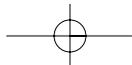
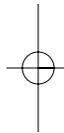
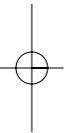
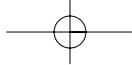


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INTRODUCTION

The United Nations Framework Convention on Climate Change (UNFCCC) meant for controlling Greenhouse Gases (GHG) emission from various anthropogenic activities was adopted at the Earth Summit at Rio in 1992. In order to achieve stabilization of GHG concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, 192 countries, including 77 Islamic countries (List attached as *Annex-I*) have so far signed the United Nations Framework Convention on Climate Change. The Convention contains provision that provide for the industrialized countries to stabilize their emissions at 1990 levels by 2012 in order to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. The Kyoto Protocol to UNFCCC was adopted at the 3rd Meeting of the Conference of Parties held in Kyoto, Japan, in 1997. Under the Protocol, developed countries (also referred to as *Annex-I* countries), agreed to reduce their combined GHG emissions by 5.2% below the 1990 level during the period 2008-2012. The Protocol came into force on ratification of the treaty by 55 countries, jointly with a second condition that who ratified the protocol from *Annex-I* parties are responsible for 55% of the GHG emissions, on 16th February 2005.

Kyoto Protocol establishes the following three market-based cooperative mechanisms designed to help *Annex-I* Parties to reduce the costs of meeting their emissions targets by achieving emission reductions at lower costs in other countries than they could do it domestically:

1. International Emissions Trading permits countries to transfer parts of their allowed emissions' (assigned amount units).
2. Joint Implementation (JI) allows countries to claim credit for emission reduction that arise from investment in other industrialized countries, which result in a transfer of 'emission reduction units' between countries.
3. Clean Development Mechanism (CDM)

CDM is the only instrument of the above three mechanisms that is available for developing countries to assist them in achieving sustainable development and contributing towards the achievement of the ultimate objective of the Convention. It aims to assist Annex-I Parties to implement project activities that reduce (or subject to constraints removes) GHG emissions in non-Annex-I Parties (i.e. mostly developing / Islamic countries), in return for Certified Emission Reductions (CERs). The CERs generated by such project activities can be used by Annex-I Parties to meet part of their emissions commitments under the Kyoto Protocol.

1.1 Background

The Third Islamic Conference of Environment Ministers held under the high patronage of His Majesty King Mohammed VI, at Islamic Educational, Scientific and Cultural Organization (ISESCO) Headquarters, Rabat, Kingdom of Morocco, from 29 to 31 October, 2008 stressed the need to develop the Clean Development Mechanism and Climate Change Adaptation Strategy for the Islamic World aiming at mitigating the Impacts of Global Warming and Climate Change in Islamic countries and earn carbon credits and to harness the untapped potential of adaptation fund. ISESCO was mandated to initiate the

process and submit the CDM Strategy for Muslim World in next meeting of the Conference of Environment Ministers. The capacity of the Adaptation to Climate Change in the Islamic countries was also examined through studying the current environmental situation and future prospects, and benefiting from the Adaptation Fund and existing technical and financial support in this field. The economic and social impact of climate change and the impact of response measures on Islamic countries were also discussed and it was deemed necessary to enhance the knowledge of the Islamic countries to benefit from the clauses of financial support specified in the Kyoto Protocol and the Clean Development Mechanism. It was therefore, decided to prepare an Islamic Countries Strategy to benefit from the climate change Adaptation Fund and Clean Development Mechanism.

1.2 Ecological setting and environmental profile

Islamic countries enjoy a great deal of diversity in terms of their location, landscape, geography, production and consumption patterns, poverty ratios and natural resources. The Islamic world stretch from the South East Asia to West Asia and Central Asia in the Asian Continent and from East to West Africa and North Africa in the African Continent and parts of Europe. The Climate of many of Asian Countries and specially Middle East Countries is arid and semi arid and therefore most of the land area is experiencing drought and desertification. Consequently, agricultural and livestock potential is therefore highly vulnerable to climate change. In addition, Islamic countries located along the coastal areas and Small Island states like Maldives are threatened by the sea level rise due to melting of glaciers. Depending primarily on agricultural and livestock related livelihoods, Islamic countries do not contribute significantly to climate change and GHG, however they are highly vulnerable to the climate change induced fluctuations in rainfall and droughts.

Islamic world is broadly categorized into humid, arid and semi arid zones. Some countries like Malaysia, Indonesia and Bangladesh receives rainfall more than 3000 mm/annum as they fall in the tropical humid zone. Other like Pakistan, Iran, Turkey, Iraq, Ghana, Guinea, Malawi, Morocco and Tunisia lies in the semi arid zone with rainfall in between 500 to 1500 mm/annum. Similarly, other countries like Oman, Saudi Arabia, Abu Dhabi, Libya, Sudan, Syria, Bahrain and Yemen lies in arid zone without sufficient water even for drinking.

Water resources are highly vulnerable in the Middle East and North Africa, which constitutes the world's driest region, where per capita water availability is predicted to halve by 2050 even without the effects of climate change. The region has few attractive options for increasing water storage, since close to 90 percent of its freshwater resources are already stored in reservoirs. The increased water scarcity combined with greater variability will threaten agriculture, which accounts for some 85 percent of the region's water use. The water vulnerability situation in Islamic countries is compounded by a heavy concentration of population and economic activity in food- prone coastal zones and by social and political tensions that resource scarcity could heighten (World Development Report, 2010).

Sub- Saharan Africa suffers from natural fragility (two- thirds of its surface area is desert or dry land) and high exposure to droughts and floods, which are forecast to increase with further climate change. The region's economies are highly dependent on natural resources. Biomass provides 80 percent of the domestic

primary energy supply. Rain-fed agriculture contributes some 30 percent of GDP and employs about 70 percent of the population. Inadequate infrastructure could hamper adaptation efforts, with limited water storage despite abundant resources.

Islamic countries of South Asia suffers from an already stressed and largely degraded natural resource base resulting from geography coupled with high levels of poverty and population density. Water resources are likely to be affected by climate change, through its effect on the monsoon, which provides 70 percent of annual precipitation in a four- month period, and on the melting of Himalayan glaciers. Rising sea levels are a dire concern in the region, which has long and densely populated coastlines, agricultural plains threatened by saltwater intrusion, and many low-lying islands. In more severe climate- change scenarios, rising seas would submerge much of the Maldives and inundate almost 18 percent of Bangladesh's land.

The world disasters statistics show that floods caused 50% of the world disasters during 1990-2001. Asia and Africa faced 35% and 29% of these disasters, where almost half of the world's Muslim population lives. This shows increased exposure of the Muslim world to natural disasters.

