) to provide available literature, previous study and data to the consultant, besides access to their libraries and other relevant sources. In addition the problem statement.	2	\$ 7,770	\$ 9,324	\$ 7,770.00	\$ 6,216.00

<i>Activities Indirectly Related to Tubli Bay Development Project</i>											
Activity Category	activity	Length in months	Number of International Consultants	Number of Local Consultants	Number of Support personnel/Data Collectors	Other Types of Facility and Input needs	Total Number of Consultancy Months in each category	Amount Paid by the UNDP	Amount Paid by the Govt. of Bahrain	Loans From Arab Fund for Economic and Social Development	Loans from Kuwait Fund for Arab Economic Development
	Create a team to organize components of Transitional Assistance program and gather funding for establishment of this program	2	1	1	2	The Bahrain Government to provide an office and one vehicle.	4	\$ 16,034	\$ 19,240	\$ 16,033.50	\$ 12,826.80
	Establish transitional monetary fund for displaced and transitioning workers	1	0	1	2	Before the establishment of fund, a study to assess the required amount of funding is needed. Therefore study is recommended to be conducted in the first phase.	1	\$ 3,885	\$ 4,662	\$ 3,885.00	\$ 3,108.00
	Expand existing training programs	0.5	0	1	1	The Bahrain Government to provide the project details together with the list of activities and outputs. The list of personnel, their qualifications & experience and the tasks to be provided too. Previous study reports on Training Need Assessment (TNA), if any, to be furnished as well.	0.5	\$ 1,628	\$ 1,953	\$ 1,627.50	\$ 1,302.00
	Expanding Tourism - Assesment	1		1	1	The project objectives to be clearly explained to the consultant.The data about the current tourism attractions in the Bahrain and future plans of these tourism spots to be provided. Also previous study	1	\$ 3,255	\$ 3,906	\$ 3,255.00	\$ 2,604.00
	Cultural Tourism Feasibility	1	1		1	The data about the current tourism attractions in the Bahrain and future plans of these tourism spots to be provided.	1	\$ 4,762	\$ 5,714	\$ 4,761.75	\$ 3,809.40
	Cultural and local historian national consultant	1	0	1			1	\$ 2,625	\$ 3,150	\$ 2,625.00	\$ 2,100.00

<i>Activities Indirectly Related to Tubli Bay Development Project</i>											
Activity Category	activity	Length in months	Number of International Consultants	Number of Local Consultants	Number of Support personnel/Data Collectors	Other Types of Facility and Input needs	Total Number of Consultancy Months in each category	Amount Paid by the UNDP	Amount Paid by the Govt. of Bahrain	Loans From Arab Fund for Economic and Social Development	Loans from Kuwait Fund for Arab Economic Development
	Market assessment for local produce and fish for local and tourism markets	1	0	1			1	\$ 2,625	\$ 3,150	\$ 2,625.00	\$ 2,100.00
<b>Infrastructure</b>	Research recycling or waste reduction alternatives	2	1	1	2	The Bahrain Government to provide the project details showing emphasis on environment related objectives. Also to furnish previous study reports, if any, to the consultants.	4	\$ 16,034	\$ 19,240	\$ 16,033.50	\$ 12,826.80
	Study of Alternative building Materials	1	1	1	2	Details of the project plan and the activities and the list of relevant outputs involving building material to be made available to the consultants.	2	\$ 8,017	\$ 9,620	\$ 8,016.75	\$ 6,413.40
<b>Management</b>	International Evaluation	0.7	1			The project activities and outputs to be provided to the consultants. The critical areas and milestones to be indicated clearly.	0.7	\$ 2,892	\$ 3,471	\$ 2,892.23	\$ 2,313.78
	National Evaluation	0.7		1		The project activities and outputs to be provided to the consultants. The critical areas and milestones to be indicated clearly.	0.7	\$ 1,838	\$ 2,205	\$ 1,837.50	\$ 1,470.00

	Total Consultancy Months	81.9	<b>TOTAL NEEDS for the Project</b>	
	UNDP grant amount	\$ 320,013.23	<b>\$ 1,280,052.90</b>	<i>TOTAL NEEDS FOR THE PROJECT only account for the consultancy costs</i>
	Government of Bahrain	\$ 384,016	Government Total	
Inkind Transfers are not included in the TOTAL NEEDS FOR THE PROJECT. They are counted as operational costs	Government of Bahrain Inkind Transfers	\$ 1,661,000.00	\$ 2,045,016	
	Loans From Arab Fund for Economic and Social Development	\$ 320,013.23	Total Loans	
	Kuwait Fund for Arab Economic Development	\$ 256,010.58	\$ 576,023.81	



Inkind transfer of Administration Building/Logistics/Support Staff by the Government of Bahrain										
		Quantity	Description	Period days & months	Unity Cost	Monthly expenditure	Daily Wage	SubTotal	Total for each Category	Percentage of total
<b>Staff</b>	Administrator	1		216			\$ 120.00		\$ 25,920.00	1.7%
	Secretary	3		216			\$ 70.00		\$ 45,360.00	3.0%
	Chief Accountant	1		216			\$ 70.00		\$ 15,120.00	1.0%
	Accountant Assistant	2		216			\$ 65.00		\$ 28,080.00	1.9%
	Messenger	2		216			\$ 60.00		\$ 25,920.00	1.7%
	Data Support Staff	10		126			\$ 120.00		\$ 151,200.00	10.0%
<b>Building &amp; Facilities</b>										
	Leasing	1		18		4,000.00			72,000.00	4.8%
	Yield by the Government	1		18		4,000.00			72,000.00	4.8%
	vehicle registration	10								
<b>Fleet</b>										
	Toyota coupe	10				12,750.00		127,500.00	141,525.00	9.4%
	Tax					0.11		14,025.00		
	Insurance	10		18		100.00		1,000.00	18,000.00	1.2%
	Scooter	2				1,250.65		2,501.30	2,776.44	0.2%
	tax					0.11		275.143		
<b>Fuel</b>										
	Gasoline	22,275	gallons	18	2.00	44,550.00			801,900.00	53.1%
<b>Maintenance</b>										
	Vehicle	10		18		250.00		2,500.00	45,000.00	3.0%
	Scooter	2		18		78.90		157.80	2,840.40	0.2%
<b>Stationary</b>										
	Paper and others									
	Toners, Inks								9,000.00	0.6%
<b>Equipment</b>										
	Office furniture Set	30	Total		750.00			22,500.00	24,468.75	1.6%
	tax		8.75%					1,968.75		
	equipments	25	Laptops		800.00			20,000.00	21,750.00	1.4%
			8.75%					1,750.00		
<b>Utilities</b>										
	Electricity									
	water									
	Gas									
	Phone									
		15%							7,200.00	0.48%
								Sub Amount	1,510,060.59	
								Contingency	10%	151,006.06
								Net Total	1,661,066.65	

## **TERMS OF REFERENCES**

The following section includes what can be considered the final product of this consultancy mission. After assessing the current situation of the Tubli Bay and analyzing the sustainable Urban Development Opportunities in the Tubli Bay and Bahraini area, the Terms of References have been composed. In addition, the Terms of References below link the pre-planning phase of Tubli Bay Urban Development program with Phase I (planning stage) and later the implementation stage (Phase II). Terms of References identify the various areas where complex researches and studies are required to properly handle this complex multi dimensional problem. Terms of References have been carefully designed in attempts to incorporate the aspects of monitoring and evaluation, sustainability, capacity building, and envision the smooth transition process from the Phase I to the implementation stage.

