

## **Abstract**

As of 2010, about 239 million people in sub-Saharan Africa (SSA) were projected to be undernourished. With this figure expected to rise, concerted efforts to boost food production at the realm of global challenges such as climate instability and decline of nonrenewable resources are imperative. Food production in SSA presently faces the unprecedented challenge of producing sufficient and healthy food for the surging human population, while seeking to conserve the environment and reduce the use of nonrenewable resources and energy. Although over the past half century conventional agriculture has generally improved agricultural production in many parts of the world, this has come at high economic and environmental costs since intensive agriculture relies heavily on off-farm inputs. Conventional agriculture is also dependent on the use of specific crop varieties or hybrids that have been bred specifically to exploit high-input conditions. Conversely, crop varieties used in high-input systems are not often adapted to low-input farming, a key element of many smallholder farming systems. The exploitation of crop genetic diversity as a strategy to increase food production by smallholders in SSA and elsewhere in the world has not been critically examined. This aspect may provide new insights to global food insecurity since crop diversification is a fundamental tool for improving yield stability and crop resilience under changing climatic conditions.