I. Introduction and Context

Country Context

1. The Republic of Yemen is one of the poorest countries in the world. It ranks 160th out of 186 countries in the 2013 Human Development Index and has a Gross national income (GNI) per capita of only US$1,170 compared with an average of US$1,619 for lower middle-income countries. Compounding and entrenching poverty in the country results from its rapid population increase (2.74%/year), issues with food security as food imports account for 81% of food consumption, and a rural population that is moving to urban areas in search of jobs.

2. Security issues still remain and are a risk to national stability. Internal conflict is causing severe shortages of food and fuel, which, combined with rising prices of other commodities, leaves many poor unprotected. The far-reaching level of unrest that occurred between February and November 2011 represented the culmination of simultaneous political, social, and economic crises that...
exacerbated the country’s difficult overall environment. Nationally, the economy contracted by 10.5% over this period. In November 2011, the country went through political transition, which entailed new presidential elections, new transitional government and initiation of the current national dialogue. The number of people living below the poverty line is thought to have risen from 42% in 2009 to 54% in 2012. Thus, economic, social and political challenges have contributed to the unstable situation.

3. As Yemen has traditionally relied on its natural resources to support its GDP and its oil reserves contract, sustainability of resource becomes very important to individual citizens and the economy of the nation. Agriculture plays a leading role in Yemen’s economy and employs more than 50% of the labor force. It also accounts for more than 90% of all water use. This trend is increasing because of reduced growth in the industrial, manufacturing and service sectors seen since 2000. And as Yemen becomes more dependent on rural land use, the economy also becomes “hostage” to external shocks such as those related to global climate change.

4. Fisheries are also an important element of food security and export earnings for the country. Fish export revenues come second after oil exports. Villages and population settlements of traditional fishermen and fishing landing sites along the coast and islands exceed 90 sites of which 40 are on the Red Sea and the rest on the Gulf of Aden and the Arabian Sea. The number of traditional fishermen exceeds 60,000 supporting 500,000 members of their families. Those fishermen own more than 15,800 engine driven fishing boats of different sizes and fishing equipment. The quantity of fish and other marine life being fished is estimated at around 230,000 tons, of which 79% is fished by traditional fishermen at a value of about USD 460 million. This value reflects the significance of traditional fishermen as a productive segment in the national economy. Fish production also contributes in lessening the financial burden incurred from the import of red and white meat to cover the needs of the population.

5. Yemen is particularly vulnerable to climate change and other natural disasters. In addition to significant development challenges, Climate change is likely to lead to a cumulative reduction in household income of about 24% over the next 30 to 40 years in Yemen, the highest among the studied countries in MNA. Rainfall is erratic and variable, arable land is currently less than 3% of total land area, the population growth rate is very high and the average age of the population is only 18 years which places Yemen in a category that will find adaptation to climate change very difficult. Current impacts of climate change are already being felt. Flash floods and droughts are frequent and displace thousands, causing loss of life and significant damage to infrastructure and livelihoods. For example, during the floods of 2008, 180 people died, 10,000 were displaced, and damage was equivalent to 6% of Yemen’s GDP. Although little known or reported, the coast of Yemen also incurred significant damage from the tsunami of 2004. Unfortunately, there remains a long-term, systematic deficiency of long-term rainfall and temperature data which severely hampers efforts to quantify changes in climate, assess renewable natural resources such as water, prepare climate projections, and develop adequate policies and programs.

**Sectoral and Institutional Context**

Sectoral and Institutional Context

The coast of Yemen faces serious impacts from predicted future changes in climate including incident-specific disasters, such as, oceanic storms and storm surges, and land-based floods. Yemen’s National Adaptation Program of Action (NAPA) identified coastal areas along with water resources and agriculture as three main vulnerable areas to climate change. Yemen is endowed with a 2,200 km coastline along the Gulf of Aden, Arabian Sea and the Red Sea,
very large coastal area for a country of 527,970 square kilometers. Coastal areas and fisheries constitute a major source of employment and income in the poorest rural areas. Recognizing that the coast is already significantly stressed, the Government and its donors have already invested significant cost and effort in its management. Coastal Zone Management in the Gulf of Aden and along the coastline of Shabwa dates back to the Jeddah Convention of 1982 when the Regional Organization for the Conservation of the Environment of the Red Sea and the Gulf of Aden (PERSGA) was founded. Yemen is a signatory to this Convention and had also ratified the Convention on Biological Diversity in 1996. Several donors (USAID, UNDP, the GEF/World Bank, etc.) have assisted the Government in developing the capacity to implement Integrated Coastal Area Management (ICZM). All these efforts have laid a good basis for further development as the capacity at the local level, and the ability of the central government to advise local governments still need be strengthened, and this is particularly important since the recent political crises. Also, and as pointed out by summary reports of most of these earlier efforts, much work is still needed to link ICZM, both physically and legally, to Government economic development planning.

