

# Climate, Land Degradation, Agriculture, and Food Security

Food security is dependent upon agricultural systems which are resilient to climate variation and extremes in climate. The impact of climate on agriculture is increased with degraded land resources because the direct impacts of temperature and precipitation on crops increase. Indirect impacts from weeds, insects, and diseases increase when there is stress imposed on the plants or animals. The impact of weather and climate on land management and agricultural production are complex because of the interactions among the climatic components and the physiological response. In order to reduce the risk of crop failure and increase the resilience of agronomic and horticultural systems for food, feed, fiber, and fuel production there is an urgent need to develop and implement systems that can adapt to these climatic changes. The need for enhanced information and strategies is especially critical for the developing countries.

# Climate Information for Land Management, Agriculture and Food Sectors

- Risk Evaluation and Information Delivery
  - ▣ Forecasting the potential risks
  - ▣ Dissemination tools for information
- Adaptation Strategies for Resilient Agricultural Systems
  - ▣ Cope with climate variation and extreme events
  - ▣ Information transfer to producers
- Improved Understanding of the Direct and Indirect Impacts of Climate on Agriculture
  - ▣ Enhanced understanding of the complex interactions between climate and agricultural systems