1.3 Economic profile of Islamic Countries

The Organization of the Islamic Conference (OIC) members states have a combined GDP of US \$ 4378.2 billion in 2008, however only 10 member countries accounts for 74% of the total GDP and 76% of the total exports. The highest GDP in OIC belongs to Turkey with a GDP exceeding US\$ 900 billion. The average per capita GDP was US \$ 3019 during 2008. The richest country on the basis of GDP per capita is Qatar at US\$62, 181 per capita. Most of the Islamic countries do not possess major industrial base, however the Oil Producing and Exporting Countries (OPEC) do possess crude oil and refinery industries. On an average for six years (2002-2007), services sector constituted 49.7%, manufacturing (Industry) 38.4% and Agriculture only 11.6% of the GDP in OIC countries. Growth in developing countries stood at 6.7% in 2008. Mixed nature of economies of OIC member states reflects high level of heterogeneity and divergence in economic structure and performance. Out of the total 50 least developed countries of the world 22 are OIC member states. On the other hand economies, development and prosperity of 17 OIC member states are primarily dependent on oil and gas export. During 2007 the average merchandize export of OIC countries stood at US \$ 1356 billion, which accounted for 21.8 % of the total merchandize exports of the developing countries. The total imports of OIC countries stood at US \$ 1207 billion during 2007, which accounted for 20.3% of the developing countries imports. The World Bank Report (2008) has classified 26 OIC member states as low income countries and 25 are middle income countries, whereas only six OIC member states are classified as high income countries. According to the IMF classification, 11 OIC countries are classified as non-oil exporting primary production economies and 17 are classified as oil exporting economies. Thus based on these statistics, it is quite evident that compared to the developed countries, the share of Islamic countries in global warming is negligible.

On the basis of per capita electricity consumption, the economies of Islamic countries could be divided into three main regions; Poor, Moderate and Stable

economies. The optimum level of per capita/annum electricity consumption is 500Wh. Therefore, on the basis of per capita electricity consumption, Muslim countries with less than 300 Wh/capita/year; such as Afghanistan, Bangladesh, Nigeria, Ghana, and Tanzania are poor economies. Those falling in between 400 to 1200 Wh/capita/annum like Algeria, Morocco, Pakistan, Tunisia, Kyrgyzstan and Egypt are moderate economies. The stable economies are those above 1200 Wh/capita/annum and close to the world average of 2100 Wh/capita/annum are Islamic countries like Saudi Arabia, Libya, Albania, Turkey, Kazakhstan, Tajikistan and Iran.

2. Need for Strategic Plan for CDM and Adaptation

In view of the emerging challenges and associated opportunities for the Islamic countries and the fact that the Islamic Environment Ministers has decided to develop the Islamic Strategy for CDM and Adaptation in the 3rd Islamic Environment Ministers Conference held in Nov 2008 in Morocco, that there is an immediate need to formulate a working CDM strategy for the Islamic World. The primary objective of the strategic planning is to develop the capacity of the Islamic countries and enabling them to tap the enormous potential of CDM and Adaptation fund meant for the developing and Least Developed Countries (LDC) under the Kyoto Protocol. A review of the present day CDM and Adaptation situation in the Islamic World clearly indicates that though most of the Islamic Countries are eligible for taking benefits from the provisions of the CDM and Adaptation Fund, yet no serious effort have so far been made to harness the available potential CDM and Adaptation Strategy for Islamic Countries intends to follow a strategy which can benefit all the countries in the Islamic World. Islamic Environment Ministers has felt the need for a more formalized approach for Muslim Ummah to develop and adopt the CDM and Adaptation Strategy. Towards such an end, this strategic plan is being developed for the Islamic World.

3. Scope of the CDM and Adaptation Strategy

The CDM and adaptation strategy shall cover all the Islamic countries and shall also include a proposal for a coherent strategy to benefit from Adaptation Fund and Clean Development Mechanism. It will give sufficient background information and justifications to enable the Islamic Countries to enhance their capacities so as to benefit from the CDM and Adaptation fund. The strategy should facilitate the decision makers as well as relevant institution to adopt sustainable programmes to maximum benefit from the existing opportunities. The overall scope of the strategy will be:

- (i) Background information on climate change, various international protocols e.g. Kyoto protocol, Clean Development Mechanism, Carbon Credit, Adaptation Fund and other related and important developments.
- (ii) Situation analysis and status quo of the Islamic countries their potential resources, potential development, challenges demographic and ecological characteristics etc.
- (iii) Vision, Mission and objective of the strategy.

- (iv) Necessity of Clean Development Mechanism (constraints and opportunities for Islamic countries), and various measures necessary to improve sustainable development performance, carbon projects, and green house gas emission reduction.
- (v) Priority areas for the Islamic countries, and assessment of their position with regard to the international protocols.
- (vi) Adaptation fund to Climate change, an assessment of the possibilities and mechanisms for improved co-ordination and coherence with the international efforts, availability of assistance, various measures to be taken to benefit, procedures and formalities, necessary skills, involvement of bilateral and multilateral donor agencies, and international financing institutions, benefiting from international expertise, and policy and operational constraint which need to be taken up to channel assistance available at international level.
- (vii) Important and useful climate change projects to the Islamic countries e.g. sea walls to guard against expanding oceans, early warning systems for extreme events, improved water supplies for drought areas, training in new agricultural techniques and the conservation and restoration of mangroves to protect people from storms, etc. which may get immediate support from the Adaptation Funds.
- (viii) Mechanisms for improved co-ordination among the Islamic countries, and with community as well as other donor and financing agencies.
- (ix) Recommendations collectives as well as for each Member States, International and Islamic Organizations and future action if any for upcoming international conventions, conferences, etc.

4. Methodologies and Framework

The framework for the strategic planning should focus on overall accomplishments of the strategic goals and spell out the methodology for achieving the goals. These goals should be designed and worded as much as possible to be specific, measurable, realistic and time bound. Moreover, the strategy must revolve around mission statements, which in fact is a brief written description of the purpose for which the strategy is developed and the vision statements, which are usually a compelling description of how the host organization will or should operate at some point in the future and of how the clients are benefiting from the organization's products and services. Values statements on the other hand list the overall priorities in how the organization will operate.

With a view to analyze the situation, methodology of developing the CDM and Adaptation Strategy for Islamic World will focus on the analysis of the past trends, current day situation and future scenario using various paths to achieve the desired targets. For this purpose various analytical tools like Pressure, State and Response (PSR) or Strength, Weaknesses, Opportunities and Threats (SWOT) analysis could be used. As SWOT is mostly used for the analysis of an existing organization or institution, PSR analysis is employed for a regional entity. It would therefore be advisable to undertake PSR as an analytical tool for the situational analysis in Islamic countries.

To effectively implement the strategy, it must spell out a well defined action plan, which lay out how the strategic goals will be accomplished. Action

planning often includes specific objectives, or specific results for each strategic goal. It is common to develop an annual plan (sometimes called the operational plan or management plan), which includes the strategic goals, objectives, responsibilities and timeframe for the implementation of the strategy.

Pressure State and Response Model

The PSR framework is based on the fact that human activities exert Pressures on the environment (such as various environmental pollution, land use change, or increased demand for livestock products). These result in changes in the State of the environment (e.g. changes in pollutant levels, habitat diversity, livestock production, etc.) which in turn result in Impacts. Society's Response to changes in pressures or state is in turn depends on the environmental and economic policies or programs intended to prevent, reduce or mitigate the pressures and/or environmental and socio-economic damage that occurred as a result of the original pressures.

Thus PSR offers highly dynamic and innovative tool for analyzing the cause and affects of various factors for their past, present and future impacts on the regional climate change scenario. Various indicators are used to examine the cause and effect for arriving at any conclusion.

