

## Climate Change and Health – Bridging the Gap

### First National Training Session for Climate Change – Health Cohort

Training Report  
June 12 -15, 2010  
Islamabad



**LEAD Pakistan**  
**Climate Change and Health - Bridging the Gap**  
**First National Training Session (Cohort 15)**  
LEAD House, F - 7 Markaz, Islamabad  
June 12 - 15, 2010



Front Row (L-R): Ms. Rafia Rauf, Ms Isma Sana, Mr. Ali Tauqeer Sheikh, Ms. Kashmala Kakakhel, Dr. Seema N. Mumtaz, Mr. James Phillips,  
Second Row (L-R): Dr. Farah Rashid, Dr. Razia Shah Nawaz, Dr. Samina Mohsin Khan, Dr. Saira Afzal, Dr. Amir Mohammad, Dr. Komel Zulfiqar,  
Dr. M. Suleman Otho, Dr. Muhammed Irfanullah Siddiqui,  
Third Row (L-R): Mr. Hafizullah, Dr. Syed Muhammad Mubeen, Dr. Maqsood-ul-Hassan, Mr. Momin Agha, Dr. Mukhtar Zehri,  
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## Background

It is a widely known and quite well understood fact that human health depends, essentially, on the conditions of social and natural environment. For it is the adequacy and flow of materials and services from the natural world that determines, the limits and characteristics, of the well being and health of a population.

Over the ages human societies have degraded or changed local ecosystems. Today, this burgeoning human impact on the environment has attained a global scale. Populations from around the world are now encountering unfamiliar human-induced changes in atmosphere, ozone depletion, land degradation, freshwater reduction and biodiversity loss.

While climate change affects multiple sectors, the effects on health are the only ones that pose a serious threat to long term sustainable development. In spite of this there has been little recognition among the practitioners of the various scientific disciplines, of the relationships between environmental changes and human health.

Today, the challenge is not to understand how human health is linked with the planet's ecological, biological and geological systems; but rather to explore the manner in which large-scale changes in the same are influencing, even determining the health outcomes for whole communities and populations over a longer time frame.

Understanding the effects of climate change on human health is the first step towards taking effective action for keeping these to a minimum. The capacity to respond to the negative health effects of climate change relies on the generation of reliable, relevant, and up-to-date information pertaining to specific regions, countries, and localities, which is not yet available for developing countries. Of the 16 National Health Impact Assessments of Climate Change done between 2001 and 2007 only five were in countries of the developing world — India, Bolivia, Panama, Bhutan, and Tajikistan.

In Pakistan, as in other developing countries, apart from a dedicated few, health professionals have not come to the climate change debate. LEAD Pakistan aims at bringing a change in the status quo by strengthening capacities for research on negative health effects of climate change. Implemented through the financial assistance provided by Asia Pacific Network for Global Change Research (APN), LEAD's present endeavor is based on the premises that, the educational and scientific base of Pakistan will have a direct bearing in increasing or constraining its capacity to adapt.

To achieve the same, LEAD Pakistan has enlisted public health professionals from among the health related scientific community from around the country. The organization is now conducting training workshops directed at building in them the ability to assess and interpret climate data, information and projections. With their knowledge about the effect of weather on the incidence and prevalence of diseases serving as baseline, this exercise would enhance their understanding of the risks and vulnerabilities posed by climate change to human health.

As an evidence of the same, these professionals will be required to work together and produce a series of research papers directed at determining the attributable burden of climate change to climate sensitive diseases vis-à-vis Pakistan. These papers will in turn be published in related international and national journals. In addition to this, findings from these papers will be made available to the concerned decision makers within the Ministry of Health, Government of Pakistan with a view that these form the essential basis for its future planning.

## Introduction

The National Training Session arranged by LEAD Pakistan was the first step in the capacity building program planned for the selected group of health professionals. The session was designed with the aim of, improving the ability of those from Pakistan's health related community to interpret the information available about climate change; acquainting them with the complexity of the climate change-health relationship; and equipping them with the skills required to address the methodological challenges involved in analyzing the same.

The First National Training Session (1<sup>st</sup> NTS) was organized in Islamabad, Pakistan from June 12 – 15, 2010. A group of 13 Public Health Professionals attended the workshop. In this context, all possible efforts had been made to ensure that the selected group was gender balanced and comprised of mid to senior level professionals from across the country, who shared a similar portfolio in terms of academic background, professional experience and research skills. (List of participants is attached as Annex A).

The 4-day workshop was designed on LEAD Pakistan's training methodology of experiential learning and included interactive talks, presentations, group work, panel discussions, screening of documentaries and a field visit to Pakistan Meteorological Department (PMD) to acquaint the members with manner in which climate related data is recorded and interpreted.

The resource persons invited were climatologists, environmental health experts, policy makers and academics from different governmental and non governmental institutions of the country. The resource persons helped the participants understand the themes under discussion with clarity and experience. (List of resource persons is attached as Annex B).

The workshop focused on exploring and analyzing the climate change – health relationship and comprised of the following thematic area;

- Climate Change – Its Drivers and Dynamics
- Direct and Indirect Health Effects of Climate Change
- Climate Injustice – Mapping Health Related Vulnerabilities
- Responding to Climate Change
- Climate change and Health – The Research Focus
- Climate Change – The Pakistan Scenario
- Climate Leaders – Road Map for the Future

The workshop enabled the participants to:

- Define the term Climate Change, and describe its challenges and threats at global, regional and national levels;
- Draw linkages between weather trends and their potential direct and indirect impacts on human health;
- Highlight health related vulnerabilities arising due to CC at global, regional and national level;
- Assess policy and health infrastructure in terms of its ability to address the challenges posed by CC;
- Interact with network of professionals, institutions and associations that will be useful for gathering climate change data and its interpretation; and
- Suggest appropriate adaptation measures against the CC impacts on human health.

## Workshop Agenda

**Friday, June 11, 2010: Arrival of participants and resource persons from different cities to Islamabad**

**Day 1: Saturday, June 12, 2010**

<b>0930 – 1000 hrs</b>	<b>Registration</b>
1000 – 1100 hrs	<ul style="list-style-type: none"> <li>Welcome and sharing the agenda – Mr. Ali Tauqeer Sheikh , CEO, LEAD Pakistan – Host</li> <li>Key note speech – Dr. Amir Muhammad, Rector, FAST University – Key Note Speaker</li> <li>Welcome address – Mr. Momin Agha, Deputy Secretary, Climate Change, Ministry for Environment – Guest Speaker</li> <li>Brief introduction of participants – Mr. Adnan Sattar, Core Faculty, LEAD Pakistan</li> </ul>
<b>1100 – 1130 hrs</b>	<b>Tea Break and Group Photograph</b>
1130 – 1300 hrs	<ul style="list-style-type: none"> <li>Expectations Check through Personal Shield Exercise – Mr. Adnan Sattar, Core Faculty, LEAD Pakistan</li> <li>Setting the Context through Interactive Talk with Participants – Mr. Ali Tauqeer Sheikh, CEO LEAD Pakistan</li> </ul>
<b>1300 – 1400 hrs.</b>	<b>Lunch Break</b>
1400 – 1430 hrs	Screening of LEAD's Documentary on Climate Change 'Voices from Pakistan' followed by Sharing of Reflections – Ms. Dina Khan, LEAD Fellow and Mr. Adnan Sattar, Core Faculty, LEAD Pakistan
1430 – 1530 hrs	'Climate Change – Its Drivers and Dynamics' - Dr. Qamar Zaman Choudhary, Director General, Pakistan Metrological Department, Islamabad
<b>1530 – 1600 hrs</b>	<b>Tea Break</b>
1600 – 1700 hrs	Conclusion of Day 1 and Faculty and Associates' Evaluation – Mr. Adnan Sattar

### **Welcome & Networking Dinner, Islamabad**

A Welcome & Networking dinner was hosted by LEAD on the same evening from 1930 – 2300 hrs. The dinner was attended by around 40 invitees from the media, private sector, government and NGOs. This event provided participants an opportunity to interact with each other, some experts on environment & health, representatives from Donor agencies, NGOs and the Fellows of LEAD Pakistan.

**Day 2: Sunday, June 13, 2010**

0900 – 0930 hrs	Formation of Research Groups – Dr. Suleman Qazi, Core Faculty, LEAD Pakistan
0930 – 1100 hrs	'Climate Change Challenges – Direct Effects of Climate Change on Health' – Mr. Shahid Lutfi, Head Consultant, WMC (Pvt) Ltd.
<b>1100 – 1130 hrs</b>	<b>Tea Break</b>
1130 – 1300 hrs	'Climate Change Challenges – Indirect Effects of Climate Change on Health' – Dr. Zafar Fatmi, Head, Division of Environmental Health Sciences, Aga Khan University
<b>1300 - 1400 hrs</b>	<b>Lunch Break</b>
1400 – 1530 hrs	Climate Injustice – Mapping Health Related Vulnerabilities – Dr. Suleman Qazi, Core Faculty, LEAD Pakistan
<b>1530 – 1600 hrs</b>	<b>Tea Break</b>
1600 – 1700 hrs	Conclusion of Day 2 and Faculty and Associates' Evaluation – Dr. Suleman Qazi, Core Faculty, LEAD Pakistan
1700 – 1730 hrs	Orientation about Field Visit on Day 3 – Dr. Suleman Qazi, Core Faculty, LEAD Pakistan
1730 – 1800 hrs	Brainstorming of Research Groups - Dr. Suleman Qazi, Core Faculty, LEAD Pakistan

**Day 3: Monday, June 14, 2010**

0830 – 0900 hrs	Arrival at LEAD House
0900 – 1300 hrs	Exposure Visit to Pakistan Meteorological Department (PMD) – Dr. Suleman Qazi, Core Faculty, LEAD Pakistan & Dr. Hanif, Director, PMD
1300 – 1330 hrs	Arrival at LEAD House
<b>1330 – 1430 hrs</b>	<b>Lunch Break</b>
1430 – 1600 hrs	'Responding to Climate Change' – Mr. Usman Qazi, Sustainable Community Development Expert
<b>1600 -1630 hrs</b>	<b>Tea Break</b>
1630 – 1730 hrs	Conclusion of Day 3 and Faculty and Associates' Evaluation – Dr. Suleman Qazi, Core Faculty, LEAD Pakistan
1730 – 1800 hrs	Brainstorming of Research Groups - Dr. Suleman Qazi, Core Faculty, LEAD Pakistan