When executed, these Terms of References should be translated into the comprehensive plan of action and be immediately followed by the implementation activities in the economic, infrastructure-improvement, and ecological-related areas.

Consultants will be hired to address the following Terms of References:

- Assessment of sand washing plants and solid waste dumping in Tubli Bay
- Mandates and responsibilities of Tubli Bay Authority & implementation plan
- Defining the mandates and responsibilities of Transitional Advisory Committee
- Management and finance development plan for Tubli Bay
- Feasibility study for marine and coastal life research center
- Guidelines for incentive structures
- Assessing local and outside markets for local agriculture and fisheries products
- Tourism feasibility analysis
- EIA for expanding tourism
- organization of transitional assistance program

# **ASSESSMENT OF SAND WASHING PLANTS AND SOLID WASTE DUMPING IN TUBLI BAY**

## **Terms of Reference**

Over the past forty years there has been an increase in development pressure along the coastal areas of Bahrain including Tubli Bay area. This has resulted in the infilling of the area due to land reclamation for additional residential construction, leading to a drastic decrease in the size of the bay. In addition to this there are five sand washing plants located in Tubli Bay resulting in an increase in siltation rates in the area. Other anthropogenic impacts in the bay include the illegal dumping of solid waste (rubble and litter) in the bay area some as a result of construction and some as a result of municipal waste dumping. A positive development has been the recent orders that have been passed by the Manama and Central Region Municipal Council requiring the end of land reclamation from Tubli Bay.

These activities have led to a negative environmental effect of Tubli Bay's ecologically unique habitats not only resulting in the area being an eye sore in terms of appearance but also negative consequences on the fauna and flora of the biologically rich habitats such as the mangroves and mud flat areas of the bay. These deteriorated habitats are also likely to have had a negative effect on the real estate market in the area as well as the compromise of measures of public health and job opportunities. There is a need to assess the impact of these activities on the environment of the bay and its biologically rich habitats. Therefore the Strategic Initiative for Tubli Bay Urban Development report has recommended an assessment of the sand washing plants and associated activities related to construction and solid waste dumping in Tubli Bay.

## **Purpose and Outcomes of Consultancy Assignment**

The purpose of this consultancy assignment is to assess the nature and extent of environmental concerns at the sand washing plants sites and the surrounding areas and areas where reclamation and solid waste dumping have occurred. This will be achieved by conducting field assessments and providing information to quantify the scale of pollution at particular sites or areas as well as to examine the potential remedies to the problems at these sites. In addition to this, the Consultants will be expected to conduct extensive habitat assessments of the affected terrestrial areas. The outcomes of this assignment will entail study reports on the assessments and recommend options for sand washing plants as well as the management of solid waste.

## **Scope of Work**

The scope of the Consultant's work will be limited to an assessment of the sandwashing plants and solid waste dumping within Tubli Bay area. The Consultants are expected to conduct a study of the pollution impacts caused by these activities on the habitats of Tubli Bay by conducting habitat assessments.



## **Roles of the consultant**

The consultant is expected to conduct the following activities but not limited to:

- Conduct a review and environmental assessment of the sand washing plants, and identify appropriate mitigation measures and best management practices for this activity. Available information on the sand washing plants should be obtained and reviewed and an assessment plan defining the information and resources required and the field visit schedule should be prepared before conducting field visits.
- Collect quantitative information about the extent of pollution at the sand washing plant sites and the affected surrounding habitats including the biodiversity status.
- Identify sources of solid waste pollution in Tubli bay and propose alternatives for solid waste disposal.
- Undertake quantitative ecological habitat assessment studies for all habitat types affected by solid waste pollution. Identify areas requiring special conservation measures.
- Identify crucial areas in the bay requiring immediate management intervention and create a site plan for future solid waste disposal sites and related facilities.
- Establish a program and schedule for a cleanup campaign that will involve local communities.
- Research the feasibility and legal structure for solid waste recycling program for the area.

Apart from conducting the above assessments and studies the Consultant is expected to participate in the following:

- Work closely with the local Consultant during the study period.
- Submission of short monthly progress reports to the Transitional Advisory Council (TAC). This will allow for monitoring of the progress of implementation of activities
- Present the results of the study to relevant Governmental officials and the TAC for review. This will allow for feedback and comments on the findings and recommendations provided in the report prior to its final submission
- Work closely and share information with the Consultants working under the economic component of the program (economic analysis of the sand washing plants).

## **Roles of Government**

Various agencies of the Government of Bahrain will assist to facilitate the success of this consultancy by providing the following:

- Access to the necessary information on the sand washing plants infrastructure and other relevant information from various Government departments or other institutions (reports, libraries, databases, archives etc)
- Permission to access Government offices and private property when necessary
- The necessary facilities for the Consultants to conduct their assignments i.e. office space, computers, administrative support and logistical support for field work.
- In collaboration with the TAC, provide a forum for public feedback on the draft report
- Upon conclusion of the consultancy's contract, will make decisions regarding the implementation of the consultancy's recommendations.

## **Resources and Constraints**

### Budget:

The budget for this project will be initially set at the equivalent of 1 international Consultant teamed with 1 local Counterpart for 3 months of work due to commence in October 2007.

### Personnel:

A qualified international Consultant should possess a working understanding of the environmental conditions that this consultancy addresses and should preferably have had previous experience conducting similar work in the Gulf region. The presence of a qualified local consultant to meet the consultancy objectives is necessary for utilizing the added advantage of their local knowledge of the area and the associated habitats and their organisms.

## **Submission of Report**

A draft report shall be submitted to the TAC early December 2007, and a presentation to the relevant governmental officials and the TAC in mid December 2007. The final report shall be submitted to the TAC end December 2007.

## **Scheduled Work**

A detailed work plan and budget shall be included in the consultancy bid, and upon agreement between the TAC and the Government of Bahrain, the consultancy shall be held liable for meeting its agreed deadlines. New deadlines and budgets may be proposed only upon an accepted request for revision or expansion of scope of work.

## **Deliverables:**

- Short monthly reports to TAC for implementation updates.

- An environmental assessment of the sand washing plants.
- A report on the a site plan outlining new and proposed alternative facilities for solid waste disposal a proposal for broad-based reuse and recycling program .
- Guidelines for the protection of environmental sensitive areas in the bay.
- An updated inventory of the terrestrial biodiversity (distribution, abundance and status) for Tubli bay.
- Updated guidelines for Environmental Impact Assessments produced (for future projects).

## **DEFINING THE MANDATES AND RESPONSIBILITIES OF TRANSITIONAL ADVISORY COMMITTEE**

### **Terms of Reference**

The Transitional Advisory Council (TAC) will be the preliminary overseeing and steering committee during the planning and research phase. The TAC will be comprised of stipend government officials from Bahrain that represent the ministries and disciplines involved in the development (Ministry of Commerce, Housing and Agriculture, Works and Agriculture, Labour and Social Affairs, Finance and National Economy). The transitional authority will work under the auspice that they are a centralized planning and organizing council that is working towards fine-tuning how the successor (Tubli Bay Authority) will function. It is essential towards the progress and success of the development of Tubli Bay that this authority is in place, autonomous, and obtains a level of legitimacy with all stakeholders involved by the onset of Phase II. At that time the TAC will lay the groundwork for all facets of how the Tubli Bay Authority should operate based on the transitional authority's observations and experiences.