2. There is a need to integrate output from ongoing and pervious work on ICZM, and improved projections of the nature and magnitude of climate change. The Government of Yemen has been working closely with the Bank in view of better use of the available PPCR resources to urgently revisit its assessment of the nature, magnitude and timing of climate change in the coast and near shore so that it can better adapt to these changes in the future. This also includes bringing in the importance of climate science, using and piloting tools for long term development planning within the Yemen PPCR program and particularly benefit from the Climate Information System and PPCR Coordination Project.

3. Improving estimates of existing water resource availability and regular monitoring of water resource use is essential for agricultural development and national economic growth. Among the actions proposed in Yemen’s NAPA is systematic measurement of water availability, including groundwater occurrence and quantity. Upgraded weather and water information (which will come through the PPCR Program Coordination project) will pave the way for early warning of water resource over-use, disaster reduction strategies to build disaster resilience and better water resource management. Particularly, monitoring and forecasting of weather and water resource depletion would address several of the key risks identified in the NAPA, namely:

- Improving assessment of drought frequency, better management of water resources, improvement of agricultural productivity, and reduction of climate-related diseases;
- Timely forecasting and warnings of extreme hydro-meteorological events resulting in reduction of threats to lives, livelihoods and property.

**Relationship to CAS**

9. The project directly addresses the first and third pillars of the World Bank Interim Strategy Note (ISN) for FY 2013-2014: “Achieving Quick Wins and Protecting the Poor, as well as Enhancing Governance and Local Service Delivery”. This ISN was discussed by the board in November 2012 as an interim strategy supporting the transition period in Yemen. It highlights climate change as one of the main threats to economic development, which is in line with the objectives of the two financiers of the project - the PPCR and the GEF under the Least Developed Countries Fund - LDCF. Both PPCR and LDCF aim to go away from business as usual and focus on innovative and sustainable development approaches.

10. The project contributes directly to the GEF climate change adaptation focal area. The GEF’s LDCF aims at reducing the vulnerability of sectors and resources (water, agriculture and food security, etc.) in LDCs, as identified and prioritized in their National Adaptation Programmes
of Action (NAPAs). Moreover, improved coastal management is a priority for the LDCF. The proposed project addresses key risks identified in Yemen’s NAPA by implementing an improved coastal management approach. For example, it addresses the need for timely warning of extreme events by developing local early warning systems at targeted sites. Similarly, it reduces vulnerability to climate change by establishing local development plans, which incorporate ICZM and climate change adaptation approaches.

11. The project is aligned with the World Bank’s commitment as an implementing agency of the PPCR. The PPCR supports national efforts to integrate climate risk and resilience into core development planning and implementation. It initiates transformational change by catalyzing a shift from “business as usual” to broad-based strategies for achieving climate resilience at the country level. Yemen is one of the nine single-country pilots under the PPCR. The PPCR is implemented in two phases, with the Phase I focused on the design of the Strategic Program for Climate Resilience (SPCR). The SPCR aims to guide the preparation and subsequent implementation of priority investments under Phase II. Phase I is being implemented by the EPA with the support of a Project Coordination Unit (PPCR-PCU). The SPCR was developed by the Government of Yemen in cooperation with the World Bank and the International Finance Corporation through a 2-year stakeholder consultation process under the guidance of the IMCCC. The proposed project is one of the three projects identified in Yemen’s SPCR.

II. Proposed Development Objective(s)

Proposed Global Environmental Objective(s) (From PCN)

12. The project objective is to improve the capacity of targeted coastal communities to plan for and respond to the potential impact of climate change and variability.

Key Results (From PCN)

13. The following key results are expected:
   i) Three local integrated coastal zone management (ICZM) plans incorporating a climate change adaptation approach in place at the project sites;
   ii) Early warning systems established for coastal communities at the project sites to respond to climate emergencies supported by related infrastructures.
   iii) Number of vulnerable people including women and youth provided with alternative livelihoods opportunities (fisheries, agriculture, mangrove conservation, etc) at project sites.

III. Preliminary Description

Concept Description

A. GLOBAL ENVIRONMENTAL OBJECTIVE(S).

12. The project aims to building resilience to climate change adaptation into national development planning, and to demonstrate options for climate resilient livelihood opportunities in the pilot coastal zone areas.

13. The project will focus on three project sites covering four coastal governorates: Hadramaut, Shabwa, Hodeidah and Aden, namely: Bir Ali-Burum (Hadramaut and Shabwa governorates), Kamaran-Luhaiah (Hodeidah governorate) and the coast of Aden (Aden governorate). A map of project intervention areas is attached in Annex III. These governorates and sites were selected based on in-depth consultation for the following reasons:
   i) The potential high impact of climate change on the three sites; for example, Aden has been cited as one of top 20 cities in the world vulnerable to sea level rise; Hadramaut has shown
vulnerability to flooding;
ii) The sites have different attributes in terms of natural resource assets, development status and land uses, allowing the demonstration of different adaptation measures;
iii) The Bir Ali-Burum site can be used to demonstrate cross-governorate boundaries ICZM as it spans across 2 governorates --Shabwa and Hadramout;
iv) The availability of localized coastal conservation and development management schemes for the three sites as a result of previous projects; and
v) Both Hodeidah and Aden governorates are used as case studies for coastal zone management, long-term climate risks and adaptation in the coastal zone sector in Yemen’s Initial and Second (currently in draft form) National Communication to the UNFCCC Convention.