**Day 4: Tuesday, June 15, 2010**

0900 - 1015 hrs	<p>Presentations by Research Groups Panel Members:</p> <ul style="list-style-type: none"> <li>• Dr. Suleman Qazi (Core Faculty)</li> <li>• Mr. Ali Tauqeer Sheikh (CEO, LEAD Pakistan)</li> <li>• Dr. Hanif, Director PMD (Director, PMD)</li> <li>• Ms. Frida Khan (Fellow, LEAD Pakistan)</li> <li>• Ms. Rafia Rauf (Coordinator, LEAD Pakistan)</li> </ul>
1015 - 1130 hrs	'Climate Change and Health – The Research Focus' – Dr. Ejaz Ahmad Khan, Associate Professor, Health Services Academy
<b>1130 – 1200 hrs</b>	<b>Tea Break</b>
1200 – 1300 hrs	'Climate Leaders – Roadmap for the future' – Mr. Ali Tauqeer Sheikh, CEO, LEAD Pakistan
<b>1300 – 1400 hrs</b>	<b>Lunch Break</b>
1400 – 1500 hrs	<p>'Climate Change – The Pakistan Scenario' – Round Table Discussion Panel Members:</p> <ul style="list-style-type: none"> <li>• Dr. Ayesha Khan, Monitoring and Evaluation Specialist, Health Services Academy, Islamabad</li> <li>• Mr. Kashif Jan, Senior Environmental Health Officer, WHO</li> <li>• Dr. Mujtaba Kamal, Deputy Director General, Ministry of Health, Islamabad</li> <li>• Dr. Aurangzeb, Project Director Environmental Unit, Planning Commission, Islamabad</li> <li>• Mr. Momin Agha, Deputy Secretary, MoE</li> <li>• Mr. Usman Qazi – Moderator</li> </ul>
1500 – 1600 hrs	<p>Farewell and Certificate Distribution Ceremony</p> <ul style="list-style-type: none"> <li>• Closing Note – Mr. Ali Tauqeer Sheikh, CEO LEAD Pakistan</li> <li>• Closing Address &amp; Certificate Distribution – Honorable Minister for Environment, Mr. Hameed Ullah Jan Afridi, Chief Guest</li> </ul>
<b>1600 - 1630 hrs</b>	<b>Tea and Refreshments</b>
1630 – 1730 hrs	Faculty and Associates' Evaluation – Dr. Suleman Qazi, Core Faculty, LEAD Pakistan

**Wednesday, June 16, 2010: Departure of participants and resource persons**



## Profiles of Resource Persons

### **Chaudhry, Dr. Qamar Zaman**

Dr. Qamar-u-Zaman has extensive work experience of thirty nine years in the field of Meteorology and related sciences. In the course of his present assignments he is serving Pakistan Meteorological Department as Director General. He is Permanent Representative of Pakistan with WMO. He is working with WMO Regional Association-II as Vice President, and UNESCAP/WMO Panel on Tropical Cyclones, as Secretary.

His areas of expertise focuses on Forecasting & Warning of Natural Disasters which include forecasting & tracking of tropical storms, flood forecasting, forecasting of flash floods, forecasting of strong monsoon systems, Global Warming; Climate Change and its impact on Environment, Agriculture and Forests. He has the honor of winning a number of awards such as the SAARC Best Young Scientist Research Award for 1993, President's Pride of Performance Award-1999 by Government of Pakistan, International Award of recognition by American Biographical Institute that included his name in the "Five Thousand Personalities of the World" for his outstanding contributions to science. He has membership of a number of National and International committees including Planning Commission, Task Force on Climate Change, Ministry of Environment's Technical Advisory Panel on Climate Change, Governing Board National Institute of Oceanography, National Science Council (NSC), World Meteorological Organization Asia Region, Regional Association for Asia (RA-II) and many more. Some of his publications include, "Long Range Forecasting of Monsoon Rainfall in Pakistan", "Severe Dust Storm at Karachi, 31st May 1986" , "Analysis and Seasonal Prediction of Pakistan Summer Monsoon Rainfall", "Effects of Climate on Health", "Monthly Fog Frequency in Pakistan" ,"Possible Climatic Consequences of a Major Nuclear War", "Impact of Climate Change on Agriculture and Forests in Pakistan", "Disaster Management in Rural Areas", "Climate Change Impact Assessment and Adaptation Strategies in Pakistan".

### **Khan, Dr. Aurangzeb**

Dr. Aurangzeb specializes in Forest Hydrology and Geology. He has vast experience of working for appraisal of public sector development projects and he is associated with Planning Commission, Institutionalization of Environment and Development Departments to ensure the environmental impact of projects at the federal and provincial level. Being an Environmental Assessment Specialist he has rigorous work for the integration of environmental impact of programs and projects. He has worked with IUCN on a number of Pakistan Environment Programs, as Natural Resource Specialist, Consultant, Coordinated Natural Resource Management. He has been involved in Watershed Management Project and delivered a number of lectures and presented revealing papers on forestry, natural resource management and environment related topics.

### **Khan, Dr. Ayesha**

Dr. Ayesha is associated with Health Systems Strengthening and Policy Unit, Health Services Academy, Ministry of Health. She holds a Masters degree in Public Health from Indiana University School of Public Health, Indianapolis, USA and MBBS from The Aga Khan University, Karachi, Pakistan. She has Clinical Fellowship in Infectious Diseases from Indiana University Hospitals and School of Medicine, Indianapolis, USA.

She has vast experience of working in the field of Public Health both nationally as well as internationally. Presently she is working with the Ministry of health as Monitoring and Evaluation Specialist. She has worked as HIV/AIDS Specialist in the National AIDS Control Program conducted by Ministry of Health, as a Medical and Infectious Diseases Consultant at

Pakistan Institute of Medical Sciences Hospital, as well as in The Indiana University Teaching Hospitals (USA). Dr. Ayesha has also served as a Health Specialist in The Orangi Pilot Project (OPP). Her major areas of expertise include Health systems and HIV specific Leadership and Management, Research, Grant Funding and Evidence Use programs. She is affiliated with many programs as Member and Advisor including Core Committee, Infectious Disease Society of Pakistan (IDSP), HIV Antiretroviral Therapy Guidelines (WHO, HQ Geneva), Task Force, Injection Safety (Ministry of Health), Secretariat and The Eastern Mediterranean Network on STI/HIV Control (EMNOSTICS). Her recent published abstracts include Effectiveness of HIV Prevention Interventions for Female Sex Workers, Effectiveness of HIV Prevention Interventions for Male Sex Workers and Comparison of Self-Reported Adherence to ART vs. Measured Adherence. She has been involved in lectures, policy, protocols and curricula development on different themes of Public Health.

### **Muhammad, Dr. Amir**

Dr. Amir Muhammad is the Rector of the National University of Computer and Emerging Sciences (FAST-NU) Islamabad, and President of Asianics International-a private sector consulting firm. He has also been a consultant to several organizations including World Bank, FAO, UNDP, IFAD and World Commission on Dams (WCD). He retired in 1990 as the Chairman of Pakistan Agricultural Research Council (PARC) and Secretary to Government of Pakistan. He established PARC and developed it into a prestigious research organization in the agriculture sector. He was instrumental in organizing training of about 500 carefully selected scientists in reputed academic and research institutions in different countries with emphasis on the relevance of this training to Pakistani situation. He was Advisor to President (Minister for Food and Agriculture) during 1977-78 and vice-chancellor of the University of Agriculture, Faisalabad from 1974 to 1977. He established the Nuclear Institute for Agriculture and Biology (NIAB) in Faisalabad in 1970 and was its first director.

### **Khan, Dr. Ejaz Ahmed**

Dr. Ejaz is serving Health Services Academy, Ministry of Health as Assistant Professor and his areas of specialization are Environmental Health, Occupational Health and Disaster Management. He holds a Masters degree in Primary Health Care Management MPH/M, from ASEAN Institute for Health Development, Mahidol University, Thailand and M.B.B.S. Ayub Medical College Abbottabad, Peshawar University, Pakistan. He is a candidate of PhD Department of Epidemiology and Population Health London School of Hygiene and Tropical Medicine. He has the honor of winning German Technical Cooperation's Overseas PhD (Individual) Scholarship for LSHTM.

In the course of his professional experience he remained associated with a number of projects including Hospital Waste Management Project, Coordinated Disaster Management Coordination Cell, Ministry of Health, collected and analyzed disaster data and to coordinate with the Cluster Approach with national and international agencies. He worked as a focal person for Climate Change and Health on behalf of Ministry of Health, Government of Pakistan and for Health Care Waste Management in Pakistan on behalf of the Ministry. He facilitated and coordinated a number of trainings and research activities in the fields of Disaster Management, Health Care Financing particularly in the developing world, Environmental & Epidemiological researched patient safety and patient's rights in view of improving quality of care and decreasing burden of infectious disease posed by health care delivery system.

### **Lutfi, Mr. Shahid Ali**

Shahid Ali Lutfi is a qualified engineer with a vast vision of environmental engineering and an ample experience in the field of environment. Presently he is running his own consultancy firm by the name of WMC (Pvt) Ltd. Previously he was working as Deputy Director in Environmental Protecting Agency of Sindh, the agency solely responsible for the protection of environment and abatement of pollution in the province of Sindh.

Besides the industrial pollution issues of province of Sindh, Shahid possesses extensive knowledge of urban pollution issues. He is an active participant of major pollution control programs. He has carried out monitoring and inspection of various industries, warehouse, recreational places and agricultural fields for investigation for the sources of pollution and their impact on environment.

### **Qazi, Mr. Usman**

Mr. Usman is a Quetta based community development, human rights and humanitarian relief worker. He holds a degree of engineering from NED University of Engineering and Technology, Karachi, Pakistan and course of Economics and Management of Rural Development from Institute for Development Policy and Management, University of Manchester, UK. He has about seventeen years' experience of working in the field of sustainable community development, capacity building and humanitarian response with a special focus on Water Resource Management. He has worked on a number of projects with the World Bank, Netherlands Government, Department for International Development (UK), Asian Development Bank and the United Nations. Mr. Qazi is Fellow of Leadership for Environment and Development (LEAD) , a global forum of future leaders committed to a vision of a more sustainable and equitable world. He is a member of Registered Engineers for Disaster Relief, an International coalition of professionals working in humanitarian relief.

### **Fatmi, Dr. Zafar**

Dr. Zafar is associated with Community Health Sciences Department, Aga Khan University, as Assistant Professor. He Heads Division of Environmental Health Sciences & working as Director, Community Medicine Residency Program at university. He holds an MBBS from Dow Medical College, Karachi-Pakistan and is a Fellow of College of Physician & Surgeons (FCPS), Pakistan in Community Medicine. Besides his teaching responsibilities he has worked as Community Medicine Resident, Research Fellow and Regional Advisor for dealing with injecting drug user problems in Pakistan. His major areas of interest include Health Policy and Management (HPM), Epidemiology & Biostatistics, Community Medicine, Health Policy and Management, Environmental & Occupational Health where he has provided support in peer review publications, consultancy work, technical reports and conference citations. He has reviewed a number of national and international journals including Bulletin of World Health Organization, Journal of Occupation and Environmental Medicine, American Journal of Tropical Medicine & Hygiene, International Journal for Quality in Health Care, Indian Journal of Community Medicine, Journal of Chinese & Clinical Medicine and Journal of College of Physicians & Surgeons, Pakistan.