### **Purpose and Outcomes of Consultancy Assignment**

Purpose of this Consultancy Assignment is to generate a detailed preliminary plan of action in various areas of management, implementation, and community development that will help guide the Transitional Authority Council (TAC). This body will be the initial centralized authority and steering committee in the planning and research process of Tubli Bay development. TAC will be comprised of stipend government officials from Bahrain that represent the ministries and disciplines involved in the development (Ministry of Commerce, Housing and Agriculture, Works and Agriculture, Labour and Social Affairs, Finance and National Economy). The transitional authority will work under the auspice that they are a centralized planning and organizing council that is working towards fine-tuning how the successor (Tubli Bay Authority) will function and its composition. It is the consultant's assignment to steer the direction and give consultancy on conducting a productive and objective fulfilling transitional body.

### **Scope of Work**

The scope of the consultants work will be minimally required to observe, critique, and make suggestions on the function of meetings, outputs, addressing of inputs, transparency, and overall performance of the Project Management Office and Transitional Authority Council. If the consultant has suggestions for improvements, feels there needs to be an overhaul of plans, then the consultant will submit the findings in writing and in advising sessions to the TAC.

### **Role of Consultants**

During the time of the project, consultants hired for this particular mission should:

- Work in collaboration with the Transitional Authority Council to create a mission statement
- Meet with outgoing consultant and read the final report of Transitional Authority consultant
- Observe administrative proceedings and conduct operational improvement meetings when needed
- Conduct advising sessions to streamline meetings and processes
- Ensure TAC is utilizing input from consultants, community, and stakeholders properly
- Gather and seek additional funding and funding opportunities for TAC
- Conduct analysis of various transparency indicators, community issues and design approach: Survey the community on characteristics an authority should have
- Ensure quorum at meetings, TAC members accountability and responsibility to position
- Public relations and capacity building advising and support
- Ensure TAC adhering to mission statement and goals for transition of power

### **Resources and Constraints**

Consultants should be well aware of the budget and funding issues. They should work closely with the Government of Bahrain and other possible funding sources to make the objectives are realistic within fiscal limits of this project. Consultant is encouraged to meet with other consultants involved in the planning process in other disciplines.

### **Role of Government**

Various agencies of the Government of Bahrain will help to facilitate the success of the project throughout its progress by providing the following:

- Access to the government databases/Archives/Libraries/Reports at government ministries and institutions.

- Needed facility for Consultants to complete their assignments. This includes logistics such as administrative support, computers, and community awareness campaign.
- A well represented membership and capacity composition of the TAC

### **Submission of Report**

- Consultants should submit their draft final report by December 1, 2007 to the Bahrain Ministry of Labour and Social Affairs. The deadline may be extended for well-supported reasons.
- A final report of the TAC's proceedings and findings will be submitted to the general public through the Project Management Office, the Government of Bahrain, and to the consultant for the Tubli Bay Authority.

### **Scheduled Work**

- Consultants will be needed from beginning of Phase I (most likely July 1<sup>st</sup> 2007) and be under contract until the transition to Phase II is complete.
- Phase I work coincides with and duration is dependent on planning, financing, and researching needs (2 months then adjunct advisory role).

## **MANDATES AND RESPONSIBILITIES OF TUBLI BAY AUTHORITY & IMPLEMENTATION PLAN**

### **Terms of Reference**

The Tubli Bay Authority (TBA) is the advisory and directing body for the development of the Tubli Bay region. There are two components of the TBA, the advisory council and the project management office. The project management office is the centrally located office locally staffed with administrative employees that take in all input from stakeholders, consultants, and community members. The advisory council is reviewing and advising body comprised of international experts familiar with such development; officials from the Government of Bahrain to add legitimacy, community leaders to provide transparency, and private stakeholders who can maintain a level of objectivity, all working as the centralized authority to direct the development progress. The members are not consultants but rather will act as policymakers for the development process. The advisory council meets twice monthly, or whatever its predecessor the Transitional Authority Council determines after Phase I is most appropriate, and discusses the progress of the development based on the goals of the development. The four main purposes of the TBA are:

- Centralized overseer of all activities
- Authority agency legitimizing rules and regulations
- Benevolent enforcement agent backed by the Government of Bahrain with jurisdiction to prosecute
- Local authority that operates with transparency between community, stakeholders, and developers

### **Purpose and Outcomes of Consultancy Assignment**

Purpose of this Consultancy Assignment is to generate a detailed preliminary plan of action in various areas of management, implementation, and community development that will help guide the Tubli Bay Authority. This descendant long-term body will be the fine-tuned centralized authority and steering committee in the development process of Tubli Bay. The Tubli Bay Authority will be comprised of stipend government officials from Bahrain that represent the ministries and disciplines involved in the development (Ministry of Commerce, Housing and Agriculture, Works and Agriculture, Labour and Social Affairs, Finance and National Economy), international experts in a number of disciplines, and nominated local community leaders. The Tubli Bay Authority is the centralized overseer of all activities, authority agency legitimizing rules and regulations, aggregate enforcement agent backed by the Bahrain government with jurisdiction to prosecute, and local authority that operates with transparency between community, stakeholders, and developers. The Project Management Office is the administrative facility with daily operations. The consultant's assignment is to steer the direction and give consultancy on conducting a productive and objective fulfilling authoritative body. The

consultant will add their expertise to contribute to the streamlining of processes and maintenance a high level of efficiency, efficacy, and legitimacy.

### **Scope of Work**

The scope of the consultants work will be minimally required to observe, critique, and make suggestions on the function of meetings, outputs, addressing of inputs, transparency, and overall performance of the Project Management Office and Tubli Bay Authority. If the consultant has suggestions for improvements, feels there needs to be an overhaul of operations, then the consultant will submit the findings in writing and in advising sessions to the Tubli Bay Authority.

### **Role of Consultants**

During the time of the project, consultants hired for this particular mission should:

- Work in collaboration with the Tubli Bay Authority to create a mission statement
- Meet with outgoing consultant and read the final report of Transitional Authority consultant
- Observe several administrative proceedings and conduct operational improvement meetings when needed
- Assist in the writing of legal guidelines for Tubli Bay Authority in coordination with the Government of Bahrain document
- Help draft additional enforcement guidelines and strategies in Tubli Bay area including the 'red line' initiative
- Conduct advising sessions to streamline meetings and processes
- Ensure TBA is utilizing input from consultants, community, and stakeholders properly
- Gather and seek additional funding and funding opportunities for TBA
- Conduct analysis of various transparency indicators, community development issues and design approach: Survey the community on knowledge of TBA and opinions of TBA
- Ensure quorum at meetings, TBA members accountability and responsibility to position
- Public relations and capacity building advising and support



- Ensure TBA adhering to mission statement and goals for sustainability

### **Resources and Constrains**

Consultants should be well aware of the budget and funding issues. They should work closely with the Government of Bahrain and other possible funding sources to make the objectives are realistic within fiscal limits of this project. Consultant is encouraged to meet with other consultants involved in process in another discipline.

### **Role of Government**

Various agencies of the Government of Bahrain will help to facilitate the success of the project throughout its progress by providing the following:

- Access to the government databases/Archives/Libraries/Reports at government ministries and institutions.
- Needed facility for Consultants to complete their assignments. This includes logistics such as administrative support, computers, and field visit arrangements.
- A well represented membership and capacity composition of the TBA

### **Submission of Report**

Consultants should submit their draft final report by December 1, 2008 to the Transitional Authority Council. The deadline may be extended for well-supported reasons.

