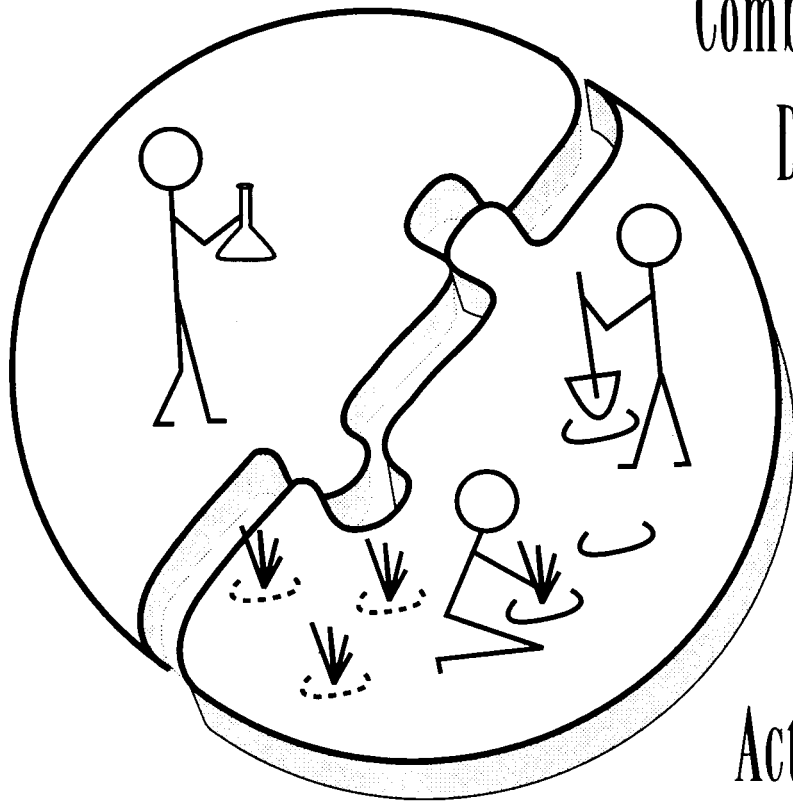


International Symposium and Workshop



"Combating
Desertification:
Connecting
Science
with
Community
Action"

Abstracts

12-16 May 1997
Tucson, Arizona, USA

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Combating Desertification:
Connecting Science with Community Action

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forest. In the last two decades the amount of forest cover has declined from 8 million to 4 million ha. Generally, soils with a 15% slope in Turkey suffer much from the erosion. We lose nearly 500 million tons of soil annually through erosion. The latest reports show that 16,000 ha of arable land and 14,000 ha of nonarable land in Turkey are prone to erosion. Early stages of desertification are visible in areas with traganthic chamaephyte vegetational cover following a retrogressive succession, but this process can be nullified by progressive succession if steps are taken. All these processes are discussed at length in this paper.

Desertification Indicators: Towards Realistic Use

By A.K. Sharma, Division of Resource Management, Central Arid Zone Research Institute, Jodhpur, India

Indicators of desertification are being emphasized in monitoring dryland environments and the rate and hazards of degradation. But because desertification is a complex phenomenon, controlled by multiple factors, the interdependence of these indicators should be considered. Otherwise, the use of indicators remains only an academic exercise. This paper uses as its base the UNDP/UNSO Report on Development of Desertification Indicators for Field Level Implementation (R. Ridgway, 1995). It discusses possible field level difficulties, misinterpretations, and misuses, and how this technique can be immensely improved and further standardized by such measures as the use of geographical information systems for interrelating indicators, surveying the total affected area rather than areas solely within political boundaries, verifying data with satellite imagery, weighing every indicator according to its importance, classifying indicators by the interval of recording, and separating climatological desertification (which is beyond human control). Final emphasis is given to the use of indicators for predictive modeling for any desertification control program before its implementation. If these fragile ecosystems are disturbed by any faulty program, ecobalance may be difficult to regain. Under such conditions, continuous monitoring may be of little use.

Canopy Insect Populations as Indicators of Exposure to Acute Stressors (Drought and Grazing) and Chronic Stressors (Desertification and Exotic Plant Species)

By W.E. Smith and J.W. Van Zee, USDA-ARS Jornada Experimental Range, New Mexico State University, Las Cruces, New Mexico, USA; and W.G. Whitford, US-EPA, Office of Research and Development, National Exposure Research Laboratory, Las Vegas, Nevada, USA

Responses of canopy insect populations to grazing and drought were studied in a replicated, block design experiment in a Chihuahuan Desert grassland which had been invaded by mesquite (*Prosopis glandulosa*). Species composition and abundance of insects in the canopies of the grasses, mesquite, and the sub-shrub (*Gutierrezia* spp.) were measured each year for 4 consecutive years. Drought significantly reduced populations of both grass and shrub feeding insects. Cattle grazing had short-term effects on insect abundance. Responses of canopy insects to shrub control and dominance by an exotic grass species (*Eragrostis lehmanniana*) were examined. The implications of vegetation change resulting from desertification were examined by comparing changes in the insect communities on the dominant shrubs and grasses.

Desertification in Palestine: Green Prospects after a Millennium's Decline

By Sufian Sultan, Stephen Gasteyer, and Hani Daraghmi, The Palestinian Institute for Arid Land and Environmental Studies, Hebron, Palestine

The emerging nation of Palestine (West Bank and Gaza) sits on mostly arid land, some of which might well be classified as desert (an arid or semiarid area where limited capacity exists for vegetative production and support of animal life). There is indeed evidence that over time, certainly in the last millennium but specifically in the last century, arid but fertile areas have declined in fertility and this desert area has expand-