He has the honor of being listed as "Productive Scientist of Pakistan" by the Ministry of Science & Technology, Government of Pakistan.

### **Khan, Ms. Frida**

Ms. Frida has over twelve years experience working with the Government of Pakistan, both in field and secretariat assignments. She holds Masters Degree in Development

Administration and Planning from University College London, England and a Masters degree in English Literature from the University of Punjab, Pakistan. She has recently joined private sector as Senior Research Analyst at LEAD Pakistan. Her last government assignment was as Director (Planning) at the National Vocational and Technical Education Commission, where she was involved in developing the National Skills Strategy in consultation with Pakistani stakeholders and international experts, and developing and managing several projects to reform technical and vocational education in Pakistan. Her areas of interest are particularly gender and development where she has conducted research into the gender dimensions of TVET in Pakistan. She is currently managing a research project on entrepreneurship education for women.

#### **Khan, Ms. Dina**

Ms. Dina is working with Competitiveness Support Fund, coordinating researches. She holds a Masters degree in Human Resource Management from University of Durham, U.K. Previously she was associated with LEAD Pakistan where she was into program development and proposal writing. She was designated focal person for LP's Climate Change Program. She is a LEAD Fellow from Cohort 12. She has worked with De Laas Gul Welfare Program (DLG) engaged in program management and organizational strengthening. Experience at DLG polished her skills in design and management of projects in areas of non-formal education, vocational development and child labor elimination. Her revealing work in multiple fields enables her to network with a diverse community of specialists and decision makers that are engaged on a sustainable development agenda and working at the cutting edge on issues like alternative energy, water conservation and de-carbonizing economies.

#### **Jan, Mr. Kashif**

Mr. Jan is serving as the Provincial EH Coordinator with World Health Organization (WHO). He has been involved in establishing a water quality monitoring system in AJK for affective water quality surveillance and controlling water born diseases, along with the establishment of water quality testing labs to strengthen the capacity of service providers in urban & rural areas of AJK in safe drinking water. Mr. Jan is responsible for the assessment of public health water supply system in urban & rural areas to identify gaps and improvement of drinking water quality. He has also been associated with UNICEF & PCRWR (Pakistan Council of Research in Water Resource).

With a Masters degree in Environmental Sciences from University of Peshawar in 2005, Mr. Jan had attended numerous trainings and workshops over the course of his career.

#### **Aga, Mr. Momin**

As Deputy Secretary, Ministry of Environment, Mr. Agha's responsibilities include issues of climate change and Carbon Finance. He is also a member of the Integrated Energy Planning Group at the Planning Commission, National Coordinator Global Sanitation Fund (Geneva). Prior to this, he was Director Municipal Administration with Capital Development Authority, Islamabad for five years.

Mr. Agha has served as Program Manager for National Rural Support Program for Monitoring, Evaluation and Reporting based in Islamabad. He has also been a consultant with the Pakistan Centre for Philanthropy for developing the first ever private sector philanthropy program under Corporate Social Responsibility of corporations, as well as consultant with the UNDP for the Supporting Democratic and Electoral Process in Pakistan (SDEPP) to develop a framework on electoral process trainings for public officials. In 2000,



Mr. Agha serves as Additional Deputy Commissioner, Gujranwala District and Assistant Commissioner at various districts of Punjab Province from 1997 to 2000.

Mr. Agha has a degree in M.A. University of Warwick, UK (2003), Bachelors in Business Administration (BBA), University of Texas Austin, USA (1992), Bachelors in Commerce, University of Karachi (1989) and

Specialized and Common Training for Civil Services (1995-1997). Mr. Agha also attended a course in Mid Career Management Course (MCMC) National School of Public Policy, Lahore (2009). He has attend various short trainings and conferences in Korea, Thailand, UAE, Singapore, Hong Kong, UK, Denmark, Germany, Japan, USA, Malaysia, Turkey.

## Profiles of Training Team

### **Sheikh, Mr. Ali Tauqeer**

Mr. Sheikh is the founding CEO of Leadership for Environment and Development (LEAD) Pakistan since its inception in 1996. He specializes in institutional development, institutional reforms and in change management. He has vast experience in leadership development for sustainable development, training and facilitating multi-disciplinary expert groups on policy planning, and conflict management.

Mr. Sheikh has written extensively on issues of environment management in several professional journals, and has contributed to leading newspapers in the US, UK and Pakistan. He has contributed chapters to several books. Mr. Sheikh has delivered lectures at a number of universities and institutions including Oxford University, the Massachusetts Institute of Technology (MIT), the Fletcher School of Law and Diplomacy (Tufts University), the Carnegie Endowment, the Kennan Institute of Advanced Russian Studies and the University of Michigan. He has lectured regularly at Quaid-e-Azam University and the Foreign Service Training Institute, Islamabad. He has been a consultant/advisor to UNDP, UNESCO, UNEP, The Asia Foundation, Rockefeller Foundation, the Asian Development Bank, and the UN Environment and Social Commission for Asia and the Pacific (UNESCAP). He has been regularly interviewed by the national and foreign media on a range of environment and sustainable development issues.

### **Sattar, Mr. Adnan**

Mr. Sattar is a development sector consultant working in the fields of Training and Research. He has done his MA Human Rights from UK and an MA in Mass Communications. Has worked with various organizations such as UNICEF, Save the Children (UK), Education Sector Reforms Assistance Program (ESRA-RTI), CARITAS Pakistan, Technical Assistance & Management Agency (TAMA), Strengthening Participatory Organization (SPO) and LEAD Pakistan. He has contributed a number of articles and book reviews in Dawn and published more than fifty features and articles in the News. He does volunteer work too.

### **Qazi, Dr. Suleman**

Dr. Qazi holds a Masters degree in Health Policy and Management from Aga Khan University Karachi. Mr. Qazi has an extensive experience of working with a number of well renowned organizations in different capacities. He has been involved in the development, planning, implementation, monitoring, evaluation and documentation of National Nutritional Strategy and other nutrition related initiatives at the national level. He has worked with United Nations Population Fund-UNFPA, UNAIDS, Joint United Nations Program on HIV-AIDS (UNAIDS) Baluchistan. He has worked as a researcher for generating comprehensive research reports on organizational needs and projects including micro credit, health and water & sanitation. In the course of his career he has been associated with Center for Health and Population Studies (CHPS), Islamabad, Aga Khan University Karachi Juniper University Quetta, Tibia College Quetta, as lecturer and faculty member.

Some of his most recent publications include 'People on the move', Women, Population and Climate Change'. State of World Population 2009, Pakistan Supplement, UNFPA, Pakistan 2009 'Insani Tamadun ki Purwan' Urdu translation of Cannibals and Kings: Origins of Cultures by Marvin Harris.



**Rauf, Ms. Rafia**

Ms. Rauf is coordinating research at LEAD, especially on issues relating to climate change and social capital development. She is also liaising with key research stakeholders such as the Pakistan Meteorological Department and the Global Change Impact Studies Center to exchange data and research knowledge. Before joining LEAD she worked for 4 years with Pakistan Centre for Philanthropy (PCP) and was involved in the nonprofit organizations certification program.



## Profiles of Participants

### Dr. Adil Faraz



Dr. Adil Faraz is a graduate of Sindh Medical College, Karachi. He is presently serving as Assistant Professor in the Department of Medicine Hamdard College of Medicine & Dentistry Karachi; and as Consultant Physician at Karachi Adventist Hospital.

Dr. Adil lists Respiratory and Critical Care Medicine among his fields of interest. He has also co-authored a research paper.

### Dr. Farah Rashid Siddiqui



Dr. Farah Rashid Siddique completed her Post Graduation in Public Health (MPH) from Nuffield Institute for Health, University of Leeds, England in 2000. She has worked as Public Health Manager for five years in North Kirklees Primary Care Trust, England. One of the project was Peer Health education, which was nominated by the Department of Health for 'Northern and Yorkshire Excellency Award, 2002' and also won 'Outstanding Achievement Award, 2002' in recognition of providing best smoking cessation service in North Kirklees.

Dr. Siddique is currently serving as Assistant Professor in Islamic International Medical College, Riphah University, Islamabad. She has multiple national and international publications and paper presentations. Her main areas of interest include, health education and communication, maternal and child health, research in public health and community oriented medical education.

### Dr. Komel Zulfiqar



Dr. Komel Zulfiqar is a graduate of Fatima Jinnah Medical College, Lahore. She has been affiliated with the private sector for the last several years and has served at various positions. Presently she is serving as Assistant Professor in Department of Community Medicine at Islamic International Medical College, Rawalpindi,

Environmental Health is Dr. Zulfiqar's special area of interest and till date she has 2 research papers to her credit.

### Professor Dr. Irfan Ullah Siddiqui



Professor Dr. M. Irfan Ullah Siddique is a graduate of Dow Medical College, Karachi and is the only person in Pakistan with four qualifications in the subject of Community Medicine - FCPS, MPH, M. Phil and MCPS.

He possesses diverse experience in teaching at both undergraduate and post graduate levels and has also visited Oxford University, England as guest lecturer. He has a sound research background and as Chief Facilitator of College of Physicians and Surgeons, Pakistan has conducted more than 200 research workshops and dozens of SPSS workshops.

Dr. Siddique has supervised more than 20 dissertations and around 100 research projects and has had several papers published in journals of international repute. During the

course of his professional career he has also had opportunities of working with WHO and UNICEF.

### **Brig. Dr. Maqsood-ul-Hassan**

Brigadier Dr. Maqsood-ul-Hassan graduated from Dow Medical College Karachi in 1980. Commissioned in Pak Army since, he has been in charge of Army Health Units and also been engaged as an instructor in the community. Having served in the Army for almost 30 years now, Mr. Maqsood is Associate Professor at Army Medical College and Head of Department of Community Medicine at the Hospital.

He has had the opportunity to head the Medical Directorate Branches of both PAF and Pakistan Army which deal with policy making and implementation of preventive/community medicine actions. Mr. Maqsood has supervised more than a dozen dissertations and has also served as an examiner for various institutions.

### **Dr. Mukhtar Ali**



Dr. Mukhtar Ali Zehri has served at a variety of positions during his professional career. He has provided oversight of midwifery school; developed training courses and conducted in-service trainings; supervised district health programs and worked in collaboration with District Government, Nonprofit Organizations and the Donor Community. He has contributed as member of the Task Force on Public Health; coordinated the District Health Care Management Strengthening Program and as EDO Health in District Khuzdar ensured promotion of health care delivery system.