5. Situational analysis

land fills in open may emit GHG into the atmosphere.

Annual industrial growth in Islamic world showed an increase by 1.44% per annum during 2006-2007, however contribution of GDP to industry has decreased from 40.35% in 2006 to 39.52% in 2007. This indicates that OIC member countries are neither industrialized nor does the industrial growth exhibit any significant increase, however the use of GHG emitting substances and appliances has greatly increased. Although, OPEC countries have high level of industrialization in Oil and Gas sector and their contribution to the GDP is higher compared to other OIC countries. Therefore, OIC member countries are not responsible for emitting significant GHG in the atmosphere. Trade on the other hand shows increasing tendency in OIC countries, trade related transportation coupled with other means of transportation is also increasing. As most of the transportation is done using fossil fuel, the emission of GHG into the atmosphere increases.

In the forestry and environment sector, the proportion of land area under forests is very small due to very high proportion of land (60% of the total) that is experiencing arid and semi-arid conditions. Further, the existing forests are also experiencing increased pressure from man and their livestock. Low forest area coupled with increasing deforestation is responsible for reduction in the carbon sink. Agricultural activities are also limited due to low precipitation in the arid and semiarid countries; however, food security issues have greatly increased the demand for agriculture. As arable land is very limited, intensive farming using chemical fertilizer and pesticides are used besides establishing cold storages that may emit GHG. In addition, land fills of agricultural and livestock waste also emits GHG as they are not properly decomposed.

Livestock rearing, an ancient lifestyle is integral part of the household in most of the OIC countries. Large flocks of livestock are allowed to openly graze the

rangelands mostly beyond the sustainable potential and carrying capacity of the rangelands leading to its degradation. Range degradation triggers many environmental problems including loss of carbon sink. Desertification is wide spread in most of OIC countries as 60% of the total land area constitute arid climate. Prolonged droughts and lack of irrigation facilities has further increased the quantum of desertification in OIC countries. Per capita availability of water is decreasing in OIC countries and coupled with increased tendency of water pollution, which has lead to water stress in most of the OIC countries. Global warming has already disturbed the natural water cycle that is badly affecting the arid and semi arid countries.

Based on the situational analysis, Islamic countries could be divided into the following two broad groups:

- I. Strong Economy Group including countries with high industrial base such as OPEC and other industrialized countries
- II. Weak Economy Group including poor and under developed countries

Emission of GHG from economically strong countries with strong industrial base is higher than the weak economy countries. Therefore, even within OIC block the strong economy countries may support the weak economies through adaptation and CDM projects.

6. Vision, Mission and Values

6.1 Vision

To promote knowledge and understanding of the Islamic countries to improve their capacities in mitigating the impacts of climate change and launch useful and sustainable projects so as to benefit from the Adaptation Fund and Clean Development Mechanisms.

6.2 Mission

To develop CDM and Adaptation Strategy for the Islamic World and support development of the country's strategies aiming at addressing the emerging challenges associated with global warming either through mitigating the impacts of global warming or adaptation to new situation aiming at improving the lives of Muslim Ummah.

6.3 Values

The Islamic World attaches importance to the CDM and Adaptation Strategy and prioritize the need for undertaking capacity building programme so as to enable the Islamic world to develop action plans for producing a cadre of professional experts and develop technology for individual and institutional capacity building. These state of the art values and technical excellence will greatly help the developing countries to benefit from the adaptation fund and CDM on sustainable basis.

7. Objectives

The CDM and Adaptation strategy will serve as an effective instrument based on scientific knowledge to develop viable programmes and projects for Muslim Ummah and host country funding using Adaptation Fund and Clean

Development Mechanism. Following are the objectives of Islamic Countries Strategy:

- To enhance performance of the Islamic country parties to UNFCCC and Kyoto Protocol to mitigate and adapt to the effects of climate change and build capacities to pursue sustainable development initiatives.
- To provide knowledge and guidance and project benefits from Adaptation Funds and other facilities available under Kyoto Mechanism (Clean Development Mechanism).
- To develop flexible, equitable and transparent mechanism for the adaptation fund for the benefit Islamic countries.
- To assist Islamic countries in adopting Clean Development Mechanism, to earn carbon credit amid contributing to stabilization of greenhouse gas concentrations in the atmosphere.
- To develop adaptation and Clean Development Fund in OIC to support the less developed countries in increasing plantation and other CDM project.

8. Kyoto Protocol and Islamic World

Islamic world mostly comprises of developing and least developed (LDCs) countries and except Turkey (which is Annex-I party under specific COP and/or CMP decision), all other Islamic Countries fall in the Non-Annex-I parties to the UN Framework Convention on Climate Change and Kyoto Protocol. Moreover, almost all the Islamic Countries are also members of the G-77 and China Group in the UN system. Certain groups of developing countries which are vulnerable to the adverse impacts of climate change are specifically recognized by the convention as vulnerable countries including those located close to the coast and small island states. Others Islamic Countries (such as those relying heavily on income from fossil fuel production and commerce) feel more vulnerable to the potential economic impacts of climate change response measures.

The Convention emphasizes activities that promise to answer the special needs and concerns of these vulnerable countries, such as funding, capacity building and technology transfer. The Least Developed Countries (LDC) on the other hand is given special consideration under the convention on account of their limited capacity to respond to climate change and adapt to its adverse effects. Except few, most of the Islamic countries face capacity problems in tackling the emerging technological challenges of the Clean Development Mechanism and Adaptation. Lack of capacity deprives most of the Islamic countries in getting benefit from earning carbon credits and adaptation fund.

Developing countries can shift to lower-carbon paths while promoting development and reducing poverty, but this depends on financial and technical assistance from high-income countries (World Development Report 2010: Development and Climate Change). High-income countries also need to act quickly to reduce their carbon footprints and boost development of alternative energy sources to help tackle climate change. If they act now, a 'climate-smart' world is feasible, and the costs for getting there will be high but still manageable.

9. CDM Process

The Clean Development Mechanism, defined in Article 12 of the Kyoto Protocol, allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol (Non Annex-I parties) to implement an emission-reduction project in developing countries. Such projects can earn saleable Certified Emission Reduction credits, each equivalent to one tonne of CO₂, which can be counted towards meeting Kyoto targets. All those projects that reduce the GHG emissions such as rural electrification project using solar panels and or biogas produced from cow dung waste or the installation of more energy-efficient boilers and a forestation projects are eligible under the CDM to earn carbon credits. Therefore, CDM allows emission-reduction (or emission removal) projects in developing countries to earn certified emission reduction to credits, each equivalent to one tonne of CO₂. These CERs can be traded and sold, and used by industrialized countries to meet part of their emission reduction targets under the Kyoto Protocol.

Clean Development Mechanism was initiated under the Kyoto Protocol of the United Nations Framework Convention on Climate Change in order to explore cost-effective options to mitigate the impacts of climate change. It is one of the instruments that help the developing countries in achieving sustainable development, while at the same time contributes to the ultimate objective of the UNFCCC. CDM assists the developing countries to implement project activities that reduce Greenhouse Gas (GHG) emissions in return for generating Carbon Credit/Certified Emission Reduction (CERs). The mechanism stimulates sustainable development and emission reductions, while giving industrialized countries some flexibility in how they meet part of their emission reduction or limitation commitments.