vi) 
14. The Project will build on and fill gaps to the knowledge and capacity generated from existing projects. A number of projects in Yemen already incorporate coastal zone management or adaptation considerations in their design, including current other investments within the Yemen PPCR program, the Agro-Biodiversity and Climate Adaptation Project (financed by GEF), the IDA and EU-led Fisheries Resource Management and Conservation Project, the EU-funded Yemen Fisheries Support Program and the pipelined IFAD Fisheries Investment Program, also an initiative of the multi-donor South-South Experience Exchange Trust Fund (SEETF), the Yemen and China Knowledge Sharing on Systematic Management of Coastal and Marine Areas in Yemen. The ICZM Project will not duplicate activities financed under these initiatives.
15. Development of spatial planning is a key activity to integrate adaptation into national sector planning. Mainstreaming climate adaptation is also a core indicator for both the Yemen PPCR and the GEF. Participatory approach is a good practice requirement for this relatively new practice, particularly for women and youth who are among the most vulnerable to climate change impacts in Yemen and have suffered disproportionately as a result of the crisis. Other characteristics of the spatial planning include:

Spatial Planning as a Development Tool
The purpose of spatial planning in this project is to help operationalize ecosystem-based management by finding space for biodiversity conservation, environmental sustainability and sustainable economic development in marine and coastal environments. One way to do this is through a locally based, participatory process that identifies, through technical evaluation, what the land and marine units are “capable” of supporting and then determining which of the options “should” be done (i.e. socially sustainable) by seeking input from local stakeholders and users of the resource. Providing clear guidance of the comparative benefits of each possible option includes an assessment of likely markets and market prices over time to ensure economic sustainability as well. Spatial Planning is a public process of analyzing and allocating the spatial and temporal distribution of human activities geographically in coastal and marine areas to achieve ecological, economic and social objectives as specified through a political process. When coupled with data predicting climate change, it provides stakeholders the additional information needed to choose livelihood activities that adapt to likely climatic conditions in the future.

III. Preliminary Description
Component 1: Linking ICZM/building resilience to the Government’s development planning and developing early warning capacity. This component will invest in the following areas:
• Develop human and institutional capacity with technical and equipment support (equipment, communication, inter-ministerial cooperation, national linkages) to strengthen water resources management (as the main driver of the need to adapt to climate change), land capability mapping and spatial planning;
• Prepare spatial plans in three project pilot areas to identify climate resilient livelihood opportunities. Spatial plans will also identify priority infrastructure under threat from climate change in each pilot area so that the project can and prepare feasibility studies for upgrading those most “at-risk”;
• Better prepare coastal inhabitants to deal with more frequent and powerful climate related storm events both through development of early warning systems and training to support local emergency response and response planning; and
• Establish co-management of natural resources (particularly fisheries) with local stakeholders, including policy/legal framework for its existence and operation.

16. Component 2: Support of climate resilient livelihoods. This component will use technical assistance and investments to support alternative livelihoods. Related activities will also be tailored to facilitate the participation of women and youth where applicable.
• Develop capacity amongst local stakeholders to prepare submissions to the Project for “Climate Resilient Livelihood Matching Grants” (CRLMG), and provide training for financial management, procurement and implementation supervision for those individuals/groups whose proposals are chosen for a CRLMG; and implementation of selected CRLMG to test climate resilient coastal livelihoods which may include fisheries, aquaculture, using renewable energies. This will include a public-private partnership grant facility that leverages linkages between private sector investors and self-help groups that are piloting livelihood changes;
• Support livelihood activities that do not require conversion of land use including, apiculture, mangrove conservation, handicrafts, zero grazing livestock, etc; and
• Climate resilient infrastructures and utilization of renewable energies.

17. Component 3: Project Management and Monitoring and Evaluation System that is to use the existing PPCR Program Management Framework while adding needed specific expertise and service. It will be cost efficient and that coordinate activities undertaken by various ministries participating in the PPCR. Within the PPCR, the PMU should serve as a guide for more permanent inter-ministerial coordination to address climate resilient coastal zone management. This component will support:
• Coordination of project activities, disbursement of funds, collection of performance data, with local implementation teams established at each project pilot area;
• Knowledge generation and lessons learning and coordination with the overall PPCR program in Yemen;
• Responsible for environmental and social safeguards;
• Monitoring and Evaluation system with both PPCR and GEF indicators; and
• Promote Transparency through providing required reports, and timely information dissemination to minimize the risk that project funds, particularly the CRLMG’s, will be misspent or inefficiently utilized.

IV. Safeguard Policies that might apply

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V. Financing (in USD Million)

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