Dr. Mukhtar has completed his MPH from Thailand and currently serves as Focal Person Training and Gender at the Institute of Public Health, Quetta.

### **Dr. Razia Shahnawaz**



Dr. Razia Shahnawaz is a graduate of Institute of Public Health, Quetta and has over the years enjoyed a long and strong relationship with the Institute. Besides serving in different hospitals and teaching undergraduate and post graduate students at Bolan Medical College in Quetta, she is responsible for the development of Environmental Health Cell at the Institute.

### **Dr. Saira Afzal**



Dr. Saira Afzal graduated from King Edward Medical University, Lahore and is currently serving there as Assistant Professor in Department of Community Medicine. Till date she has published 11 papers in national and international journals and has acted as both Co-investigator and Principal investigator in different research projects. In the recent years she has been actively involved in holding free medical camps in different villages with Mother and Child Welfare Association (MACWA).

At present Dr. Afzal is pursuing her doctoral degree in preventive medicine and public health.

### **Dr. Samina Badar**



Dr. Samina Badar is an Associate Professor of Community Medicine at Quaid-e-Azam Medical College, Bahawalpur. Her teaching experience spans over 2 decades and she has also served as Supervisor and Examiner in Undergraduate and Postgraduate Training programs. She is a member of the Society for Health Education of Bahawalpur City and has participated in more than 33 workshops at different National and International forums.

Dr. Badar has authored a chapter in 'An Introduction to Medical Demography & Population Studies' by Population Council, as well as several research papers.

### **Dr. Samina Mohsin Khan**



Dr. Samina Mohsin Khan is a public health specialist having seventeen years of diversified work experience in academic settings, operations research and evaluation. During her professional career she has worked with institutes like, UNODC, USAID, JICA, IRC, UNHCR, WHO, DFID, Asia Foundation, Marie Stopes Society, Health Services Academy and Pakistan Institute of Medical Sciences.

She is the principal author of National Plan of Action and Strategic Guidelines for Elderly of Pakistan, and has also written gender specific analytical papers on National Maternal and Child Health Strategy of Government of Pakistan.

Over the years, Dr. Khan has contributed as researcher, analyst, technical and evaluation expert, RH / training specialist, field manager and counselor to the area of Public Health. Currently, she is coordinating Residency Training Program for postgraduate medical students at Pakistan Institute of Medical Sciences, Islamabad.

### **Dr. Seema Nigah-e-Mumtaz**



Dr. Seema Nigah-e-Mumtaz possesses over 15 years of teaching experience in health care organizations/universities. Of these the last seven were spent in serving Pakistan Navy. Managing health care organizations, academics and research are her area of interest and specialty. Till date she has published 12 research papers in national and international journals.

Dr. Mumtaz is presently working as the Associate Professor in Department of Community Medicine at Hamdard College of Medicine and Dentistry, Karachi.

### **Dr. Syed Muhammad Mubeen**



Dr. Syed Muhammad Mubeen has received postgraduate qualifications in Environmental Sciences (MES) from University of Karachi and Public Health (MPH) from The University of Melbourne, Australia. He also enjoys membership of College of Physicians & Surgeons, Pakistan in Community Medicine; and serves on the Editorial Board of Journal of Pakistan Medical Association (JPMA) and Pakistan Journal of Surgery (PJS).

Dr. Mubeen is currently teaching the subject of Community Medicine to undergraduate medical students in Hamdard University, Karachi. He lists occupational health, environmental pollution and tobacco control among his areas of interest.

**Dr. Syed Sanowar Ali Shah**

Dr. Syed Sanowar Ali is currently serving as Associate Professor in the Department of Community Medicine at Jinnah Medical & Dental College, Karachi. Over the years he has gained vast experience of public health particularly in the areas of, primary health care, community development, women & child health and the like.

In pursuance of his interest in studying the effects of environment on health, Dr. Ali is presently enrolled in a doctoral program at the Institute of Environmental studies, Karachi University.

## Proceedings – June 12 – 15, 2010

The four day workshop aimed at increasing members' understanding of the climate change phenomena and its impacts and dynamics, at the global and local levels; developing their understanding of linkages between climate change and health and creating in them the awareness of knowledge gaps in the climate change and health research sector.

### Day One – Saturday, June 12, 2010

#### Workshop Inauguration

Day one started with the welcome address by the **Chief Executive Officer, LEAD Pakistan, Mr Ali Tauqeer Sheikh**. Mr Sheikh in his brief note drew the attention of the audience on the relationship between climate change and health. He stated that experts all over the world are predicting heavy losses of lives from diseases or chronic and acute malnutrition caused by extensive flooding draughts and heat waves. The fragile health structures in the developing countries that are already struggling will have enormous burden of coping with various diseases and other health problems. He stressed that Pakistan being one of the developing countries needs



to explore the linkages between human health and the large scale changes in planet's ecological, biological and geological systems that are influencing and determining the health outcomes for communities and population. He highlighted that LEAD Pakistan believes that understanding the effects of climate change on human health is the first step towards taking effective action for keeping the impacts of climate change on health to the minimum; and that the present workshop has been designed with precisely this objective in view.

Following this **Dr. Amir Muhammad, Rector FAST University** addressed the participants. In his key note address he brought forward the causes and ramifications of the climate change phenomena and deliberated on its potential impact on human health. The neglectful attitude of the Government towards health and the fact that in Pakistan per capita investment on health is one of the lowest in South Asia was particularly highlighted by him. He emphasized that efforts need to be concentrated on gathering up-to-date statistics regarding prevalence of different diseases especially microbial infections, and nutritional deficiencies and correlating their trends with climatic changes in different parts of the country. He urged the participants to establish contact with different organizations at the regional and international level who are working on the same area.



In his address as the Chief Guest, **Mr. Momin Agha, Deputy Secretary, Climate Change, Ministry of Environment**, stated that while Pakistan contributes 0.43% of the world's total Greenhouse Gases and is 135th in world's ranking, yet it is faced with severe climate change impact including sea level rise, variability of monsoon, increased frequency



and intensity of extreme weather events, melting of glaciers and snow, droughts and floods, land degradation and stress on agriculture and livestock. He stressed that climate change is irrevocably harming Pakistan, with its tremendous social, environmental and economic impacts.

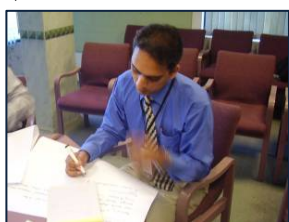
He quoted a study conducted by World Bank some years ago according to which, Pakistan faces a loss of over 365 billion rupees every year in lost productivity and degradation of ecology due to environmental pollution. He was of the view that the largest losses stem from health related costs such as lost days of work, hospitalization expenses etc. and that climatic changes may exacerbate these losses and inflict greater harm to the more vulnerable sections of our society.



He expressed his deep appreciation for the training workshop organized by LEAD Pakistan and termed it as a 'timely intervention'. He emphasized that initiatives of this sort were needed for grappling with the great challenge of climate change on a priority basis.

### Expectations Check and Setting the Context

Following the Inauguration, an attempt was made to help the participants get acquainted with each other and to enable them to share their expectations as well as concerns about the training program. For the purpose, **Mr. Adnan Sattar, Core Faculty, LEAD Pakistan** used the Personal Shield Exercise. Through this exercise the following expectations and concerns came forward;



Expectations From the Training Program	Concerns About the Training Program
Increased Climate Change and Health Knowledge	Increased Responsibility
Improved Research Skills	Timely and Proper Follow Up
Improved Communication Skills	Lack of Feedback from Organizations/Peers
Broadening of New Horizons	Ability to Make Change
Practical Implementation of Ideas Learned	Availability/Time to Spare
Clarification about Research Projects	Increased Workload
Magnitude of Climate Change Effects	Sectoral Monopoly
Beginning of a Joint Project on CC	Identification of Relevant Research Methods
Exploring Positive Effects of CC	Selection of a Research Topic
Exploring If CC – Health Linkage Really Exists	Availability of Baseline Data on Health
Initiation of Collaborative Efforts with Other Organizations	Accommodation
Knowledge Sharing Amongst Each Other	Limited Time frame for Research
Interaction with Other LEAD Fellows	Local Cohort Selection
Information about CC Effects on Pakistan	Issues Identified in Clinical Settings
Identifying Support for Record/Data	
Identifying Relevant Stakeholders	

## Session One – Climate Change – Ideas worth Spreading

In this session a documentary on “Voices from Pakistan” prepared by LEAD Pakistan on Climate Change scenarios was viewed by the audience of the workshop. The documentary talked about climate change impacts on water issues, energy resources, food security, and the challenges posed on human health and poverty. Following its viewing members shared their reflections on the subject. ***Dina Khan, a LEAD Fellow*** responded to the queries of the participants and discussed with them the various angles highlighted in the documentary.



## Session Two – Climate Change – Its Drivers and Dynamics

This session focused on the science of global warming, its past and present trends, projected climate scenarios, potential impacts and possible measures for addressing the challenges posed by climate change.

***Dr. Qamar Zaman Chaudhry, Director General, Pakistan Meteorological Department (PMD)*** explained the planet’s climate system and elaborated on the workings of the green house gases. He brought forward climate change as one of the greatest environmental challenges facing humankind and the natural world and shared information about the changing climatic trends in Pakistan. He informed the participants that there has been a rise of 0.6-1.0°C in mean temperature in Pakistan’s arid coastal areas, arid mountains and hyper arid plains; solar radiation has increased by 0.5 to 0.7% over southern half of the country; a 3-5% decrease in cloud cover has been observed over central Pakistan; while both winter and summer rainfall in coastal belt and hyper arid plains has decreased by 10-15%



While elaborating on the impacts of climate change, he regarded the threats posed by it to population health as being the most dangerous. In this reference he stressed on the importance of sharing with the concerned policy makers, scientific information about climate change, its effects on health, and the possible response options.



Some questions put forth during the session were:

- ☞ What is the difference between weather and climate;
- ☞ What is climate is and how it works;
- ☞ How global climate has been changing and why;
- ☞ How it’s likely to change in the decades ahead;
- ☞ What are the likely impacts going to be on different sectors;
- ☞ Are there any positive changes that can be expected from climate change?



## Workshop Evaluation – Day 1

The day concluded with the participants evaluating the quality of resource persons and the session conducted by them against a set of parameters (Resource Person Evaluation Form attached as Annex C). Results of the tabulated evaluations are given in the table below.