A final report of the TBAs proceedings and findings will be submitted to the general public through the Project Management Office and Government of Bahrain at the end of the implementation process and transition to TBA being more of a citizen advisory body.

### **Scheduled Work**

Consultants will be needed from beginning of Phase II (date to be determined by progress of Phase I) and be under contract for 1 month at the beginning and 1 month at the end of jurisdiction authority for final report.

Phase II work coincides with Tubli Bay Authority formation and duration is dependent on construction and financing variables.

### **Deliverables**

- Public relations consulting and advising
- A final report on TBA operations and accomplishments

# **MANAGEMENT AND FINANCE DEVELOPMENT PLAN FOR TUBLI BAY**

## **Terms of Reference**

In its recent “Financial Sector Assessment Program (FSAP)” report on Bahrain, the International Monetary Fund (IMF) has found a positive legal and regulatory environment in the small island nation with a newly minted Free Trade Agreement with the United States. The review sees Bahraini regulations as modern and comprehensive and judged the Bahrain Monetary Agency’s (BMA) oversight as effective, particularly with regard to banking, a sector in which Bahrain has long been the leader in the Middle East.

Investment banking is a strong growth sector in Bahrain, with locally based institutions using their regional connections to raise funds for governments, companies and projects, and offer new opportunities to investors. Through 2005 and early 2006, the high price of oil created both a flooded new money looking for returns and demand for financing for a range of infrastructure and corporate projects.

The Bahrain Stock Exchange Market has been sometimes of a rollercoaster, reflecting shifting trends in international and regional markets, with periods of strong growth and earning at times of global growth, followed by slumps during global investment decline.

Looking into the Bahrain Monetary Agency (BMA) figures released in mid 2006, investments at the end of year 2005 rose to \$ 7.69 billion dollar, up 24.1% over the previous year, 60.6% of Bahrain national income. One For this and many other reasons the State of Bahrain is financial backed to face a mega development plan such as the Tubli Bay Project.

### **Purpose and Outcome of Consultancy Assignment**

The purpose of the present consultancy is to arrive to a series of project analysis and evaluation to determine the best course to face with each of the directly and indirectly related activities of Tubli Bay Development project. This will allow the developer of the project to assess all possible factors interacting might interact among activity constraints. them and how to better evaluate the time to be used in order to stick to timetable and avoid spill over of capital.

Negotiations are expected at each stage of the project activities with corresponding financial sources of funding and securing a long term of repayment (25 - 30year) loans with a 5 to 6 years grace period. The consultants must be able to present a financial system for the Tubli Bay Authority, able to encompass all the activities in order to consolidate Final Financial Statements.

### **Specific Issues/ Tasks to be addressed by Consultants**

During the time of the project, consultants hired for this particular mission should:

- Identify funding sources;

- Establish liaison with the identified funding sources to prepare for negotiations
- Negotiate the terms of funding
- Identify interest and policies of each funding sources or donors
- Prepare terms of negotiation relating with policies and interest of each funding sources
- Prepare a timeframe for staggered disbursement of the committed funds for each project activities
- Work out in the distribution of capital through out the life span of the project

### **Resources and Constrains**

- One of the major constraints in the initial part of the project is the need to get the necessary funding to start the assessment and survey and also to cover the wages of the consultant
- Other possible major resources that the project can count on would be the support from the Bahrain government in terms of some assets, such as buildings and information related with previous researches in the areas of interest
- The contingency fund estimated at about 10% of the total project cost to be provided by the Bahrain government.

### **Role of Government**

- The Bahrain government will provide the necessary infrastructure to accommodate Tubli bay Authority
- The Bahrain Government will provide the supporting capital for the starting point of the program as well as a working capital during Phase I of the project, where not yet funds have been disbursed
- The Bahrain Government will name a personal that should work closely with the Agency personal in order to understand what and how the mechanism of the agency address all the components of the project to support future development activities. It will be returned to the Bahrain Government once the Phase II of the project has been completed

### **Submission of Report**

Consultants should submit their draft final report by March 1st of 2008 to - TAC. The deadline may be extended for well-supported reasons. The copy of the report will also be forwarded to the TBA to prepare for the second phase.

## **WASTEWATER TREATMENT**

### **Terms of Reference**

The Strategic Initiative for Tubli Bay Urban Development report has recommended an assessment and possible redesign of the local wastewater treatment facility, the Sitra Causeway and the Maamir Channel. The wastewater treatment facility contributes directly to polluting Tubli Bay due to the sewage outfalls that directly enter the water. Considering the planned growth in the region, this source of pollution is likely to increase. It is also determined that both the Maamir Channel and Sitra Causeway contribute to limited tidal exchange and reduced flushing in Tubli Bay. This is significant because it reduces the cleansing mechanism of the bay and increases pollutant concentrations.

The environmental pollution of Tubli Bay's aquatic habitat demands recognition not only due to the negative effects on the environment but also both economically and socially. Economically, the pollutants have negative consequences on fishery production, the wildlife essential to supporting an environmental tourism industry, and the real estate market to varying degrees of compromise. Socially, measures of public health and job opportunities are also affected.

### **Purpose and Outcomes of Consultancy Assignment**

The purpose of this consultancy assignment is to assess the nature and extent of environmental concerns at the waste water treatment plant, Maamir channel and Sitra causeway where the existence of pollution related problems have been identified. This will be achieved by conducting field assessments and providing information to quantify the scale of pollution at a particular site or area as well as to examine the causes and potential remedies of problems at the sites. Further more the Consultants will be expected to conduct extensive habitat assessments of the affected aquatic areas. The outcomes of this assignment will entail study reports on the assessments and recommend options for environmentally friendly design for the infrastructure.

### **Scope of Work**

The scope of the Consultant's work will be limited to an assessment of the following infrastructure waste water treatment facility, Maamir channel and Sitra causeway found within Tubli Bay area. The Consultants are expected to conduct a study of the pollution caused by wastewater treatment facility and aggravated by the Maamir Channel and the Sitra Causeway on the aquatic habitat of Tubli Bay. Not only will the consultant examine the mentioned infrastructure but will also conduct habitat assessments of the affected aquatic areas of the bay.

## **Roles of the Consultant**

The consultant is expected to conduct the following activities:

- Define data needs and assess its availability, and indicate where site sampling and monitoring might be cost effective. Available information on the infrastructures should be obtained and reviewed before conducting field visits
- Prepare an assessment plan defining the information and resources required the field visit schedule and the site personnel to be involved or interviewed
- Conduct a review of waste water treatment facility including the current and projected future demands on the facility
- Collect quantitative information about the extent of pollution at the infrastructure sites and the surrounding areas. Collect quantitative information on the water quality and movement and biodiversity of the aquatic habitat. The coverage of the assessment should be wide enough to include the areas impacted by the infrastructure, so that the benefits of improvements in environmental suitability of the infrastructure or operations in the future can be estimated
- Prepare a report that provides recommended actions to address the critical environmental issues identified
- Prepare guidelines for Environmental Impact Assessments for Infrastructure (to be used for future projects in Bahrain).

