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## Checklist for Agricultural Adaptive Research in Drylands — How to Identify Synergies and Avoid Conflicts Between Competing Aims of Sustainable Development

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### Abstract

The formulation of the United Nations Millennium Goals (MDGs) is the most human-focused approach of the UN international commitments and contracts of the UN for maintaining and enhancing human well-being on the basis of an intact environment and sustainable development. It was acknowledged that the most important sector for action to achieve the MDGs is rural development, including availability of food and water, sanitation and education. However, during the formulation of scientific projects as well as during their implementation phase, the MDGs as well as the cultural, social and economic realities in the target areas are often only insufficiently regarded. One of the main reasons is the lacking awareness in the research community that participation should already start with the problem formulation. Other important reasons that counteract food security are conflicts between the different aims of national and international scientific programmes and the UN Conventions to achieve sustainable development. Enhancing biomass production is one of the main sub-goals always present when improving agricultural and environmental conditions is. This is seen as a pathway to increase crop production and fuel material as well as to safeguard biodiversity. However, conflicts might arise when using GM crops or exotic species. Afforestation especially of wetlands may in some cases increase water consumption above a sustainable level. Further, the conservation of carbon stocks is not accounted for in the Kyoto protocol and therefore often ignored in discussions on sustainable land use practices. On the other hand, the tight relationship between environmental protection and rural development is widely acknowledged, and synergies occur between different measures for sustainable development e.g. in the field of improving water use efficiency by means of rain water harvesting technologies. In order to raise the awareness of the need of sound relationships between the needs and the aims of the local people, the international aims and actions for sustainable development, and the agricultural research projects, we would like to present and discuss a checklist to detect competing sub-goals and to transform them into synergy processes in order to reach the MDGs.

**Keywords:** Biodiversity, food security, UN conventions