### Scale of 1 – 5:

1: Poor, 2: Fair, 3: Good, 4: V. Good and 5: Excellent/ Outstanding

### In Percentage Rating:

Poor	Less than 40%
Fair	40 – 59%
Good	60 – 69%
Very Good	60 – 80%
Excellent/ Outstanding	80% and Above

S. No	Questions	Rating		
		Dr. Qamar	Dina Khan	Mr. Adnan
<b>Quality of Session</b>				
1	Was the session relevant to your needs?	88%	88%	88%
2	Was the session challenging?	86%	71%	77%
3	Were the exercises beneficial?	77%	79%	88%
4	Was there sufficient pre-session support?	79%	79%	84%
5	Was the session folder useful?	85%	87%	88%
6	How was the overall time management?	84%	73%	89%
7	How would you rate the whole session?	84%	79%	87%
<b>Quality of Resource Person</b>				
8	Knowledge of Subject Matter	95%	84%	90%
9	Presentation Skills	77%	82%	88%
10	Ability to Achieve Group Participation	77%	63%	88%
11	Ability to Maintain Interest	77%	77%	88%
12	Quality of Visual Aids and Reading Material	93%	63%	88%
<b>Average Rating</b>		<b>83.5%</b>	<b>77.1%</b>	<b>87%</b>

Statistics in the above table reveal that on the whole participants were satisfied with resource persons' knowledge and delivery in all the sessions. They were also satisfied with the content of the sessions and the manner in which they were organized. The overall rating of the sessions was *between Very Good i.e. 77.1% and Excellent i.e. 87%*.

## Day Two – Sunday, June 13, 2010

### Formation of Research Groups

An element of this capacity building program is to encourage the cohort members to carry out a research study on the effects of climate change on health. In accordance with the same, the 13-member cohort was divided into four groups with each group assessing a particular aspect of the climate change – health relationship.

The composition of these groups is as follows;

Groups	Members	Group Leaders
Sindh Group	Dr. M. Irfan Ullah Siddiqui Dr. Sanower Dr. S. M. Mubeen Dr. Adil Faraz Dr. Seema Nigah-e-Mumtaz	Dr. M. Irfan Ullah Siddiqui
Punjab Group	Dr. Saira Afzal Dr. Sameena Badar	Dr. Saira Afzal
Baluchistan Group	Dr. Mukhtar Zehri Dr. Razia Shahnawaz	Dr. Mukhtar Zehri
Capital/ Islamabad Group	Dr. Maqsood Hassan Dr. Komal Zulfiqar Dr. Farah Rashid Dr. Sameena Mohsin	Dr. Maqsood Hassan

All these groups have been named after a province and constitute of health professionals residing thereat. The rationale behind this geographic division of groups is to facilitate members in interacting and working with each other during the course of their research work.

These groups will now work together and decide on themes for their prospective research work. These are to be presented before a panel on the final day of the workshop for discussion and approval. Once finalized the groups will prepare a research synopsis and present it in the Second National Training Session scheduled for the last week of July, 2010. Following its approval thereat they will commence with the formal research work.

### Session Three – Climate Change Challenges – Direct Effects of CC on Health



The first presentation of day two was to familiarize the cohort with the '*Direct Effects of Climate Change on Health*' presented by **Mr. Shahid Lutfi, Head Consultant WMC Pvt. Limited**. The relation of health and climate change was established through effects such as heat stress, extreme weather, air pollution, water-borne and food-borne diseases as well as vector-borne diseases.

With heat stress, the people at risk would be those of old age, very young, ill, and poor people living in urban

centers. This vulnerable group is likely to make a bigger slice of population in the future. Climate change will cause an increase in the spread of infectious diseases, mainly because warmer temperatures allow disease carrying insects, animals and microbes to survive better as compared to cold weather. Longer the high temperature duration, more is the survival and exposure. Mr. Lutfi stated that WHO estimates climate change may have caused more than 150,000 deaths in the year 2000 alone. Further explaining, he said that due to air pollution heat speeds up chemical reactions causing pollution from ozone and airborne particulates to increase. As heat may drive pollen production by some plants, people suffering from asthma and allergies will be at a great risk.



Elaborating on water-borne and food-borne diseases, he said that higher temperatures and torrential rains are likely to cause outbreaks of some diarrheal diseases. He explained that usually waterborne-diseases are preceded by heavy rainfall/floods, while studies show that food-borne infections from salmonella bacteria go up in hot weather. Giving figures overall, Mr. Lutfi highlighted that climate change is expected to increase the burden of diarrhea, mostly in developing countries, by two to five per cent by 2020. Scientists suspect that many diseases transmitted by insects and animals will become more common as

consequences of global warming. Dengue and malaria, carried by mosquitoes, are most likely to increase. Under some projections, he revealed, Africans will be exposed to malaria 25 per cent more of the time in 2100 than they are now. Other diseases may also become more prevalent such as yellow fever, schistosomiasis (by snails), leishmaniasis (flies) and Lyme disease sand (ticks).

Summing up, Mr. Lutfi reiterated the need to integrate health vulnerabilities into climate change mitigation and adaptation strategies, stating that greater consideration of the health effects of climate change could help build stronger priority for climate policy.

## Session Four – Climate Change Challenges – In Direct Effects of CC on Health



**Dr. Zafar Fatmi Assistant Professor & Head, at Aga Khan University**, presented the '*Indirect Effects of Climate Change on Health*'. Starting with different definitions of Environment in the health context, moving on to reasons for climate change, he mentioned natural variability and human activity. Composition of the atmosphere along with the Green House Gases was brought to discussion.

Vulnerable regions to health impact were identified as parts of Africa, Latin America, and Asia. Low-lying coastal and delta regions such as coastal China, Bangladesh, and Egypt and especially densely populated low-lying, Small Island states such as coral reef atolls

throughout Polynesia were also categorized as the same. Arid regions such as Eastern Africa and Central Asia already suffer from drought causing decreased food security and loss of biodiversity. Building to the relation between weather extremes and health, Mr. Fatmi explained that water cycles and extreme temperatures (hot and cold) are associated with higher rates of morbidity and mortality; in the US, the heat waves are more deadly than hurricanes, tornadoes and floods combined. He also went on to explain the urban heat island, severe storms, droughts and sea-level rise.

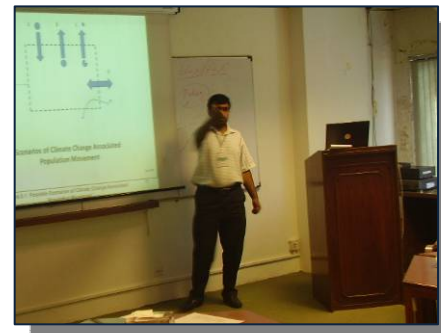
Climate change will effect fresh water and marine ecosystems, the global population will not be served with improved water supply, further instigating diseases caused by poor hygiene as flooding contaminates drinking water with runoff from sewage lines. Warm water and nitrogen favors blooms of marine algae – diatoms and dinoflagellates (red tides) which causes poisoning in humans but also kills fish, shell-fish, and marine mammals and birds extensively. Cholera also proliferates in warm marine water (Bangladesh cholera outbreaks follows seasonal warming). Climate change can shift the distribution of mosquito population, effect mosquito biting rates and survival, and shorten or lengthen pathogen development time inside the mosquito. Malaria is temperature sensitive disease. Malaria epidemic in Punjab region of India has increased fivefold. Dengue virus replication in *Aedes aegypti* mosquitoes in laboratory increases directly with temperature. Hantavirus infections are also transmitted by exposure to infectious excreta from rodents – weather conditions have led to increase rodent population and its displacement. Mr. Fatmi shared how climate change affects food productivity, in turn causing malnutrition which then effects human health.



Concluding, it was established that links between human health and climate change are diverse and occur via multiple pathways. Some are long-term and complex problems that may not be apparent over short spans. Health impact ought to be studied in context of other environmental and behavioral determinants of diseases. Key variables such as poverty, sanitation, land use changes, and public health surveillance and mitigation programs must be considered.

## Session Five – Climate Injustice – Mapping Health Related Vulnerabilities

**Dr. Suleman Qazi**, presented the case of '*Climate Injustice – Mapping Health Related Vulnerabilities*' wherein he tackled issues such as the differences in the health impacts of climate change on developing versus developed countries. He elaborated that a population's vulnerability results from an interplay among factors like local environment; access to & level of material resources; effectiveness of governance and civil institutions; quality





of public health infrastructure; access to relevant information on extreme weather events and degree of exposure to climate hazards. He emphasized that health related vulnerability is dependent on the ability to cope, or adaptive capacity of the individual, population or community.



Starting with the historical perspective from 1850s, he stated that the main global environmental changes are changes in atmospheric composition and chemistry, the food systems, freshwater resources, biodiversity and changes to global cycles of major elements.

Relation between ecosystem services and human health was ascertained. Urbanization, population aging and migration patterns and their interplay with climatic changes was discussed.



After setting the stage, Mr. Qazi proceeded towards discussion on what makes populations vulnerable to effects of climate change on health. Vulnerability and its determinants were defined. Identified as the most vulnerable during heat waves are older people, those living in large heat-trapping cities (London), women, people with low income, nomadic populations, homeless, and the chronically ill.

Climate change can also cause a sea level rise – exposing the Pacific Islands to dangerous effects. Many examples were given to prove significance of the changing environment. The El Nino effect in 1877 resulted in intense famine in relation to food production.

Mr. Qazi explained how the poor countries have made the least contribution to the green house gases, yet are the most vulnerable to life-long exposure to health risks from climate change. The most important climate sensitive diseases are those of poor children: 90% of the burden of malaria and diarrhea, and almost the entire burden of diseases associated with under nutrition, are borne by children aged 5 years or less, mostly in developing countries. Major diseases in children he said, are due to high sensitivity to variations in temperature and precipitation. Though children suffer immensely from climate change, they are not taken into consideration in Adaptation and Mitigation decisions. As a last point, Mr. Qazi highlighted the diversity of vulnerabilities in Pakistan by geographic spread.



## Workshop Evaluation – Day 2

The day concluded with the participants evaluating the quality of resource persons and the session conducted by them against a set of parameters. Results of the tabulated evaluations are given in the table below.