Apart from conducting the above assessments and studies to generate relevant information concerning the remediation measures for the infrastructure; the consultant is expected to participate in the following:

- Work closely with the local Consultant and the two technical staff during the study period
- Submission of short monthly progress reports to the Transitional Advisory Council (TAC). This will allow for monitoring of the progress of implementation of activities
- Present the results of the study to relevant Governmental officials and the TAC for review. This will allow for feedback and comments on the findings and recommendations provided in the report prior to its final submission
- Work closely and share information with other Consultants working under the other components of the program (economic and community analysis and management).

## **Roles of Government**

Various agencies of the Government of Bahrain will assist to facilitate the success of this consultancy by providing the following:

- Access to the necessary information on the infrastructure and other relevant information from various Government departments or other institutions (reports, libraries, databases, archives etc)
- Permission to access Government offices and private property when necessary
- The necessary facilities for the Consultants to conduct their assignments i.e. office space, computers, administrative support and logistical support for field work
- In collaboration with the TAC, provide a forum for public feedback on the draft report
- Upon conclusion of the consultancy's contract, will make decisions regarding the implementation of the consultancy's recommendations.

## **Resources and Constraints**

### Budget:

The budget for this project will be initially set at the equivalent of 1 international Consultant backed by 1 local Counterpart and two local Technical Assistants for 3 months of work.

### Personnel:

A qualified international Consultant should possess a working understanding of the environmental conditions that this consultancy addresses and should preferably have had previous experience conducting similar work in the Gulf region. The presence of a National Consultant and local Technical Assistants will assist in meeting the consultancy objectives due to their local knowledge of the area and the aquatic habitat system and its organisms.

## **Submission of Report**

A draft report shall be submitted to the TAC early December 2007, and a presentation to the relevant governmental officials and the TAC in mid December 2007. The final report shall be submitted to the TAC end December 2007.

## **Scheduled Work**

A detailed work plan and budget shall be included in the consultancy bid, and upon agreement between the TAC and the Government of Bahrain, the consultancy shall be held liable for meeting its agreed deadlines. New deadlines and budgets may be proposed only upon an accepted request for revision or expansion of scope of work.

**Deliverables:**

- A detailed action plan for the consultancy
- Short monthly reports to TAC for implementation updates.

A final report covering the following:

- An environmental assessment for Sitra causeway and related
- recommendations for Bay's environmental suitability
- An environmental assessment report for Maamir channel and related recommendations for its environmental suitability
- An environmental assessment of the waste water treatment facility and recommendations for upgrading the facilities in line with projected demand of the facility
- A preliminary quantitative water quality database for Tubli Bay
- An updated inventory of aquatic biodiversity (distribution, abundance and status) for Tubli bay
- Guidelines for Environmental Impact Assessments produced (for future projects).

## **GENERAL INFRASTRUCTURE**

### **Terms of Reference**

As highlighted by the preliminary report to the regarding Tubli Bay Development, the three main elements of infrastructure in need of assessment and possible redesign were the Maamir Channel, the Sitra Causeway, and the local wastewater treatment facility. It was determined that both Maamir Channel and Sitra Causeway contributed to limited tidal exchange in Tubli Bay. This is significant because it reduces the cleansing mechanism of the bay and increases pollutant concentrations. The wastewater treatment facility contributes directly to the pollutants of Tubli Bay, and considering planned growth in the region, this source of pollution will only increase.

The environmental pollution of Tubli Bay demands recognition both economically and socially. Economically, the pollutants have negative consequences on fishery production, the wildlife essential to supporting an environmental tourism industry, and the real estate market to varying degrees of compromise. Socially, measures of public health and job opportunities are also affected.

### **Purpose and Outcomes of Consultancy Assignment**

The purpose of this consultancy assignment is to coordinate results from the environmental impact assessment and suggest design measures to mitigate the cumulative effects of the aforementioned infrastructure elements. The outcomes of this assignment will entail physical and policy recommendations to mitigate the infrastructure related pollution of Tubli Bay based on financial and political feasibility.

### **Scope of Work**

The scope of the consultants work will be minimally required to cover the pollution impacts of the wastewater treatment facility, Maamir Channel, and the Sitra Causeway. If the consultant finds that additional measures merit further investigation concerning the pollution concentrations in Tubli Bay, the consultant will submit a request to expand the scope of the project.

### **Roles of the Consultant**

The consultant will serve as a design agent for mitigation and restoration of Tubli Bay and aid in creating governmental support for the project's transition to governmental guardianship before assignment closure. The specific acts will include, but will not be limited to:

- A review of current policies and practices relevant to each polluting element
- A practice, policy, and infrastructure improvement design, evaluated with political, economic, and social feasibility components



- Training of a government representative so as to maintain design continuity of the Tubli Bay program beyond the consultant's contract
- Submission of monthly progress reports including an updated project budget to the TAC and an external evaluation board to be named by this council. This review will assess project timing and provide feedback for the design
- Present the project for public review prior to its draft submission and following any revisions make a final presentation to a joint committee of governmental officials, public delegates, and the TAC.

### **Roles of Government**

The government will serve as facilitator of the environmental impact assessments, policy inquiry, and infrastructure improvements. It will provide representation to the consultancy for the purpose of project continuity and personnel training. The government, in collaboration with the TAC will be expected to provide a forum for public feedback in the design process, and upon conclusion of the consultancy's contract, will make design decisions regarding the implementation of the consultancy's recommendations.

### **Resources and Constraints**

#### Budget:

The budget for this project will be initially set at the equivalent of 4 design consultants for 3 months of work. This constraint will be negotiable pending governmental approval of the request for scope expansion by the consultant.

#### Personnel:

Qualified consultants should be Bahraini, fluent Arabic speakers, and possess a working understanding of the legal, political, and social conditions that this project addresses. In the absence of such qualified consultants the TAC will exercise judgment in selecting a consultant from the international community.

#### Building Codes:

The consultant will meet all recent and applicable design codes in this project's design elements (such as the Dubai Municipal Building Code or the forthcoming Saudi Building Code). In the event that such codes do not adequately set forth standards requisite for the proposed designs, they will follow the International Building Code of 2003.

### **Submission of Report**

A draft report shall be submitted to the TAC on September 1, 2007, and a final presentation to a joint committee comprised of governmental officials, community delegates, and the TAC on September 16<sup>th</sup>, 2007.

### **Scheduled Work**

A detailed timetable shall be included in the design bid, and upon agreement between the TAC and the Government of Bahrain, the consultancy shall be held liable

for meeting its agreed deadlines. Upon an accepted request for expansion of scope, new deadlines may be proposed.

**Deliverables:**

- Infrastructure related policy and practice analysis
- Recommended infrastructure, policy, and practices improvements
- A proposed time frame for the project including monthly evaluations.
- Monthly budget updates.

# **ECONOMIC ANALYSIS OF RELOCATING SAND WASHING INDUSTRIES IN TUBLI BAY**

## **Terms of Reference**

The increase in demand for real estate in Bahrain has in turn increased the demand for raw materials as sand for construction purposes. The dearth of sand in Bahrain has resulted in some construction firms as the Nass, Al Kobaisi, Al ' Ali building their sand washing plants along Tubli Bay. These companies extract and wash sand along the bay. Washing sand in the bay waters results in the production of silt laden effluent which reduces water depths and tidal flushes in the bay. The effluence produced also restricts the light intensity in the water column and impedes the growth of grasses and other benthos. In 1998, regulations were established which required that companies do not discharge more than 35mg/l TSS in the bay but operations in some plants violates this regulation. (Shalaby, 2006). Whiles the sand washing firms continue to operate and serve the people of Bahrain, the negative impacts of their activities on the Bay needs to be controlled.

