



28 November, 2022

Sede Boqer campus, Israel

Global Network of Dryland Research Institutes declaration

Drylands cover over 47% of all terrestrial areas and are home to over 2 billion people. With ~ 50% of worldwide croplands and livestock, drylands contribution to economic vitality and food security is significant. Drylands are also an important source of biodiversity. Life in them has adapted to cope with and even flourish in extreme and variable environmental conditions. Pushing all living organisms to their limits, drylands can serve as an important resource of information about adaptation of life to global change. As such, they are perfect laboratories for developing tools and strategies for sustainable and prosperous existence in areas threatened by global change.

Climate change, land degradation, and desertification closely interact and present an unprecedented threat to terrestrial areas in general and specifically to drylands, with far-reaching environmental, social, and economic consequences. The 2019 IPCC Climate Change and Land report indicates that the range and intensity of desertification have increased in some dryland areas over the past several decades. It further mentions that increasing anthropogenic pressures on land, combined with climate change, will reduce the resilience of dryland populations and constrain their adaptive capacities. The current knowledge and research efforts in drylands are non-proportional to the large extent of these areas and their importance to the future of humanity. This results in a rather poor understanding of the critical processes of dryland ecosystems and inappropriate ability for predictions. These understandings are relevant to all areas undergoing land degradation, not only drylands, especially in view of current climate change. As scientists from institutes that devote their research to drylands, it is our responsibility, and within our capacity, to utilize the great potential of drylands and to help bridge these knowledge gaps.

Round-table discussions between representatives of nine institutes from five different continents took place as part of the 8th International Conference of Drylands, Desert & Desertification (DDD) in the Blaustein Institutes for Desert Research of the Ben-Gurion University of the Negev, Israel.

During the discussions, Global Network of Dryland Research Institutes (GNDRI) identified that desertification is a major contributor to climate change, biodiversity loss, poverty, and food insecurity. GNDRI also recognized that healthy land is a key part of the solution to all of these challenges.

A network of interacting institutes offers a unique opportunity to bring together expertise and state-of-the-art knowledge from around the world to support conservation and sustainable use of drylands, and promote restoration of degraded lands. This, in turn, will accelerate the achievement of the Sustainable Development Goals.

GNDRI identified the critical contributions that can come from cross-institutional knowledge exchange and the promotion of international research and educational programs on drylands. Capitalizing on the opportunity to bring together multidisciplinary and transnational research, GNDRI will create a conducive environment for the transfer of knowledge to civil society, policy makers, and practitioners.

We commit to creating an active and inclusive “Drylands Network” that would help raise awareness of the unique value of drylands to Earth and humanity.

Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel	Noam Weisbrad
Institute for Sustainable Plant Protection, National Research Council of Italy	Mario Cipriotti
Desertification Research Centre, University of Sassari, Italy	QUIRICO MIGHELE
Instituto Potosino de Investigación Científica y Tecnológica, San Luis Potosi, Mexico	Isabelo Leber-Sauerdel
International Center for Arid and Semiarid Land Studies, Texas Tech University, Lubbock, Texas USA	Salzman
African Sustainable Agriculture Research Institute and International Water Resources Institute . UM6P Morocco	asf
Gujarat Institute of Desert Ecology, Bhuj-Kachchh, Gujarat, India.	Du
IADIZA. Instituto Argentino de Investigaciones de las Zonas Aridas (CONICET, Universidad Nacional de Cuyo, Gobierno de Mendoza). Mendoza, Argentina.	Elena Abraham
Dryland Research in Africa Group at the Institute of Plant Science and Microbiology, University of Hamburg, Germany.	McSuredel
Global Drylands Center, Global Institute of Sustainability and Innovation, Arizona State University, Phoenix, United States.	O'Finn