**Scale of 1 – 5:**

1: Poor, 2: Fair, 3: Good, 4: V. Good and 5: Excellent/ Outstanding

**In Percentage Rating:**

Poor	Less than 40%
Fair	40 – 59%
Good	60 – 69%
Very Good	60 – 80%
Excellent/ Outstanding	80% and Above

S. No	Questions	Rating		
		Mr. Shahid Lutfi	Dr. Zafar Fatmi	Dr. Suleman Qazi
<b>Quality of Session</b>				
1	Was the session relevant to your needs?	90%	92%	98%
2	Was the session challenging?	83%	78%	95%
3	Were the exercises beneficial?	84%	83%	94%
4	Was there sufficient pre-session support?	82%	79%	90%
5	Was the session folder useful?	84%	83%	69%
6	How was the overall time management?	78%	62%	94%
7	How would you rate the whole session?	81%	81%	95%
<b>Quality of Resource Person</b>				
8	Knowledge of Subject Matter	88%	89%	96%
9	Presentation Skills	86%	85%	98%
10	Ability to Achieve Group Participation	82%	84%	95%
11	Ability to Maintain Interest	82%	84%	96%
12	Quality of Visual Aids and Reading Material	85%	88%	94%
<b>Average Rating</b>		<b>84%</b>	<b>82.3%</b>	<b>93%</b>

Statistics in the above table reveal that on the whole participants were satisfied with resource persons' knowledge and delivery in all the sessions. They were also satisfied with the content of the sessions and the manner in which they were organized. The overall rating of the sessions was *Excellent i.e. between 84 – 93%*.

## Day Three – Monday, June 14, 2010

The third day of the workshop was divided into two sections – a half day exposure visit to Pakistan Meteorological Department (PMD) in the first half, followed by a training session in the second half.

### Exposure Visit to Pakistan Meteorological Department (PMD)



Pakistan Meteorological Department (PMD), Ministry of Defense is both a scientific and a service department. Apart from meteorology, it is also involved in investigating the factors responsible for global warming, climate change and its impact assessment.

An exposure visit to the department was arranged so as to acquaint the participants with the manner in which PMD obtains, collects, records and interprets data about different weather events. On behalf of PMD, this visit was facilitated by **Dr. Hanif & Mr. Azmat, Directors, PMD**. During the visit participants were informed about the purpose and objectives behind the establishment of the department; acquainted with its workings and operations; given a field tour of its different units and educated about the type of data that can be used to explore the impact of climate change on health.



The visit began with a brief introduction about PMD. The members were informed that the department is responsible for providing meteorological services throughout Pakistan to cater to a wide variety of interests and for numerous public activities and projects which require weather information.

This introduction was followed by a detailed visit of different units which included; Weather Observatory, Flood Monitoring and Warning Division, Forecasting Section, Seismology Centre and Research and Development Department.

In each unit members were briefed about its objectives, nature of operations and the manner in which data is collected, collated, recorded, interpreted and utilized. Through this visit members came to realize that apart from meteorology, PMD is also concerned with Agro-meteorology, Hydrology, Astrology, Astrophysics (including Solar Physics), Seismology, Geomagnetism, Atmospheric Electricity and study of the Ionosphere and Cosmic Rays.





Following the field visit, an open discussion session was arranged during which members were given contact details of a PMD official who would act as focal person for accessing climate related data for any time period and of any area within the country. Information was also provided about the manner in which data would be made available to them and of how it is to be interpreted and utilized. Members were also educated about the existence and use of Climate – Health Models such as *Development of a European Multi-Model Ensemble System for Seasonal to InTER-Annual Prediction (DEMETER)*. The utility of the model in making seasonal/climate prediction was brought forward and the requirements for its successful application (such as, nature and type of data) were highlighted.



During this session members raised questions about the manner in which data obtained from PMD can be juxtaposed with data obtained from health institutions. They also



highlighted the problems faced in obtaining authentic and reliable health related data over a longer time frame. Some possible areas for undertaking research on the effects of climate change on population health also came to the fore front.



## Session Six – Responding to Climate Change

This session focused on introducing participants to the concept of adaptation; and highlighting its importance as the relevant approach for not only reducing current vulnerability to the climate change that has already occurred, but also for addressing the health risks projected to occur over the coming decades.

**Mr. Usman Qazi, an expert in community development,** elaborated on the approaches and prospects of adaptation. He advocated a 5-pronged approach for addressing the present and potential risks posed by climate change to health, which was;



1. Removing the source of risk
2. Removing the element at risk
3. Reducing probability
4. Reducing potential consequences
5. Transferring the risk

His perspective initiated a very lively debate on the subject and also formed the basis for subsequent group work. In this participants were divided into 4 groups. Five scenarios were presented before the members and each group was asked to suggest, after mutual



discussion and deliberation, one or more of the given five options for addressing the climate change challenges presented.

### Workshop Evaluation – Day 3

The day concluded with the participants evaluating the quality of resource persons and the session conducted by them against a set of parameters. Results of the tabulated evaluations are given in the table below.

#### Scale of 1 – 5:

1: Poor, 2: Fair, 3: Good, 4: V. Good and 5: Excellent/ Outstanding

#### In Percentage Rating:

Poor	Less than 40%
Fair	40 – 59%
Good	60 – 69%
Very Good	60 – 80%
Excellent/ Outstanding	80% and Above

S. No	Questions	Rating	
		PMD Exposure Visit	Mr. Usman Qazi
<b>Quality of Session</b>			
1	Was the session relevant to your needs?	92%	92%
2	Was the session challenging?	80%	93%
3	Were the exercises beneficial?	90%	94%
4	Was there sufficient pre-session support?	93%	82%
5	Was the session folder useful?	41%	95%
6	Was the field visit relevant?	89%	N/A
7	Was the field visit well-organized?	90%	N/A
8	How was the overall time management?	93%	96%
9	How would you rate the whole session?	89%	92%
<b>Quality of Resource Person</b>			
10	Knowledge of Subject Matter	93%	95%
11	Presentation Skills	93%	93%
12	Ability to Achieve Group Participation	88%	95%
13	Ability to Maintain Interest	90%	95%
14	Quality of Visual Aids and Reading Material	92%	92%
<b>Average Rating</b>		<b>87%</b>	<b>93%</b>

Statistics in the above table reveal that on the whole participants were satisfied with the quality, organization and relevance of the Exposure Visit. They were also satisfied with the content of the subsequent training session and the resource person's knowledge and delivery in the same. The overall rating of the day was *Excellent i.e. between 87 – 93%*.

## Day Four – Tuesday, June 15, 2010

### Research Groups Presentations

The day began with each of the four research groups, formed on Day 2 of the training workshop, coming forward and sharing their ideas for research. A 5-member panel especially constituted for the purpose assessed their research themes in terms of feasibility, relevance and importance. This panel constituted of;

1. Mr. Ali Tauqeer Sheikh, CEO, LEAD Pakistan
2. Ms. Frida Khan, LEAD Fellow
3. Dr. Hanif, Director PMD
4. Dr. Suleman Qazi, Core Faculty, LEAD Pakistan
5. Ms. Rafia Rauf, Coordinator, LEAD Pakistan

After thorough discussion and great deliberation the following research areas were finalized;



Groups	Members	Group Leader	Research Area
Sindh Group	Dr. M. Irfan Ullah Siddiqui Dr. Sanower Dr. S. M. Mubeen Dr. Adil Faraz Dr. Seema Nigah-e-Mumtaz	Dr. M. Irfan Ullah Siddiqui	Is there any impact of Climate Change on Frequency of Diarrhoea among children aged 1 to 5 years in tertiary care hospitals of Karachi during last 10 years?
Punjab Group	Dr. Sameena Badar Dr. Saira Afzal	Dr. Saira Afzal	Is there any association between climate change and respiratory problems among children up to 5 years in tertiary care hospitals?
Baluchistan Group	Dr. Razia Shahnawaz Dr. Mukhtar Zehri	Dr. Mukhtar Zehri	What are the challenges faced by public health infrastructure in coping with disasters caused by climate change?
Capital/ Islamabad Group	Dr. Maqsood Hassan Dr. Komal Zulfiqar Dr. Farah Rashid Dr. Sameena Mohsin	Dr. Maqsood Hassan	Are there any effects of climate change on patterns and magnitude of malaria in different areas of Pakistan?



## Session Seven – Climate Change and Health – The Research Focus



This session focused on the research methods that may be used by public health professionals in studying climate change impacts (direct and indirect) on health. Elaborating on the same **Dr. Ejaz Ahmad, Assistant Professor, Health Services Academy**, introduced the participants to Statistical, Process-based and Landscape Models for studying the present and future relationship between climatic variables and disease trends.

He also highlighted establishing base base-line relationship between climate and health; seeking evidence of early effects of climate change; undertaking scenario-based predictive modeling; evaluating adaptation options and estimating the co-incident costs & benefits of mitigation and adaptation, as some of the key areas for future research.



## Session Eight – Climate Leaders – Roadmap for Future

This session was used to introduce the participants to LEAD Pakistan and more importantly to its Leadership Development Program (LDP).



**Mr. Ali Tauqeer Sheikh, CEO, LEAD Pakistan** informed the participants that Leadership for Environment and Development (LEAD) began as a project of the Rockefeller Foundation in 1992 with the aim to ensure that sustainable development becomes integrated in global culture. He highlighted that today LEAD International Inc. is a vibrant global organization, with 14 country and regional programs in Asia, Africa, North and South America, and Europe.

He elaborated that LEAD was initiated in Pakistan in 1995 and since then it has evolved into a dynamic organization. He further highlighted that LEAD Pakistan carries out a range of activities in three areas of intervention i.e. Climate Change, Grassroots Social Capital Development, and Environmental Management. While, under the area of Climate Change the organization is currently exploring the present and potential effects of climate change on Pakistan's population health.



He informed the participants that in line with its mission of inspiring leadership for a sustainable world, LEAD through its Leadership Development Program (LDP) has been developing the leadership potential of outstanding professionals through training programs and working with them to mobilize others to make a real difference to the future of the planet. He brought forward to the participants that through membership in the present Climate Change – Health Cohort, they had also become a member of LEAD's network of 1800 leaders in more than 90 countries. He enlightened them that the organization had been doing this for the last 14 years and that the present CC-Health cohort, constituted the 15th Cohort, thereby



becoming the newest addition to the organization's network of leaders. He welcomed them to the LEAD family and encouraged them to use the present venture as a means for building their ability for developing creative and sustainable solutions to the threats posed by climate change to population health.

## Session Nine – Climate Change – The Pakistan Scenario

This session was aimed at assessing the present and visualizing the envisaged role of the public and private sector in addressing health effects posed by climate change. For the purpose, a round table discussion was arranged in which panelists from the following governmental and non-governmental departments were invited;

1. Dr. Mujtaba Kamal, Director, **Ministry of Health**, Islamabad
2. Mr. Momin Agha, Deputy Secretary, **Ministry of Environment**, Islamabad
3. Dr. Aurangzeb, Project Director Environmental Unit, **Planning Commission**, Islamabad
4. Mr. Kashif Jan, Environmental Health Officer, **World Health Organization**, Islamabad
5. Dr. Ayesha Khan, M&E Specialist, **Health Services Academy**, Islamabad
6. Mr. Usman Qazi (Moderator)



The panelists focused on the threats posed by climate change to different sectors, in particular health. Dr. Aurangzeb pointed out that the Planning Commission in cognizance of the same had allocated PKR. 30-40 million for addressing climate related challenges.