## **Purpose and Outcomes of Consultancy Assignment**

The purpose of this consultancy mission is to assess the economic viability of relocating the sand washing industry vis-à-vis allowing industries to operate in their present location and using more environmentally sensitive methods of production. The expected outcome is a rigorous benefit-cost analysis that will inform the government and sand washing industries on the way forward for the industries.

## **Scope of Work**

The minimal work required will be the benefit-cost analysis of relocating industries and the proposed sites or methods of production depending on outcome of initial activities. Even though Tubli Bay is a focal point for the program, the feasibility will also depend on national economic needs. If the consultant finds that additional measures merit further investigation, the consultant will submit a request to expand the scope of the project.

## **Roles of the Consultant**

The specific role of the consultant shall include but not limited to:

- Providing technical analysis of the economic and social cost of relocating industries
- Identify potential areas where industries can be relocated and the implications to Government and the locales in the area
- An analysis of maintaining industries in their present location and the cost of introducing cleaner production
- Propose steps to be taken to relocate industries if there is a need to do so

- Propose cost effective cleaner production measures that can be adopted
- Establish a best practice guide for sand washing industries
- Present project findings for public review prior to draft submission after a final presentation to a joint committee of governmental officials, business leaders, public delegates, and the TAC.

### **Roles of Government**

The government will institute measures that require operators of sand washing industries to collaborate with consultants during the study period. The Government ministries of industry and commerce will also provide representation to the consultancy for the purpose of project continuity and personnel training. The government, in collaboration with the TAC will provide a forum for business and public feedback to the consultant's recommendations.

### **Resources and Constraints**

#### Budget:

The budget for this project will be set at 1 international consultant and 1 national consultant for 3 months. The two consultants will work in tandem with the international consultant providing additional skills that might be absent locally. The work schedule will be negotiable pending any needed approval for requests to expand the scope of the research.

#### Personnel:

Two teams of consultants, one local and one international will be recruited for this study. Qualified consultants should

be fluent Arabic speakers, and possess a working understanding of the legal, political, and social conditions that this project addresses. The consultants will possess a minimum of a master's degree in economics, social sciences or the physical sciences. Both local and international consultants must not have any affiliations with any of the businesses owned by the operators of the sand washing industry. International consultants must possess several years of working experience in the Gulf States.

### **Submission of Report**

A draft report shall be submitted to the TAC on March 2008, and a final presentation to a joint committee comprised of governmental officials, business executives and community leaders, and the TAC two weeks after submission of the report.

### **Scheduled Work**

The activity is scheduled to commence on in December 2007 and end in March 2008. The consultant will be required to present a detailed timeline in his proposal. The consultant shall be held liable for meeting the agreed deadlines. In the case of an accepted request for expansion of scope, new deadlines may be proposed.

Initial set of activities will include determining whether to relocate or maintain industry. Once that is established, the next step of activities will depend on the results of the initial sets of activities. If industries should be relocated, consultant will provide studies and details of where to locate, the cost and the steps required for relocation. If consultant proposes maintaining the industry the next steps will investigate the cost effective production methods that are sensitive to the environment.

**Deliverables:**

- A report providing detailed analysis of the cost and implications of relocating industries
- Recommendations on the best practices to adopt
- A proposed time frame for the project including an evaluation

## **GUIDELINES FOR INCENTIVE STRUCTURES**

### **Terms of Reference**

Environmental degradation of Tubli Bay from economic and urban development activities along its shore threatens the long run potential vitality of Bahrain's ecology, economy, and society. Cognizant of the national importance of Tubli Bay, various stakeholders, including the Government of Bahrain, seek to mitigate harmful influences on the bay and rehabilitate its damaged ecology. Both of these objects can be achieved while strengthening the local community and economy. An important component of achieving all of these objects will be creating a set of incentive structures with two parts. The first part is to promote environmentally friendly industries and business practices. The second part is to discourage industries and practices that harm the bay's environment through enforced regulation.

### **Purpose and Outcomes of Consultancy Assignment**

The purpose of this consultancy assignment is to establish a set of guidelines that will help the Government of Bahrain to develop a set of incentive structures to encourage business development in the Tubli Bay, while protecting the bay's environment. The study will require analysis of existing environmental and business law, an investigation of how frequently these laws are breached, and how often the laws are enforced. The expected outcome is analysis that will help the government develop and implement new growth promotion strategies and regulation that protects the environment.

### **Scope of Work**

The focus of the consultants work will be on incentives for environmental stewardship and economic growth in the Tubli Bay region. However, regional investment is strongly influenced by factors in the national economy. Hence, although Tubli Bay is the focal point of the study, the issues will need to be addressed with a national perspective. If the consultant finds that additional measures merit further investigation, the consultant will submit a request to expand the scope of the project.

### **Roles of the Consultant**

The consultants work will work the Government of Bahrain to develop incentives for environmental stewardship and economic growth in the Tubli Bay region. A number of key industries listed below should be examined, but the consultant should also consider other applicable sectors.

The recommended sectors to analysis are:

- Real estate
- Finance
- Services, such as restaurants and shopping centers
- Manufacturing

- Event hosting, such as conferences and conventions
- Construction

### **Roles of Government**

The government is the primary audience of the consultants work. The consultant is expected to work closely with the Economic Development Board and the Ministry of Housing, Municipalities and Environment. The government, in collaboration with the TAC will provide a forum for public feedback to the consultant's recommendations.

### **Resources and Constraints**

#### **Budget:**

The budget for this project will be the expense of hiring and supporting one (1) consultant for two months of work. Qualified consultant should be Bahraini, fluent Arabic speakers, and possess a working understanding of the legal, political, and social conditions that this project addresses. In the absence of such qualified consultant the TAC will exercise judgment in selecting a consultant from the international community.

### **Submission of Report**

A draft report shall be submitted to the TAC on August 1, 2007, and a final presentation to a joint committee comprised of governmental officials, community delegates, and the TAC on August 10, 2007.

### **Scheduled Work**

A detailed timetable for proposal implementation shall be established after an agreement between the TAC and the Government of Bahrain. The consultant shall be held liable for meeting its agreed deadlines. In the case of an accepted request for expansion of scope, new deadlines may be proposed.

### **Deliverables:**

- Analysis on incentives and regulation to spur economic growth and ensure environmental protection.
- A proposed time frame for the project including an evaluation

## **ASSESSING LOCAL AND TOURIST MARKETS FOR LOCAL AGRICULTURE AND FISHERIES PRODUCTS**

### **Terms of References**

In the past, the marine environs of Bahrain were one of the greatest resources for the nation's population. Fishing activity, especially pearl fishing, was an activity that most Bahraini men participated in until oil was discovered in Bahrain in the 1930s and emerging competition from Japan seized a large part of the market (Library of Congress 1993). Commercial shrimp fishing was also an important means of livelihood, with the bay providing an important nursery ground for various species (Abdulqader, 1994).

However, extensive pollution from oil spills and industrial activity, over-exploitation, and coastal development requiring dredging and land reclamation have damaged the sensitive ecological habitats necessary for these activities. The reduction of the bay area from 10km<sup>2</sup> and poor water quality have severely limited both the present and future possibility of fishing as a viable commercial activity, even as consumer demand grows (Library of Congress 1993). Furthermore, by the 1970s fewer than 1,000 people were active in the fish industry (*ibid.*), indicating that the practical knowledge and cultural tradition of this sector is also in danger of extinction.