The Kyoto Protocol established a market-based mechanism to allow developed countries with binding emissions targets to reduce greenhouse gases such as carbon dioxide, methane, carbon tetrafluoride, trifluoromethane, and nitrous oxide. Under the cap-and-trade system, industries would be allocated allowances limiting them to a certain amount of greenhouse gas emissions each year. Most trading schemes use one ton carbon-dioxide units for sale, or convert non-CO₂ gases into CO₂-equivalent units for the purposes of trading. Industries are also allowed to purchase credits that offset their carbon output above those caps. The goal of the cap is to prevent increases in net emissions. Some facilities may find it more economical to reduce their emissions and then sell their surplus emission allowances as credits, while others may find it cheaper to buy credits to offset their emissions rather than make direct reductions. Greenhouse gas emission credits can be purchased or sold from either a carbon market or a project certified by the United Nations. Cap-and-trade systems have been utilized in the past to successfully reduce other types of emissions.

The projects must qualify through a rigorous and public registration and issuance process designed to ensure real, measurable and verifiable emission reductions that are additional to what would have occurred without the project. The mechanism is overseen by the CDM Executive Board, answerable ultimately to the countries that have ratified the Kyoto Protocol. In order to be considered for registration, a project must first be approved by the Designated National Authority (DNA). Operational since the beginning of 2006, the mechanism has

already registered more than 1,000 projects besides having 4200 projects in the pipeline. It is anticipated that these projects will produce CERs amounting to more than 2.7 billion tonnes of CO₂ equivalent in the first commitment period of the Kyoto Protocol, 2008-2012. The mechanism is seen by many as a trailblazer. It is the first global, environmental investment and credit scheme of its kind, providing a standardized emission offset instrument, CERs.

The central feature of the Kyoto Protocol is its requirement that countries limit or reduce their greenhouse gas emissions. By setting such targets, emission reductions took on economic value. To help countries meet their emission targets, and to encourage the private sector and developing countries to contribute to emission reduction efforts, negotiators of the Protocol included three market-based mechanisms - Emissions Trading, the Clean Development Mechanism and Joint Implementation.

Nations (Annex-I parties) with Kyoto targets are allowed to purchase emission-offset credits generated from carbon abatement projects in the developing world. Projects must be registered with the UN's CDM Board, which certifies the amount of emission reductions that occur as a result of the project. Those "certified emission reductions" (CERs) can then be sold to a nation or party with binding emissions caps.

According to the World Bank's report (May 2009) on trading systems, a total of more than \$64 billion in allowances was traded in 2007, which almost doubled in 2008 to over \$126 billion. Of the 2008 total, nearly \$92 billion was traded on the EU market, about \$7 billion was for UN projects, \$183 million was on the New South Wales exchange, \$309 million was on the Chicago Climate Exchange, and another \$246 million on the new RGGI exchange. In the 2007 report, the bank notes that 2007 also saw the emergence of other voluntary programs such as the California Climate Action Registry, and "secondary markets." The 2008 bank report calls secondary markets an innovation in response to procedural CDM certification delays. In secondary markets, aggregators sell guaranteed CER contracts that are secured through a slice of their overall carbon portfolios. Secondary CDM allowance trading surpassed sales of primary CDM credits. In 2008, secondary CDM credits totaled \$26 billion--more than quadrupling from 2007, while primary CDM credits total nearly \$6.5 billion, a slight drop from the previous year.

Developed and developing countries have a common interest in solving the climate problem, but they also share a need for the energy security and affordable energy access that accompany growth and development for developing countries. Abundant renewable energy is therefore the lattice work upon which a climate consensus must grow using the CDM window by Islamic countries.

9.1 Principles of the CDM

- Participation in CDM projects shall be in line with the existing national policies of the OIC member states.
- CDM projects shall have tangible national impacts and must contribute to the global, regional and national sustainable development agenda.
- CDM and adaptation strategy shall highlight the urgency of national and regional interventions in protecting the small island states and coastal countries from sea level rising.

- CDM and Adaptation strategy shall encourage the Islamic Countries and regional institutions in undertaking research and developing programmes to combat drought and desertification.
- CDM could be used to encourage private sector investments in climate-friendly development activities.
- CDM projects shall be designed so as to contribute to the improvement of the environment and the welfare of the society and Muslim Ummah as a whole.
- CDM projects shall be encouraged to include elements that would contribute to poverty reduction and promote employment generation opportunities.
- Integration of CDM priorities in national development plans and programmes of Islamic countries.
- CDM Projects shall promote and encourage the transfer of new, proven, affordable and relevant technologies.
- CDM Projects that addresses regional climate change issues should specifically be encouraged.
- CDM projects having adaptation and vulnerability co-benefits shall be encouraged.
- CDM projects shall be approved through a participatory and transparent process that involves detailed assessment of their economic, social and environmental benefits and their relevance to local needs and priorities.
- Tax incentive for green projects shall also be encouraged.

9.2 Broad Criteria for CDM Projects

Islamic Countries shall allow unilateral, bilateral and multilateral CDM projects preferably in the following areas:

- (i) Energy including renewable energy, energy efficiency, energy conservation and fossil-fueled cogeneration;
- (ii) Land use, Land use Change and Forestry (e.g. biodiversity protection, soil conservation, watershed maintenance and sustainable forest/rangeland management);
- (iii) Sustainable Agricultural and livestock practices;
- (iv) Waste Management (e.g. landfills, solid waste management, recycling, animal/livestock wastes);
- (v) Transportation (e.g. alternative fuel vehicles, mass transit systems, cleaner engines, Compressed Natural Gas); and
- (vi) Industrial processes

The above procedure shall be applicable to all unilateral, bilateral and multilateral projects.

10. Adaptation to Climate Change

Adaptation to climate change is vital in order to reduce the impacts of climate change that are happening now and increase resilience to future impacts. The UNFCCC secretariat coordinates negotiations and action being carried out on

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Clean Development Mechanism and Adaptation Strategy for the Islamic World

adaptation by governments and stakeholders in line with the Convention particularly Article-2 and 4. The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

With a view to achieve these objectives, Article-4 of the convention has comprehensively described the commitment by the parties. The most important provision of the treaty are common but differentiated responsibilities of the parties based on their specific national and regional development priorities, reporting of the national inventories, formulation, implementation, publishing and regularly update national and, where appropriate, regional programmes aiming at mitigation and adequate adaptation to climate change. Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent GHG in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors.

The developed country Parties and other Parties included in Annex-I have committed themselves to adopt national policies and take corresponding measures on the mitigation of climate change, by limiting GHG emissions and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of GHG emissions would contribute to such modification, and taking into account the differences in these Parties' starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention.

The developed country Parties and other developed Parties shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies. In the implementation of the commitments, the Parties shall give full consideration to actions that are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country

Parties besides that of least developed countries in their actions with regard to funding and transfer of technology arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on:

- (a) Small island countries;
- (b) Countries with low-lying coastal areas;
- (c) Countries with arid and semi-arid areas, forested areas and area liable to forest decay;
- (d) Countries with areas prone to natural disasters;
- (e) Countries with areas liable to drought and desertification;
- (f) Countries with areas of high urban atmospheric pollution;
- (g) Countries with areas with fragile ecosystems, including mountainous ecosystems;
- (h) Countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products; and
- (i) Land-locked and transit countries.