Whereas, Dr. Ayesha Khan from Health Services Academy was of the view that for the effective utilization of funds what was required was (a) research on climate change effects on non-communicable diseases vis-à-vis each province and (b) partnership between the concerned stakeholders i.e. Ministry of Environment, Ministry of Health and the Planning Commission.



Dr. Kamal from the Ministry of Health pointed out that the Ministry's modus operandi currently focused on the preventive side by spreading awareness about the issue of climate change/environment and its possible effects on population health.

Mr. Jan deliberated on the importance of strengthening the health infrastructure for reducing climate change related vulnerabilities. He also emphasized on the need for relying on primary rather than secondary information for health related planning.





Mr. Agha brought to the forefront the efforts being made for strengthening interdepartmental linkages for addressing the phenomena of climate change. In this reference information about the Memorandum of Understanding (MoU) signed between the two Ministries was shared with the participants.

Besides this, the capacity of provinces to make policies, develop plans and effectively manage funds for addressing the

challenges posed by climate change to population health; absence of information on climate change effects on incidence and prevalence of diseases; and problems in finding accurate, reliable, and authentic data about disease patterns over a long time frame, were some of the other issues deliberated in the round table session.



### Certificate Distribution Ceremony

The day ended with an hour long certificate distribution ceremony in which certificates were awarded to the participants. Closing remarks were given by the host, Mr. Ali Tauqeer Sheikh, CEO LEAD Pakistan and the distinguished guest the honorable Minister of Environment, Mr. Hameed Ullah Jan Afridi. High officials of the Ministry of Environment were also present on this occasion.

The CEO of LEAD Pakistan, Mr Ali Tauqeer Sheikh gave vote of thanks to the participants, resource persons, sponsors and partners whose participation and efforts made the workshop a success.



Following this Federal Minister for Environment Hameed Ullah Jan Afridi addressed the participants. In his address he stated that climate change is now a definite reality and largely attributed to human induced activities such as burning of fossil fuels, depletion of sinks like forests and land use changes. He stressed that the issue of climate change is both a global environmental challenge as well as a development challenge and added that global climate change threatens the prospects of poverty reduction and prosperity in developing countries.



Mr. Afridi informed that Ministry of Environment over the last year have concluded an MOU with the Ministry of Health and set up a task force to coordinate actions and policy over asthma and allergies which is an issue of both health and environmental concern. He further told that Ministry of Environment is also actively considering the establishment of a joint health-environment TV channel that will allow projection of health and environmental concerns to a much wider audience.



Environment Minister said that harmful effects of global

warming are already being manifested around the world in the form of extreme weather events.

He congratulated LEAD Pakistan for holding this event which is of immense significance and through such capacity-building activities. He underlined that LEAD Pakistan is greatly contributing to improving the ability of Pakistan's health related community to interpret the information about climate change, which is of relevance to health sector. He also encouraged LEAD Pakistan to establish a network of professional groups, such as this one, who may concentrate their research and further the understanding on the issue of climate change and health. He also ensured all possible cooperation and coordination from the Ministry of Environment.



The ceremony ended with the distribution of certificates among the participants by the Federal Minister. Mr. Ali Tauqueer Sheikh, CEO LEAD Pakistan presented a handmade, carving by one of the LEAD Fellows, to the Minister as memento for the occasion.



for Climate Change – Health



## Workshop Evaluation – Day 4

The day concluded with the participants evaluating the quality of resource persons and the session conducted by them against a set of parameters. Results of the tabulated evaluations are given in the table below.

### Scale of 1 – 5:

1: Poor, 2: Fair, 3: Good, 4: V. Good and 5: Excellent/ Outstanding

### In Percentage Rating:

Poor	Less than 40%
Fair	40 – 59%
Good	60 – 69%
Very Good	60 – 80%
Excellent/ Outstanding	80% and Above

S. No	Questions	Rating		
		Ejaz Ahmad	Ali Tauqeer	Round Table Session
<b>Quality of Session</b>				
1	Was the session relevant to your needs?	88%	91%	86%
2	Was the session challenging?	77%	86%	63%
3	Were the exercises beneficial?	83%	87%	12%
4	Was there sufficient pre-session support?	90%	81%	58%
5	Was the session folder useful?	86%	84%	0%
6	How was the overall time management?	84%	87%	52%
7	How would you rate the whole session?	78%	86%	67%
<b>Quality of Resource Person</b>				
8	Knowledge of Subject Matter	80%	94%	76%
9	Presentation Skills	78%	94%	74%
10	Ability to Achieve Group Participation	74%	89%	64%
11	Ability to Maintain Interest	72%	89%	60%
12	Quality of Visual Aids and Reading Material	78%	90%	37%
<b>Average Rating</b>		<b>81%</b>	<b>88%</b>	<b>54%</b>

Statistics in the above table reveal that on the whole participants were satisfied with resource persons' knowledge and delivery in all the sessions. They were also satisfied with the content of the sessions and the manner in which they were organized. Of the three sessions only the Round Table Session received an overall rating of *Fair* i.e. 54%. While the remaining two were rated as *Excellent* i.e. between 81 – 88%.

## Overall Workshop Evaluation – Day 1 - 4

The workshop concluded with the participants evaluating the quality of administrative support, staff facilitation and facilities provided during the workshop against a set of parameters. (Workshop Evaluation Form attached as Annex E). Results of the tabulated evaluations are given in the table below.

### Scale of 1 – 5:

1: Poor, 2: Fair, 3: Good, 4: V. Good and 5: Excellent/ Outstanding

### In Percentage Rating:

Poor	Less than 40%
Fair	40 – 59%
Good	60 – 69%
Very Good	60 – 80%
Excellent/ Outstanding	80% and Above

<b>Workshop Evaluations</b>		
<b>Q No.</b>	<b>Questions</b>	<b>Rating</b>
<b>Q 1</b>	Quality of workshop facilities	77%
<b>Q 2</b>	Quality of training folder	63%
<b>Q 3</b>	Field visit technical arrangements	77%
<b>Q 4</b>	Field visit logistical arrangements	78%
<b>Q 5</b>	Administrative support by facilitators	80%
	<b>Average Rating</b>	<b>75%</b>

<b>Hospitality Evaluations</b>		
<b>Q No.</b>	<b>Questions</b>	<b>Rating</b>
<b>Q 1</b>	Meals	88%
<b>Q 2</b>	Transport	50%
<b>Q 3</b>	Accommodation	44%
<b>Q 4</b>	Staff Support	56%
	<b>Average Rating</b>	<b>60%</b>

The statistics in the above mentioned tables indicate that on the whole participants were satisfied with the quality of the workshop and gave an overall rating ranging from *Good* i.e. 60% to *Very Good* i.e. 75%.

## Overall Associates Evaluation

During the course of workshop Associates' performance was assessed via two pathways:

- Evaluation by Peers
- Evaluation by Training Team

(The assessment form used for the purpose is attached as Annex D).

At the end of the workshop scores awarded to each Associate by his/her peers and by members of the training team were collated. The results are given as under;

S. #	Associates	Attendance (10)	Punctuality (10)	Participation (20)	Team Player (20)	Leadership (20)	Ethical Values (20)	Total (100)
1.	Dr. Adil Faraz	10	10	12	12	10	18	72
2.	Dr. Farah Rashid Siddiqui	8	9	14	14	10	18	73
3.	Dr. Komel Zulfiqar	10	9	16	16	14	18	83
4.	Dr. M. Irfan Ullah Siddiqui	10	9	17	17	18	18	89
5.	Dr. Maqsood Ul Hassan	10	10	17	18	18	18	91
6.	Dr. Mukhtar Ali	10	10	15	13	13	18	79
7.	Dr. Razia Shahnawaz	10	9	10	10	8	18	65
8.	Dr. Saira Afzal	10	10	15	15	17	18	85
9.	Dr. Samina Badar	6	10	13	13	13	18	73
10.	Dr. Samina Mohsin Khan	10	9	17	14	14	18	82
11.	Dr. Seema Nigah-e-Mumtaz	10	8	13	14	13	18	76
12.	Dr. Muhammad Mubeen	10	9	13	14	13	18	77
13.	Dr. Syed Sanowar Ali Shah	10	9	13	13	13	18	76

## Media Coverage

Media coverage of the event was given due importance in order to ensure accurate and effective presentation of the complexity of relationship between climate change and health.

LEAD Pakistan invited several print and electronic media representatives to cover the training event. The event was also announced on 'What's On' section of the daily 'The News International.' The concluding session and certificate distribution ceremony chaired by Minister for Environment, Mr. Hameed Ullah Jan Afridi, was widely covered by the following newspapers and news agencies:

<http://pakobserver.net/detailnews.asp?id=36608>

<http://www.pid.gov.pk/press15-06-2010.htm> (PR. No. 183)

<http://www.brecorder.com/component/news/single/58/1/section/1070009.html>

Moreover, several TV channels such as **SAMMA** and **KTN** reported the event in their news bulletins. A radio program **Mahol Dost Pakistan** was also aired on Islamabad Traffic Police's radio channel FM 92.4 in collaboration of Ministry of Environment. This radio show helped in creating awareness among masses on environment and health related issues.

## Website

A proper website for the facilitation of the workshop had been developed since inception of this initiative. All the information related to the activities pre, during and after the workshop is available on the website at the following address [www.lead.org.pk/apn](http://www.lead.org.pk/apn).

## The Next Step

LEAD is now gearing itself towards the arrangement of the Second National Training Workshop. This workshop is tentatively scheduled to be held in Islamabad in the last week of July, 2010.

The 2<sup>nd</sup> NTS will primarily focus on two things;

- ☞ The four research groups will share their detailed research protocols for review, feedback and approval;
- ☞ An attempt will be made to build the capacity of the Climate Change – Health Cohort in the areas of (a) Communicating Climate Change to a range of stakeholders and (b) Conducting a Policy Focused Assessment.

Once finalized details of the schedule will be placed on the website.