The degradation of Tubli Bay, steadily decreasing fish catches and the increased salinity of the soil over decades of aquifer depletion are among the most serious environmental and economic consequences of fishing and agricultural activity in the present day. Consequently these activities have been identified either as factors contributing to the continued deterioration of the natural environment, as in the case of over-fishing, or as a long-troubled and declining sector, as in the case of agriculture. Both sectors strain the current limits of the area's and, in fact, the entire island nation's environmental habitats. With less than one percent of the labor force engaged in agricultural and fisheries activities (CIA World Factbook 2006), only a small share of the working population is directly impacted and dependent on these activities. In addition, as of 2005, only 2.8% of the nation's land is considered arable. Despite the small share of the working population and the economy, the government of Bahrain recognizes the important cultural and historical value of preserving agriculture and fisheries.

### **Purpose and Outcomes of Consultancy Assignment**

A new sustainability focus for both of these industries should keep the following principles in mind: strengthening local provisioning of the food market and increasing the participation of local stakeholders who are farmers and fishermen. Economic sustainability in these small-scale sectors requires a tighter and more inter-dependent relationship with the local and growing tourism market. In the long term, by orienting these two sectors as small-scale, environmentally sustainable, and economically viable sectors, these sectors may contribute both to environmental rehabilitation and to economic and community development, namely, the following:

- Fostering fishery and agricultural workers with a stake in the environmental health of Tubli Bay



- Sustaining the traditional knowledge base of fishermen and farmers
- Strengthening and diversifying local food sources and, in the medium to long-term, provisioning the service-based and domestic food consumption market

The consultancy will center on an assessment of two markets for local foods and foods that Bahraini farmers and fishers may produce or harvest in the future: 1) the local urban or domestic market, and 2) the growing tourism market. In the long run, this research will assist in determining the later phase of development, which may include the feasibility and implementation of other, more ecologically sustainable production methods such as aquaculture and permaculture.

### **Scope of Work**

The first step in the assessment should involve the study of the food needs and tastes of the local domestic market. Secondly, the consultant should assess the food market in the cultural tourism sector. It is important that the seasonal harvest, the volume of production, future weather forecasts, and the possibility of upgrading through new technologies or the restoration. The report from the consultant should include:

- Assessment of present economic and social conditions with regard to wholesale and retail market access, transport, and infrastructure conditions
- Detailed analysis of future opportunities and constraints on the local and tourist food market
- Previous decade of national reports on food pricing and marketing
- Identify possible consumer incentives to purchase local foods
- Gather previous reports on food pricing, subsidies, tourism receipts, and small food business growth
- Assess market research methodologies and make adjustments as necessary
- Recommend policies for orienting the fisheries and agriculture sectors to the local and tourism market
- Identify future training or technology transfer needs for either the farmer or fisher populations

The length of the consultancy term is 42 working days.

### **Roles of the Consultant**

The consultant shall carry out the work outlined above and ensure it is delivered within the time and budget specified. The consultant will report to the Transitional Advisory Council under all circumstances and make available 2 copies of each report to the Ministry of Fisheries and the Ministry of Agriculture and

Works, as well as the Economic Development Board's taskforce on tourism. The consultant will also propose a role for the public stakeholders. The consultant will adhere to the terms and conditions specified.

### **Roles of Government**

The government Ministry of Fisheries and the Ministry of Agriculture and Works will serve as facilitator of the information, public announcement, and policy inquiry of the consultant. They will provide representation to the consultancy for the purpose of project continuity and personnel training. The government, in collaboration with the Transitional Advisory Council, will be expected to provide a forum for public feedback in the design process, and upon conclusion of the consultancy's contract, will make design decisions regarding the implementation of the consultancy's recommendations.

### **Resources and Constraints**

#### Personnel Requirements:

Qualified consultants should be Bahraini, fluent Arabic speakers, and possess a working understanding of the legal, political, and social conditions that this project addresses. In the absence of such qualified consultants the TAC will exercise judgment in selecting a consultant from the international community.

#### Research Constraints:

Gathering market access information from the small-scale sectors of agriculture and fishing will involve special research conditions due to the long and non-standard work days of farmers and fishers. Thus, the consultant will have to have flexible workdays on those days that he or she is surveying fishers and farmers. In addition, because the working processes and accounting mechanisms of the informal economy as well as the subsidized food pricing market in Bahrain are not always officially counted, it will be difficult to gather accurate market information. In this case, the consultant may have to create models and extrapolate from a limited amount of market information.

#### Budget

The budget for this project will be initially set at the equivalent of 1 national design consultant, with 1 support staff, for 1 month of work. This constraint will be negotiable pending governmental approval of the request for scope expansion by the consultant.

### **Submission of Report**

A draft report shall be submitted to TAC on 1, 2007, and a final presentation to a joint committee comprised of governmental officials, community delegates, including fishers and farmers, and TAC on September 16<sup>th</sup>, 2007.

### **Scheduled Work**

The assessment will begin December 24, 2007 and conclude in 30 days, or 21 working days.

**Deliverables**

The consultant will produce:

- Food market-related policy and practice analysis
- One comprehensive report on market access and mechanism issues
- Recommended policy and incentives for consumer market
- A proposed time frame for the project including monthly evaluations.
- Monthly budget updates

# **TOURISM FEASIBILITY ANALYSIS**

## **Terms of Reference**

Cultural tourism focuses on local culture in order to promote the cultural area of Bahrain as means to prevent the loss of local identity as countries continue to modernize. Promotion of this tourism instead of ecotourism is ecotourism focuses on local cultures, volunteering, personal growth and learning about cultural practices of the population.

### **Purpose and Outcomes of Consultancy Assignment**

The purpose of this consultancy assignment is to establish the current business climate in Bahrain to assess the viability and the profitability of cultural tourism as an expansion of the existing tourism industry. The expected outcome is a robust benefit-cost analysis that will help the government and new start up companies determine if they should participate in cultural tourism activities.

### **Scope of Work**

The scope of the consultants work will not limited to the Tubli Bay area but also Manama and other areas that draw tourists. Even though Tubli Bay is a focal point for the program, the feasibility will also depend on the larger region of Bahrain. If the consultant finds that additional measures merit further investigation, the consultant will submit a request to expand the scope of the project.

### **Roles of the Consultant**

The consultant will serve as a business analyst for private and public sector interests that have a stake in supporting a cultural tourism industry in Tubli Bay and the surrounding area. The specific acts will include, but will not be limited to:

- An inventory of tourist attracts by region compiled into a master list
- An inventory of existing tourist services such as accommodations, restaurants, and transportation
- A best practices guide for helping supporting cultural tourism through business development
- Collaboration of the private and public sectors via the Economic Development Board to ensure engagement beyond the consultant's contract
- Submission of a final report that will assess project timing and provide feedback for the business development
- Present the project for public review prior to draft submission after a final presentation to a joint committee of governmental officials, public delegates, and the TAC

## **Roles of Government**

The government will serve as interested party to business development through the Economic Development Board. It will provide representation to the consultancy for the purpose of project continuity and personnel training. The government, in collaboration with the TAC will provide a forum for public feedback to the consultant's recommendations.