The Parties shall also take into consideration in the implementation of the commitments of the Convention the situation of Parties, particularly developing country Parties, with economies that are vulnerable to the adverse effects of the implementation of measures to respond to climate change. This applies notably to Parties with economies that are highly dependent on income generated from the production, processing and export, and/or consumption of fossil fuels and associated energy-intensive products and/or the use of fossil fuels for which such Parties have serious difficulties in switching to alternatives.

10.1. The Bali Action Plan

The Bali Action Plan (Decision 1/CP.13), adopted at COP 13 in Bali, December 2007, identifies adaptation as one of the five key building blocks required (shared vision, mitigation, adaptation, technology and financial resources) for a strengthened future response to climate change to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012. The Bali Action Plan is negotiated under the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) under the Convention.

During 2009, progress on negotiations on adaptation under the AWG-LCA, with a view to reaching an agreed outcome at COP 15 (the Bali Road Map process) include the negotiating text (FCCC/AWGLCA/2009/8) prepared by the Chair prior to negotiations in Bonn, 1-12 June 2009, the revised negotiation text (FCCC/AWGLCA/2009/INF.1) issued and discussed during an informal meeting of the AWG-LCA, Bonn, 10-14 August 2009 and a consolidated text (FCCC/AWGLCA/2009/INF.2) prepared for and discussed during the negotiations in Bangkok, 28 September-9 October 2009.

Most recently the co-chairs of the contact group on adaptation, based on oral and written inputs provided by Parties during the Bangkok negotiations, have

prepared a revised streamlined text to inform the resumed seventh session of the AWG-LCA in Barcelona, 2-6 November 2009.

10.2. Nairobi Work Programme

The Nairobi work programme on Impacts of Vulnerability and Adaptation to Climate Change is a 5 year programme (2005-2010) implemented by Parties, intergovernmental and non-governmental organizations, the private sector, communities and other stakeholders. The Nairobi work programme is undertaken under the Subsidiary Body for Scientific and Technological Advice (SBSTA). Its objective is to assist all Parties, in particular developing countries, including the least developed countries and small island developing States to:

- **improve their understanding and assessment** of impacts, vulnerability and adaptation to climate change;
- **make informed decisions on practical adaptation actions and measures** to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability.

10.3. Implementing Adaptation

Decisions on implementing adaptation include Decision 5/CP.7, 2001, implementation of Article 4.8 and 4.9 of the Convention and Decision 1/CP.10, 2004, the Buenos Aires programme of work on adaptation and response measures, to assist in implementing Article 4 of the Convention.

Parties are elaborating ways of implementing adaptation, under the Subsidiary Body for Implementation (SBI). The SBI is mandated for the production of an interface on adaptation funding in 2008, to assist the implementation of Decision 1/CP.10 and to provide information on options available for funding adaptation worldwide.

10.4. National Adaptation Programme of Action

The National Adaptation Programmes of Action (NAPAs) provide an important way to prioritise urgent and immediate adaptation needs for Least Developed Countries (Article 4.9). The NAPAs draw on existing information and community-level input. A database of all NAPA priority adaptation projects sorted by country and sector is available online at the UNFCCC Least Developed Countries (LDC) portal. Many Least Developed Islamic Countries followed the guidelines available there in developing their own projects for funding and some of them had already got some funds for their projects.

10.5. Local Coping Strategies Database

Community based adaptation can greatly benefit from the knowledge of local coping strategies. The UNFCCC secretariat has developed a local coping strategies database to facilitate the transfer of long-standing coping strategies and knowledge from communities which have adapted to specific hazards or climatic conditions, to communities which may just be starting to experience such conditions as a result of climate change. Islamic countries can also benefit from these resources in developing such strategies at national level.

10.6. Supports for Adaptation

Developing countries require international assistance to support adaptation (Articles 4.4, 4.8 and 4.9). This includes funding, technology transfer and capacity building.

Funding for adaptation is provided through the financial mechanism of the Convention, currently operated by the Global Environment Facility (GEF) and the Adaptation Fund Board (AFB). Details about the funding opportunities for CDM and Adaptation is given at para-15, however those relating specifically to adaptation are:

- the GEF Trust Fund, including support for vulnerability and adaptation assessments as part of national communications;
- the Least Developed Countries Fund (LDCF) under the Convention;
- the Special Climate Change Fund (SCCF) under the Convention;
- The Adaptation Fund (AF) under the Kyoto Protocol and managed by the AFB.

11. Important Adaptation Projects for Islamic Countries

Constituting mostly developing and least developing countries, Islamic world can benefit from the adaptation fund of the UNFCCC by developing projects in a variety of sectors. Using the guidelines and specifications of the Adaptation Fund, viable projects can be identified and developed at national or regional basis by the Islamic countries. Among the important potential adaptation areas sea walls to guard against expanding oceans, early warning systems for extreme events, improved water supplies for drought areas, training in new agricultural techniques and the conservation and restoration of mangroves to protect people from storms, renewable energy, development of drought resistant crop, fodder, vegetable, orchards and forest tree species. These and other such projects can easily get support and funding from the Adaptation Funds.

12. Implementation Mechanism for the CDM and Adaptation Strategy

A well defined and effective implementation mechanism encompassing the required process and tools used to implement the strategy aiming at achieving the desired objectives is essentially required to be part of a successful strategy. A well established and adequately staffed CDM and Adaptation secretariat is essentially required for steering the process of implementation. ISESCO will offers institutional platform for implementation of the CDM and adaptation strategy in the Islamic Countries. A steering committee comprising of members from the selected and leading Islamic countries and institutions has to be constituted to supervise and monitor the activities of the CDM and adaptation secretariat. The steering committee will elect its chair for a period of three years on rotation basis. CDM secretariat of the Islamic Countries will develop all the required rules and regulation for implementing the strategy and also hire the services of experts in this area.

13. Establishment of an Improved Co-ordination Mechanism

Effective coordination is key to the successful implementation of a strategy. An improved co-ordination mechanism among the Islamic countries and with other international community as well as other donor and financing agencies has to be established for effective implementation of the CDM strategy. Coordination among the Islamic countries could be improved using various institutional and management tools. Among them, formal and informal communication at individual and institutional level, print and electronic media, internet and email communication besides the traditional official communication among the relevant institutions can play an important role for streamlining coordination.

