

# Climate Change: Exploring adaptation Strategies for Pak

By: Huma Batool

**G**lobal climate is changing and it will keep changing. The climate change that the world is experiencing today is different from past. This climate change is at much greater pace than ever and the reasons are human activities that pose undue pressures of carbon dioxide and other green house gases (GHG) in the atmosphere. Consequently earth's average temperature is rising day by day, but the regional impacts of climate change are even worse than the rising temperatures.

LEAD Pakistan organized five day training for the mid career professionals on the theme of Climate Change: Exploring Adaptation Strategies for Pakistan in January 2009, in Islamabad. The overall objective of the training was considering strategies for adapting to climate change, in particular to water, agriculture, and infrastructure sectors in Pakistan. The very first day of the training focused on setting the scene for the corresponding four days that talked on five core issues of water security, food security, infrastructure, public policy, disaster management and preparedness.

Pakistan is an agricultural country and almost entirely dependant on agro products for her economy. Most of the industries here also rely on the agricultural products. Thus the economy of the country is extremely vulnerable to the common impacts of climate change like, floods, shortage of water supply, drought, rise or fall in local temperatures etc. The impacts of climate change are expected to be at different scales at different geographical sites. The hazard would be more severe at some locations as compared with the oth-

ers and Pakistan is at risk due to lack of provisions of infrastructure and disaster management preparedness that is required. These areas become more prone to disasters by extreme weather conditions if they are also undergoing rapid urbanization that pose extra burden on the environment of an area. It's well understood that climate change has the potential to alter the scope of disaster risk through intensifying the weather related risk of floods, heat or cold waves, shortage of rainfall in some areas. All these natural disasters are expected to increase abruptly due to climate change and Pakistan's agriculture is extremely vulnerable to shortage of irrigation water availability thus the problem of food security may arise. The impact would be different on different crops; moreover the major crops in the country such as, wheat, rice, sugarcane, cotton, etc are especially at risk due to climate change. The general weather trends because of climate change indicate a possible decline in wheat production in our country; moreover 9-13% decline in wheat production is expected in semi-arid regions of the country by an increase of 1-4 °C in average temperature in these areas.

According to the findings of the Pakistan Metrological Department (PMD) climate change has revealed many noticeable impacts in the country. The temperature rise of 0.6-1% is already noted in arid and coastal regions. A decrease of 10-15% in winter and summer rainfall in coastal belt and hyper arid plains is noted. There is also an increase of 18-32% in rainfall in monsoon zone in sub humid and humid areas. Moreover, there is 5% decrease in relative humidity in Balochistan. The sunshine hours have increased by 3-5% thus decrease in cloud

cover is experienced, the temperature increase have resulted in increased evotranspiration. While the altered rain pattern has resulted in heavy rains, flash floods in some areas. While there are dust storms in some areas and hail storms in other areas. A rise in the fog persistence is also noticed in some areas of the country. The health condition in the country would also be greatly affected by changing climate as viral and pollen borne diseases are expected to be more prevalent. It is important to reduce the amount of GHG green house gases in the atmosphere but at the same time mitigation strategies also suggest the need of adaptation because it's almost impossible to prevent the problems raised by climate change.

Although climate change impacts are mostly harmful but in some areas some beneficial impacts of climate change are also expected. According to studies of FAO, 2004 the changed precipitation patterns in high altitudes may result in increased agricultural products, but this depends upon the seasonality and type of the crops. In these areas the temperature rise is expected to be beneficial because the crops can be grown early and thus faster maturation and early harvesting of the yield would be possible. But it is important to consider how practical these findings are? The overall increase in temperature is expected to cause a decline in the agricultural products thus in a developing country like Pakistan where population growth rate is high, food security would be endangered due to increased demands by the growing population. The food crisis would be worsened by increased demands of energy and if more crops are grown for biofuel then the uncontrolled population growth would defiantly suffer from shortage of food sup-

ply. Consequently the 32% population of country living below the poverty line would be badly affected and in this scenario if impacts of climate change like floods are also considered the seriousness of the matter can be estimated as the floods can destroy many months hard work in a day.

The only way out is to fight the increasing temperatures by reducing the GHG, however the importance of disaster preparedness and risk management can not be denied. It is impossible to tackle the situation without improving the adaptation capacity. The first task is to recognize how to adapt and the cost effectiveness must also be considered. Can we afford to adapt against the hazard?? The common and easy adaptation strategies are preparation of risk assessment, developing early warning systems against floods and other disasters, management of water resources. There are some other adaptation methods which may seem complex as compared to the country's resources yet must be implemented to adapt against disasters of climate change, these include better building designs, improving the agricultural techniques, enhancing public awareness by trainings and education, conserving the biodiversity and ecosystems, building planned settlements in safe areas and development of social safety groups. All these safety measures are closely linked with sustainable development as it reduces the risk of hazards by increasing the resilience of the societies and improves the livelihood. The best approach to address the issue is to mitigate while adapt at the same time. It is not impossible to reduce the disaster risk if it is considered as a social, local and national priority. - Writer is a lecturer in SBK Women's university Quetta and an associate of LEAD Pakistan.