## **Resources and Constraints**

### Budget:

The budget for this project will be initially set at 1 international consultant for 1 month of work and 1 national consultant for 1 month of work. The international consultant will focus on the business activity while the national consultant will be responsible for inventories. The work schedule will be negotiable pending any needed approval for requests to expand the scope of the research.

### Personnel:

Qualified consultants should be Bahraini, fluent Arabic speakers, and possess a working understanding of the legal, political, and social conditions that this project addresses. In the absence of such qualified consultants the TAC will exercise judgment in selecting a consultant from the international community.

## **Submission of Report**

A draft report shall be submitted to the TAC on August 1, 2007, and a final presentation to a joint committee comprised of governmental officials, community delegates, and the TAC on August 10, 2007.

## **Scheduled Work**

A detailed timetable shall be established after agreement between the TAC and the Government of Bahrain. The consultant shall be held liable for meeting its agreed deadlines. In the case of an accepted request for expansion of scope, new deadlines may be proposed.

## **Deliverables:**

- Cultural tourism business services policy and practice analysis
- Recommended changes in land use planning to facilitate spatial arrangements for new companies
- A proposed time frame for the project including an evaluation

## **ENVIRONMENTAL IMPACT ASSESMENT FOR EXPANDING TOURISM**

### **Terms of Reference**

Bahrain and the Tubli Bay area have extensive cultural amenities that contribute to the country's tourism industry. Support and expansion of the tourism industry will contribute to the economic diversification goals established by the government of Bahrain. While expanding tourism is welcomed for its economic contribution, the increase in activity will put additional pressures on the environment.

### **Purpose and Outcomes of Consultancy Assignment**

The purpose of this consultancy assignment is to harmonize results from the environmental impact assessment with environmental protection activities to ensure the sustainability of the tourism industry. The outcomes of this assignment will entail policy recommendations to mitigate the effects of additional noise, water and air pollution.

### **Scope of Work**

The scope of the consultants work will cover the impacts of additional tourists in and around Tubli. The consultant should include sites outside the Tubli Bay area as tourists are expected to visit multiple attractions during each visit.

### **Roles of the Consultant**

The role of the consultant will be to use the information from the EIA as a basis for promoting cultural tourism and tourism more generally. The specific tasks will include, but will not be limited to:

- make recommendations for including public participation in the environmental analysis
- Make policy recommendations for protecting the environment around tourist attractions based on the EIA assessment.

### **Roles of Government**

The government will be a participant in the environmental assessment process. It will provide representation to the consultancy for the purpose of project continuity and personnel training. The government will partner with the TAC to provide a forum for public feedback and make decisions regarding the implementation of the consultancy's recommendations.

### **Resources and Constraints**

#### **Budget:**

The budget for this project will be initially set at the equivalent of 1 EIA consultant for 1 month of work.

Personnel:

Qualified consultants should be Bahraini, fluent Arabic speakers, and possess a working understanding of the legal, political, and social conditions that this project addresses. In the absence of such qualified consultants the TAC will exercise judgment in selecting a consultant from the international community.

**Submission of Report**

A draft report shall be submitted to the TAC on August 1, 2007, and a final presentation to a joint committee comprised of governmental officials, local interest groups, and the TAC on August 25, 2007.

**Scheduled Work**

A detailed timetable shall be included in the and upon agreement between the TAC and the Government of Bahrain, the consultancy shall be held liable for meeting its agreed deadlines. Upon an accepted request for expansion of scope, new deadlines may be proposed.

**Deliverables**

- Environmental impact assessment
- Recommended policy and practices improvements

## **ORGANIZATION OF TRANSITIONAL ASSISTANCE PROGRAM**

### **Terms of Reference**

Bahrain government has been actively supporting the development and improvement of educational systems in the country. The national curriculum has a goal of integrating technology with environmental awareness. Public education is free for all students. In addition to public schools, there are also many private and religious schools. In 2001, the illiteracy rate among men was 7.5% and 23.3% among females. There are a number of institutions of higher education in Bahrain, among them are: the College of Arts, Sciences and Education and Gulf Technical College, College of Health Services, Hotel and Catering Training Center, University of Bahrain, DePaul University and Arabian Gulf University (see appendix for complete list). There has been a considerable emphasis by the Bahrain government on job skill training provided by the Bahrain Training Institute as sectoral shifts alter the economy. In addition, the Ministry of Works and Social Affairs and the private sector have established a series of vocational training centers covering wide range of training programs and activities.

### **Purpose and Outcomes of Consultancy Assignment**

Purpose of this Consultancy Assignment is to determine the scope of social support needed and to organize Transitional Assistance Program in Tubli Bay. Transitional Assistance Program is needed in order to provide human capital to sustainable industries including expanding training programs and information facilities. Emphasis is placed on providing support to displaced domestic workers and migrant workers. Additional emphasis is placed on attracting women participation in the labor force, and attracting adolescents to participate in the labor force through volunteer programs.

### **Scope of Work, Consultants Role and Time Requirements**

Two consultants, Bahrain national and an international expert will work for two months and will determine the need for and the scope of the programs (whose description is outlined in the proposal)

- Establishing Monetary Transitional Benefits Fund
- Expansion of Current Training Programs
- Establishment of Non-Bahraini Workers' Support Centers
- Establishing Programs to Promote Volunteer Opportunities

After establishing the need, the consultants will collaborate with The Ministry of Education, Ministry of Works and Social Affairs and Universities to determine the locations; designate staff; plan to fund and organize the proposed centers. The designated team will organize the community and involve it in building



of the resources as well as organize programs in public schools and universities. These plans will be executed in Phase II.

# **FEASIBILITY STUDY FOR MARINE AND COASTAL LIFE RESEARCH CENTER**

## **Terms of Reference**

Tubli Bay is a unique ecological habitat holds the last remaining stand of mangroves in Bahrain and it is an important area for fish, shrimp, and a staging for thousands of migratory birds. Although, University of Bahrain Environmental Research Center has been researching the habitat and the pollution levels in Tubli Bay, currently there is no research facility that would be located and that would primarily serve the unique needs of the bay.

### **Purpose and Outcomes of Consultancy Assignment**

Purpose of this Consultancy Assignment is to perform a feasibility study for establishment of Marine and Coastal Life Research Institute in Tubli Bay as an extension of the University of Bahrain's Environmental Research Center. The Institute's purpose would be to address the needs of providing research opportunities with access to unique Tubli Bay ecosystem and to help preserve the environment by research, development and maintenance of the Tubli Bay ecology. It would include state of the art laboratory facilities, testing and monitoring facilities and research facilities. The Institute would be the headquarters for study of marine life, wild life and testing and monitoring pollution of water, air, shoreline and soil in the Tubli Bay region.

The outcome of the consultancy assignment is to determine legal, financial and physical constraints towards realization of the institute. They will determine the scope of social and international support of establishment of the institute, and determine the overall feasibility of overcoming the constraints towards establishment of the institute.

### **Scope of Work, Consultants Role and Time Requirements**

Two consultants, Bahrain national and an international expert, will work for three months. The scope of the consultants' work with the Department of Public Works and Education and University of Bahrain is to perform the cost benefit analysis, social impact analysis, and a recommendation of whether to continue with the project. The deliverables will also include a TOR for Phase II. They would determine the cost of planning and infrastructure, gather resources; designate architects; interview foreign environmental experts and determine the cost of equipment. In addition, the team would lobby for domestic and international support for this institute and seek out institutions which may provide monetary assistance towards its development.