14. Way Forward

- Establishment of the CDM and adaptation Secretariat for Islamic Countries in ISESCO. The functions of the secretariat would be:
 - (i) To provide necessary policy advice and guidance to the CDM Technical Committees in Islamic member States;
 - (ii) To support development of viable CDM and adaptation project proposals.
 - (iii) To review the progress on implementation of CDM and adaptation projects; and
 - (iv) To ensure inter-country coordination for effective management of CDM process
 - (v) To develop and maintain a database with a view to provide CDM and adaptation related information to project developers and other national and international stakeholders;
 - (vi) To raise awareness on CDM and climate change adaptation in Islamic countries
 - (vii) To develop a core group of experts for proposal writing and fund raising to benefit from the CDM and adaptation funds.
- Strengthening and Capacity Building of Designated National Authorities (DNA's) of Islamic Countries
- Mapping the CDM potential especially in following sectors;
 - i. Alternate and renewable energy
 - ii. Forestry, Agriculture and Livestock
 - iii. Industry and Production
- Capacity development of private sector in Islamic countries through the Chamber of Commerce and Industries of OIC
- Establishment of the Islamic Countries joint stock market for carbon trading

15. Funding Sources

The head of the United Nations climate office said on October 29, 2009 just before the Copenhagen summit that richer nations must pledge funds to poorer nations to make progress on a new agreement to curb global warming

this year. In fact the U.N. climate change goal is that the rich nations must provide money to poor nations.

"Finance is the key to a deal in Copenhagen," said Yvo de Boer, the executive secretary of the U.N. Framework Convention on Climate Change, who was referring to the Danish capital where a global climate summit was held in December 2009. "Money, in fact, is the oil that encourages commitment and drives action," he said in a conference call with journalists.

In the realm of finance, a number of poorer countries are demanding that richer nations collectively pay hundreds of billions of dollars each year to help them cope with an already changing climate.

Article 11.5 of the Convention states that the developed country Parties may also provide and developing country Parties avail themselves of, financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels.

A variety of funding sources are available for the Climate Change Adaptation and CDM projects especially for the Developing countries. The major funding sources are:

- i. Climate Change Adaptation Fund for developing countries
- ii. Clean Technology Fund (CTF) multi-donor Trust Funds within the World Bank's Climate Investment Funds (CIF)
- iii. Special Climate Change Fund-GEF-Multilateral
- iv. Least Developed Countries Fund-GEF-Multilateral
- v. GEF Trust Fund - Climate Change focal area-GEF-Multilateral
- vi. Forest Carbon Partnership Facility-World Bank-Multilateral
- vii. Scaling-Up Renewable Energy Program for Low Income Countries-WB-Multilateral
- viii. UN-REDD Programme-UNDP-Multilateral
- ix. Strategic Priority on Adaptation-WB-Multilateral
- x. Pilot Program for Climate Resilience-WB-Multilateral

A fund raising cell has to be established in the CDM Secretariat aiming at developing CDM and Adaptation Fund by the Islamic countries besides providing technical support in preparing viable projects for the Developing and Least Developed Islamic Countries for availing the multilateral and bilateral funding sources. Details of other funding sources are given in Annex-II.

16. Recommendations for International obligations

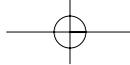
Islamic countries shall maintain a registry of all the global and regional obligations which are mandatory to be enforced either as Islamic block or individual Islamic country and regularly review the progress. Important meetings, negotiations and other events shall be pointed out for home work and enhanced coordination. A team of out standing experts of Muslim scholars and intellectuals has to be developed in areas critically important for streamlining

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Clean Development Mechanism and Adaptation Strategy for the Islamic World

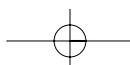
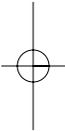
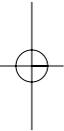
the global and regional obligations. Islamic countries shall make sure that all important negotiations related to mandatory treaties and protocol is attended by these experts and they must intervene where ever required to safeguard the interests of Islamic countries in international negotiation. Similarly, a core team of experts shall be developed to prepare project proposals for seeking funding from the available multilateral and bilateral funding sources.

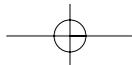
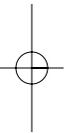
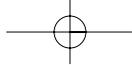
Regional treaties or protocol specifically for the Islamic countries could also be developed and adopted based on the specific needs of the Islamic countries in areas related to climate change or any other Multilateral Environment Agreement (MEAs). The experts shall coordinate with the relevant Islamic institutions for preparing background information and also help in developing data base of the Islamic countries on MEAs. Web based information and data sharing facilities has to be developed for informed decisions by the Islamic countries. Various global, regional and national accords, Bali Road Map for capacity development, and other important international declarations that are of interest to the Islamic countries shall be thoroughly reviewed and also shared with other member states for safeguarding their interest and getting benefit from them. Websites of important events shall regularly be visited for updating the data base being maintained for various interventions by the individual Islamic countries and institutions. Similarly, Islamic countries shall work towards developing their own websites on issues of international and regional importance and update them on regular basis both at country and at various Islamic institutional levels.



17. References:

1. UNFCCC and Kyoto Protocol Website; <http://unfccc.int/>
2. National Authorities for the CDM - A Guide for Developing Countries, International Institute for Sustainable Development, Manitoba, Canada. Web site: <http://www.iisd.org/>
3. Clima (Climate) 2009, <http://www.climate2009.net/>
4. World Development Report; Development and Climate Change, 2010.
5. The World Bank, www.worldbank.org
5. Statistical, Economics and Social Research and Training Centre for Islamic Countries, Ankara, Turkey; <http://www.sesrtcic.org>





ANNEX I

LIST OF NON-ANNEX-I COUNTRIES

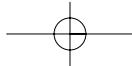
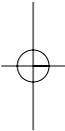
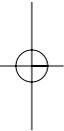
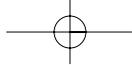
Non-Annex-I Country Parties		
1		Afghanistan
2		Algeria
3		Azerbaijan
4		Bahrain
5		Bangladesh
6		Benin
7		Bosnia and Herzegovina
8		Botswana
9		Brunei Darussalam
10		Burkian Faso
11		Burundi
12		Cameroon
13		Cap Verde
14		Central African Republic
15		Chad
16		Comoros
17		Congo
18		Cyprus
19		Côte d'Ivoire
20		Democratic Republic of the Congo
21		Jibouti
22		Egypt
23		Eritrea
24		Ethiopia
25		Gabon

26		Gambia
27		Ghana
28		Grenada
29		Guatemala
30		Guinea
31		Guinea-bissau
32		Guyana
33		Indonesia
34		Iran (Islamic Republic of)
35		Jamaica
36		Jordan
37		Kazakhstan **
38		Kiribati
39		Kuwait
40		Kyrgyzstan
41		Lebanon
42		Lesotho
43		Liberia
44		Libyan Arab Jamahiriya
45		Madagascar
46		Malawi
47		Malaysia
48		Maldives
49		Mali
50		Malta
51		Mauritania
52		Mauritius
53		Morocco
54		Mozambique
55		Niger

56		Nigeria
57		Oman
58		Pakistan
59		Papua New Guinea
60		Qatar
61		Rwanda
62		Saudi Arabia
63		Senegal
64		Sierra Leone
65		Sudan
66		Suriname
67		Syrian Arab Republic
68		Tajikistan
69		Tunisia
70		Turkmenistan **
71		Uganda
72		United Arab Emirates
73		United Republic of Tanzania
74		Uzbekistan **
75		Yemen
76		Zambia
77		Zimbabwe

* Observer State

** Party for which there is a specific COP and/or CMP decision



ANNEX II

Funding Sources for Adaptation

A-MULTILATERAL FINANCIAL INSTITUTIONS

African Development Bank (AfDB);

<http://www.afdb.org/en/about-us/african-development-fund-adf/>

Climate Change and Mitigation;