**Annex A: List of Participants**

S. No	Name	Designation	Organization	Email Address	Contact Number	City
1	Dr. Mukhtar Ali	Chief Medical Officer	Inst. Of Public Health	<a href="mailto:mukhtarzehri@gmail.com">mukhtarzehri@gmail.com</a>	081-9213204, 081-2441615, 0333-7976133	Quetta
2	Dr. Razia Shahnawaz	Demonstrator	Inst. Of Public Health	<a href="mailto:raziashahnawaz@live.com">raziashahnawaz@live.com</a>	0333-3775830	Quetta
3	Dr. Samina Badar	Associate Professor, Department of Community Medicine	Quaid-e-Azam Medical College	<a href="mailto:sbardar628@hotmail.com">sbardar628@hotmail.com</a>	0300-6823268	Bahawalpur
4	Dr. Saira Afzal	Assistant Professor, Department of Community Medicine	King Edward Medical University	<a href="mailto:sairafzal786@hotmail.com">sairafzal786@hotmail.com</a>	0334-4338525	Lahore
5	Dr. Seema Nighah-e-Mumtaz	Associate Professor & HoD, Department of Community Medicine	Hamdard University	<a href="mailto:masam_5@hotmail.com">masam_5@hotmail.com</a>	0333-2342492	Karachi
6	Dr. Syed Muhammad Mubeen	Associate Professor, Department of Community Medicine	Hamdard University	<a href="mailto:dr_mubeen@hotmail.com">dr_mubeen@hotmail.com</a>	0333-2110569	Karachi
7	Dr. Adil Faraz	Assistant Professor, Department of Medicine	Hamdard University	<a href="mailto:dradilfaraz@hotmail.com">dradilfaraz@hotmail.com</a>	0300-2216057	Karachi
8	Dr. Syed Sanowar Ali Shah	Associate Professor, Department of Community Medicine	Jinnah Medical and Dental College	<a href="mailto:dr_ssan@yahoo.com">dr_ssan@yahoo.com</a>	0333-2135129, 0323-2231972	Karachi
9	Prof. Dr. M. Irfan Ullah Siddiqui	Vice Principle	Bahrain University Medical and Dental College	<a href="mailto:irfan7255@hotmail.com">irfan7255@hotmail.com</a>	0333-2283782	Karachi
10	Dr. Komel Zulfiqar	Senior Lecturer, Department of Community Medicine	Islamic International Medical College	<a href="mailto:drkomalzulfiqar@gmail.com">drkomalzulfiqar@gmail.com</a>	0331-8138362	Rawalpindi
11	Dr. Farah Rashid Siddiqui	Assistant Professor, Community Medicine	Islamic International Medical College	<a href="mailto:farahrashid@yahoo.com">farahrashid@yahoo.com</a>	0333-5214394	Rawalpindi
12	Brigadier Dr.	Vice Principle	Army Medical College	<a href="mailto:maqsood_5301@yahoo.com">maqsood_5301@yahoo.com</a>	92-51-56132109,	Rawalpindi



S. No	Name	Designation	Organization	Email Address	Contact Number	City
	Maqsood UI Hassan				92-51-56133766, 0333-5521822	
13	Dr. Samina Mohsin Khan	Medical Officer/ Course Coordinator	Pakistan Institute of Medical Sciences	<a href="mailto:mominsmahnoor@gmail.com">mominsmahnoor@gmail.com</a>	0322-5075176	Islamabad



## Annex B: List of Resource Persons and Training Team

S. No	Name	Designation	Organization	Email Address	Contact Number	City
1.	Dr. Ami Muhammad	Rector	FAST University	<a href="mailto:amir.muhammed@nu.edu.pk">amir.muhammed@nu.edu.pk</a>	0300-8552066	Islamabad
2.	Mr. Momin Agha	Deputy Secretary, Climate Change	Ministry of Environment	<a href="mailto:m.gha68@gmail.com">m.gha68@gmail.com</a>	0300-9557117	Islamabad
3.	Ms. Dina Khan	Fellow	LEAD Pakistan	<a href="mailto:dina.khn@gmail.com">dina.khn@gmail.com</a>	0300-5921766	Islamabad
4.	Dr. Qamar Zaman Chaudhry	Director General	Pakistan Meteorological Department	<a href="mailto:dgmetpak@hotmail.com">dgmetpak@hotmail.com</a>	051-9250367	Islamabad
5.	Mr. Shahid Lutfi	Head Consultant	WMC Pvt. Ltd.	<a href="mailto:shahid.lutfi@exponent.com.pk">shahid.lutfi@exponent.com.pk</a>	0333-2131228	Karachi
6.	Dr. Zafar Fatmi	Head	Division of Health Sciences, Aga Khan University	<a href="mailto:zafar.fatmi@aku.edu">zafar.fatmi@aku.edu</a>	0302-8289915	Karachi
7.	Mr. Usman Qazi	Expert, Sustainable Community Development		<a href="mailto:usmanqazi_2000@yahoo.com">usmanqazi_2000@yahoo.com</a>	0333-5280660	Islamabad
8.	Ms. Frida Khan	Fellow	LEAD Pakistan	<a href="mailto:fkhan@lead.org.pk">fkhan@lead.org.pk</a>	0300-4367879	Islamabad
9.	Dr. Ejaz Ahmad Khan	Associate Professor	Health Services Academy	<a href="mailto:ejaz@hsa.edu.pk">ejaz@hsa.edu.pk</a>	0333-5130838	Islamabad
10.	Dr. Ayesha Khan	Monitoring and Evaluation Specialist	Health Services Academy	<a href="mailto:ayesha@khans.org">ayesha@khans.org</a>	0300-8500448	Islamabad
11.	Mr. Kashif Jan	Senior Environmental Health Officer	World Health Organization	<a href="mailto:jank@pak.emro.who.int">jank@pak.emro.who.int</a>	0334-5331464	Peshawar
12.	Dr. Mujtaba Kamal	Deputy Director General	Ministry of Health		051-9202361	Islamabad
13.	Dr. Aurangzeb	Project Director	Environmental Unit, Planning Commission	<a href="mailto:aurangzebkhannrm@yahoo.com">aurangzebkhannrm@yahoo.com</a>	051-9210225	Islamabad
14.	Mr. Adnan Sattar	Core Faculty	LEAD Pakistan	<a href="mailto:adnan.abdulsattar@gmail.com">adnan.abdulsattar@gmail.com</a>	0300-3588217	Islamabad
15.	Dr. Suleman Qazi	Core Faculty	LEAD Pakistan	<a href="mailto:suleman.qazi@gmail.com">suleman.qazi@gmail.com</a>	0300-3842332	Islamabad
16.	Mr. Ali Tauqeer Sheikh	CEO	LEAD Pakistan	<a href="mailto:atsheikh@lead.org.pk">atsheikh@lead.org.pk</a>	051-2651511	Islamabad
17.	Ms. Rafia Rauf	Coordinator	LEAD Pakistan	<a href="mailto:r-rauf@lead.org.pk">r-rauf@lead.org.pk</a>	051-2651511	Islamabad

### Annex C: Resource Person Evaluation Form

Resource Person: \_\_\_\_\_

Topic: \_\_\_\_\_

Date and Duration: \_\_\_\_\_

Please Rate the Session on a scale of 10(Highest) to 1 (Lowest)	😊			😐				☹️		
	10	9	8	7	6	5	4	3	2	1
Was the session relevant to your needs?										
Was the session challenging?										
Were the exercises beneficial?										
Was there sufficient pre-session support?										
Was the session folder useful?										
Was the field visit relevant?										
Was the field visit well organized?										
How was the overall time management?										
How do you rate the whole session?										
How do you rate the session's relevance to LEAD's objectives?										
<b>Quality of Resource Person</b>										
Knowledge of Subject Matter										
Presentation Skills										
Ability to Achieve Group Participation										
Ability to Maintain Interest										
Quality of Visual Aids & Reading Material										

Would you like LEAD-Pakistan to invite this faculty member again? \_\_\_\_\_

## Annex D: Associate Evaluation Form

### Associate Evaluation

Associate's Name: \_\_\_\_\_

Date: \_\_\_\_\_

*Please assess each Associate on the given criteria by assigning a score from the given total.*

S. No	Associates	Attendance (10)	Punctuality (10)	Participation (20)	Team Player (20)	Leadership (20)	Ethical Values (20)
14.	Dr. Adil Faraz						
15.	Dr. Farah Rashid Siddiqui						
16.	Dr. Komel Zulfiqar						
17.	Dr. M. Irfan Ullah Siddiqui						
18.	Dr. Maqsood Ul Hassan						
19.	Dr. Mukhtar Ali						
20.	Dr. Razia Shahnawaz						
21.	Dr. Saira Afzal						
22.	Dr. Samina Badar						
23.	Dr. Samina Mohsin Khan						
24.	Dr. Seema Nigah-e-Mumtaz						
25.	Dr. Syed Muhammad Mubeen						
26.	Dr. Syed Sanowar Ali Shah						

**Guidelines:**

<b>Attendance</b>	<ul style="list-style-type: none"> <li>✓ Is present in each session scheduled during the day</li> </ul>
<b>Punctuality</b>	<ul style="list-style-type: none"> <li>✓ Arrives on time for each session scheduled during the day</li> <li>✓ Does not leave earlier than the scheduled time</li> <li>✓ Is not absent for more than 15 minutes during any session</li> </ul>
<b>Participation</b>	<ul style="list-style-type: none"> <li>✓ Raises intelligent questions</li> <li>✓ Gives relevant input</li> <li>✓ Shares knowledge</li> <li>✓ Establishes linkages between the information provided</li> </ul>
<b>Team Player</b>	<ul style="list-style-type: none"> <li>✓ Is interactive</li> <li>✓ Enlists input from others</li> <li>✓ Accommodates others</li> <li>✓ Positively influences others</li> </ul>
<b>Leadership</b>	<ul style="list-style-type: none"> <li>✓ Takes initiative</li> <li>✓ Possesses decision making powers</li> <li>✓ Manages conflicts effectively</li> </ul>
<b>Ethical Values</b>	<ul style="list-style-type: none"> <li>✓ Is respectful towards all</li> <li>✓ Possess a sense of responsibility</li> <li>✓ Has a civic sense</li> </ul>

## Annex E: Overall Workshop Evaluation Form

### 1- Quality of Workshop Facilitation:

Excellent	Above Expectations	Met Expectations	Below Expectations	Disappointing
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### 2- Quality of Training Folder:

Excellent	Above Expectations	Met Expectations	Below Expectations	Disappointing
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### 4- Field Visits Technical Arrangements:

Excellent	Above Expectations	Met Expectations	Below Expectations	Disappointing
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### 5- Field Visits Logistical Arrangements:

Excellent	Above Expectations	Met Expectations	Below Expectations	Disappointing
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### 6- Administrative Support by facilitators:

Excellent	Above Expectations	Met Expectations	Below Expectations	Disappointing
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What did you like **most** about this session?

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What did you like **least** about this session?

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***Hospitality Evaluation***

	<b><i>Very Good</i></b>	<b><i>Good</i></b>	<b><i>Fair</i></b>	<b><i>Unsatisfactory</i></b>
<b><i>Meals</i></b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><i>Transport</i></b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><i>Accommodation</i></b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><i>Staff support</i></b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>