<http://www.afdb.org/en/topics-sectors/sectors/climate-change-mitigation/>

Asian Development Bank (ADB);

<http://www.adb.org/>

ADB and Climate Change Mitigation;

<http://www.adb.org/Climate-Change/cc-mitigation.asp>

ADB and Climate Change Adaptation;

<http://www.adb.org/Climate-Change/cc-adaptation.asp>

Clean Energy Financing Partnership Facility; <http://www.adb.org/Clean-Energy/CEFPF.asp>

Small Grants to Promote Adaptation;

<http://www.adb.org/Climate-Change/funds-adaptation-grants.asp>

Water Financing Partnership Facility; <http://www.adb.org/Water/WFPF/default.asp>

Poverty and Environment Fund;

<http://www.adb.org/projects/pep/>

Caribbean Development Bank (CDB);

<http://www.caribank.org/>

Disaster Risk Management and Climate Change;

<http://www.caribank.org/titanweb/cdb/webcms.nsf/AllDoc/DBDAE468CA5CD03D04257398004DC84C?OpenDocument>

European Investment Bank (EIB);

<http://www.eib.org/>

Climate Change Initiatives;

<http://www.eib.org/projects/topics/environment/climatechange/index.htm>

International Bank for Reconstruction and Development (The World Bank);

<http://www.worldbank.org/>

Climate Investment Funds;

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCC/0,contentMDK:21713769~menuPK:4860081~pagePK:210058~piPK:210062~theSitePK:407864,00.html>

Programs and Partnerships;

<http://beta.worldbank.org/overview/partners>

Vulnerability and Adaptation to Climate Change;
<http://beta.worldbank.org/overview/climate-change-adaptation>

Mitigation;
<http://beta.worldbank.org/overview/climate-change-mitigation>

International Finance Corporation (IFC);
<http://www.ifc.org/>

Cleaner Technologies;
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/0,,contentMDK:22337322~pagePK:210058~piPK:210062~theSitePK:282823,00.html>

Sustainable Energy and Water;
<http://www.ifc.org/ifcext/sustainability.nsf/Content/SustainableEnergy>

Carbon Finance;
<http://www.ifc.org/ifcext/sustainability.nsf/Content/CarbonFinance>

B-BILATERAL DEVELOPMENT COOPERATION AGENCIES

Australia

- Australian Agency for International Development (AusAID)
 - Climate Change Adaptation
 - Climate Change Mitigation
 - International Forest Carbon Initiative

Austria

- Austrian Development Cooperation (ADC)
 - Environment and Natural Resources

Belgium

- Belgian Development Cooperation
 - The Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation

CANADA

- Canadian International Development Agency (CIDA) more >>

DENMARK

- Danish Development Agency (DANIDA) more >>
- Industrialization Fund for Developing Countries (IFU) more >>

FINLAND

- Department for International Development Cooperation (global.finland) more >>

FRANCE

- Agence française de développement (Afd) more >>
- Department for International Cooperation more >>
- Interministerial Taskforce on Climate Change (MIES) more >>
- Fond Française pour l'Environnement Mondial (FFEM) more >>

GERMANY

- Bundesministerium fuer Wirtschaftliche Zusammenarbeit (BMZ) more >>
- Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ) GmbH more >>
- Kreditanstalt fuer Wiederaufbau (KfW) more >>

GREECE

- Ministry of Foreign Affairs more >>

IRELAND

- Department of Foreign Affairs (Irish Aid) more >>

ITALY

- Ministry of Foreign Affairs more >>

JAPAN

- Ministry of Foreign Affairs (MOFA) more >>
- Japan Bank for International Cooperation (JBIC) more >>
- Japan International Cooperation Agency (JICA) more >>

LUXEMBOURG

- Lux-Development more >>

NETHERLANDS

- Netherlands Development Cooperation more >>

NEW ZEALAND

- New Zealand Agency for International Development (NZAID) more >>

NORWAY

- Ministry of Foreign Affairs (ODIN) more >>
- Norwegian Agency for Development Cooperation (NORAD) more >>

PORTUGAL

- Ministry of Foreign Affairs more >>
- Portuguese Cooperation Institute more >>

SPAIN

- Agencia Espanola de Cooperacion Internacional more >>

SWEDEN

- Swedish International Development Cooperation Agency (SIDA) more >>

SWITZERLAND

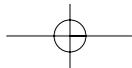
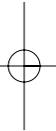
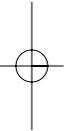
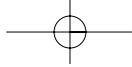
- Swiss Agency for Development and Cooperation (SDC) more >>
- State Secretariat for Economic Affairs (SECO) more >>

UNITED KINGDOM

- Ministry of Foreign Affairs - Global Opportunities Fund more >>
- Climate Change Projects Office (CCPO) more >>
- Department for International Development (DFID) more >>

UNITED STATES of AMERICA

- United States Agency for International Development (USAID) more >>



ANNEX III

PRESSURE, STATE AND RESPONSE ANALYSIS

Parameter	Pressure		State	Response		Conclusion
	Direct	Indirect		Existing	Future	
Social sector						
Population Growth	Increased population pressure on resources		Total current worlds Muslim population; 1,164,518,000	Slow pace of Population planning/control	Increased efforts for population planning required	Increased population on various resources. Population planning needs increased efforts
		Increased demand for natural and manufactured goods	Increased demand for food, non-food & manufactured goods	Production and consumption pattern is unsustainable	Production and consumption must be made sustainable	Unsustainable production and consumption
Urbanization	Increased Urbanization		Of the total population 45.75% constitutes urban population	Slow and negligible response in terms of urban policy planning	Need for policy and strategies for controlling urbanization	Innovative urban policy planning and strategies required to check urbanization
		Increased production of solid waste	Increased use of disposable items, poly-thene bags etc.	Lack of recycling of solid waste policies and strategies	Recycling polices and strategies for solid waste must be in place	Solid waste recycling needs to be encouraged in Islamic world
	Clearing of vegetation and use of fertile land for housing schemes		Housing schemes are established on fertile lands by clearing vegetation	Lack of laws and policies that discourage establishment of housing schemes on fertile land	Laws and policies prohibiting housing schemes on fertile land	Laws and policies that control establishment of housing schemes on fertile land must be enforced
		Increased use of cooling appliances	Cooling appliances in domestic and commercial sector is increasing	Uncontrolled use of cooling appliances in domestic and commercial sectors	Enforcement of laws that discourage increased use of cooling appliances	Increased tendency of cooling appliances needs to be controlled

Economic Sector

Economic Sector						
Industry	Annual growth in industry shows an increase by 1.44% per annum during 2006-07		Industrial growth was 39.52% of GDP in OIC states in 2007, however high income countries and OPEC states shows higher rate industrial growth	Given the past trend industrial growth show increasing tendency	Increasing tendency in industrial contribution to GDP will continue	The over all industrial contribution to GDP continue to increase especially in OPEC countries
	Contribution of GDP to industry has decreased from 40.35% in 2006 to 39.52% in 2007		Industry constitutes 39.52% of the total GDP of OIC countries	There is a uniform growth in the industrial contribution to over all GDP during the past three years	OIC States show uniform industrial growth which may show increase in future	Over all industrial growth may stay uniform but OPEC and other high income States may show increased industrial growth
		Increased production and use of GHG emitting chemicals	GHG emission is higher from various industrial units	Weak enforcement of laws and implementation of policies to control production and use of GHG emitting substances	Laws/policies regulating production of GHG emitting substances needs to be made	Laws and policies regulating GHG emitting substances are weak and requires further efforts
		Increased production and use of fossil fuel in industry and transport	Most of the fossil fuel producing countries (OPEC) are OIC member states	Fossil fuel production and use is always increasing in the OIC countries	The tendency of fossil fuel production in OPEC countries may show increasing tendency in future	Fossil fuel production is the main industrial activity in OPEC countries, which will increase in future also
Transportation	Increased air, sea and road transport		Trade in OIC countries has increased from US \$ 14,83,258 m in 2006 to US \$16,89,149 m in 2007. trade requires increased air, sea & road transportation in OIC countries shows increasing tendency	Increased volume of trade, in OIC countries has increased transportation by sea, air and road	As trade show increasing tendency transportation will increase in OIC countries in future	Trade related transportation and other means of transportation in OIC countries are increasing and therefore, GHG emission will also increase
	Increased emission of GHG from vehicles		Increase in number of vehicles on road in OIC countries	Vehicular transportation is increasing in OIC countries	Tendency of vehicular transportation will further increase in OIC countries, which may require policies and strategies to regulate	Road transport and emission of GHG from vehicular transport is increasing and there is a need to make policies and strategies for mass transit systems in OIC countries
	Increased domestic and commercial burning of fossil fuel & GHG emission		Fossil fuel in used in domestic and commercial energy production for various end uses	Most of OIC countries use fossil fuel for energy production and therefore emission of GHG is also increasing	Efforts shall be made to increase the production of renewable energy in OIC countries	Fossil fuel is the major source of energy in most of OIC countries and renewable sources of energy are not popularly adopted

Environmental Sector

Forestry	OIC countries mostly possess low forest cover		Possessing 60% of land area as arid, forest cover in OIC countries is very low	Forest cover in most of OIC countries is low and due to aridity it is very difficult to increase	Increase in forest cover will require a lot of resources and technology	OIC countries are facing drought and desertification problems and thus forest cover is low, which can be increased using resources and technology
		Forest degradation and loss of carbon sink	Forest cover loss show increasing tendency in most of OIC countries	Lack of forest laws, policies & strategies and weak implementation mechanism	Effective and innovative forest policies, laws and strategies and elaborate implementation mechanism needs to be devised	Forest cover loss is common in OIC countries and development of innovative forest policies, Law and Strategies and implementation mechanism needs to be developed
Agriculture and Livestock	Agriculture is more in low income and less in high income OIC countries		Annual growth in Agriculture showed increased tendency from 5.14% in 2006 to 6.61% in 2007.	Agricultural contribution to the GDP and growth showed increase from 11% in 2006 to 11.52% in 2007 in OIC countries	Given the past annual increase in agricultural growth, it is predicted to increase in future also.	The low income countries are more agrarian than the high income countries of OIC and the annual growth is increasing at the rate of 1-2% per annum.
	Agriculture is not a major economic activity in most of OIC countries		Agriculture contributes 11.52% to the overall GDP of OIC countries	Though the contribution of agriculture to GDP show uniform tendency	Increased demand for food worldwide may increase agriculture growth in future	Though currently exhibiting uniform growth, agriculture may increase in future in OIC countries due to food security issues
	GHG emission from Agricultural and livestock waste		Recycling of agricultural and livestock waste is not mostly done in OIC countries	Low tendency of recycling of agricultural and livestock waste in OIC countries	Increased cost of chemical fertilizer and increased demand for organic products may increase decomposition of agri/livestock waste	Recycling of agricultural and livestock waste is not commonly done in OIC countries, which require special attention to be adopted in future
	Use of GHG emitting chemical fertilizers and pesticides		As agriculture is not the major economic activity in OIC countries, there is a limited use of GHG emitting chemical fertilizers and pesticides	Agricultural growth being uniform in most of OIC countries, use of GHG emitting chemical fertilizers and pesticides is limited	As the OIC countries are increasing agricultural production, use of GHG emitting chemical fertilizers and pesticides may increase	Though currently, agriculture growth is uniform, it may increase in future due to food security, use of GHG emitting chemical fertilizers and pesticides may also increase
	Use of GHG emitting cold storages		As agriculture growth is limited, cold storages are build for storage fruit and vegetable imported from outside OIC countries	Tendency of building cold storage is increasing in OIC countries	With increase in agriculture growth, more cold storages will be built to increase the storage capacity	Though currently, cold storages are in large proportion, their number may increase in future due to increase in agriculture growth

	Over grazing of rangelands in OIC countries		As livestock is the major source of subsistence economy in OIC countries, Rangelands are over grazed	Over grazing is a common phenomenon in OIC countries, which is leading to ecosystem degradation	Tendency of over grazing is increasing in OIC countries due to increased poverty and food insecurity	Livestock is a major source of livelihood and most of OIC countries, which due to unsustainable management is leading to range degradation
Desertification	OIC countries are faced with increased tendency of desertification		Almost 60% of the total land area in OIC countries is arid and semi arid, which is vulnerable to desertification	Research and development efforts are underway to check the increasing tendency of desertification in OIC countries	Increased funding and technology would be required to address the problem of desertification in low income OIC member states	Desertification is common due to aridity in OIC countries. To control this tendency, increased efforts would be required in terms of resources and technology
		Increase in occurrence of drought in most of the OIC member states	Due to uncertainty in the rainfall pattern, prolonged droughts are witnessed in most of OIC states	Efforts are made to adapt to the increasing tendency of drought, however the intensity of drought is increasing	The main cause of drought is global warming, which has to be addressed by implementing mitigation and adaptation strategies	The underlying cause of drought is global warming that needs to be addressed on priority basis
Water resources	OIC countries are faced with decrease in per capita water availability		Rainfall ranges from less than 500 mm/year in arid countries to 1000 mm/year in semi arid and up to 3000 mm/year in humid countries, therefore per capita water availability in OIC countries shows decreasing tendency	Drought resistant crop and forage varieties are being developed in agricultural sector, water management through increased storage, rain water harvesting and water pricing is being adopted to increase water use efficiency	Shortage of per capita water availability will continue to exist in the future also, therefore special innovative techniques has to be adopted to reduce its impact on domestic, agricultural and industrial sector	Per capita water availability is decreasing in most of OIC countries due to reduced precipitation. To reduce its impact on the domestic and commercial sectors, an intelligent water management system has to be developed.
		Water resources in most of OIC countries are facing increased water pollution	The water resources are polluted by dumping untreated solid and sewage waste into water bodies	Water bodies are generally considered as dumping grounds for all sorts of urban waste	Efforts are needed to protect water resources from increased pollution	Water resources have to be protected from pollution through various institutional instruments
Solid Waste Management	Increased emission of GHG from land fills of solid waste		Lack of recycling of solid waste	Recycling industries being established in some of the OIC member states	Market based mechanism for recycling industries and encouragement of private sector investment is required	Encouragement of private sector investment in recycling industry for solid waste recycling would require institutional arrangement for solid waste recycling would require institutional arrangement