AGROECOLOGY & DROUGHT

Context

Drought is an episodic or recurrent natural disaster aggravated by climate change. It constitutes a major threat that leads to social and economic losses. Abnormal deficits in precipitation lead to agronomic drought or water stress, marked by the decrease in the amount of water available in the soil for plants, which in turn leads to hydrological drought reflected by the drop in the level of water tables and rivers. Even if droughts affect all climatic zones, drylands of the planet are particularly vulnerable to drought and its consequences.

Through its positive action on soils, vegetation and water, agroecology constitutes a viable response to anticipate and adapt to the risks of drought. While conventional agriculture has shown its limits in terms of resilience to prolonged droughts, agroecological approaches and technical solutions offer a credible alternative by drawing benefits from all ecosystem components while preserving them in a sustainable way.

Problems caused by droughts

In drylands, food supply is highly dependent on rain-fed agriculture. Therefore, drought episodes have direct impacts on food security of populations in the short and long run:

- Droughts and water deficits have an immediate impact on the reduction of agricultural yields, which can go as far as the complete destruction of crops and the death of livestock, thus causing famines;
- Repeated droughts increase the evaporation from soils, accentuating their salinization and thus the degradation of their productive potential;
- The destruction of the soils making them uncultivable is at the origin of the displacement of populations.

Arguments from the field

To combat drought, agroecology presents major interests, some of which have been identified from field initiatives and experiences and are shared here.

Agroecology allows to secure agricultural production

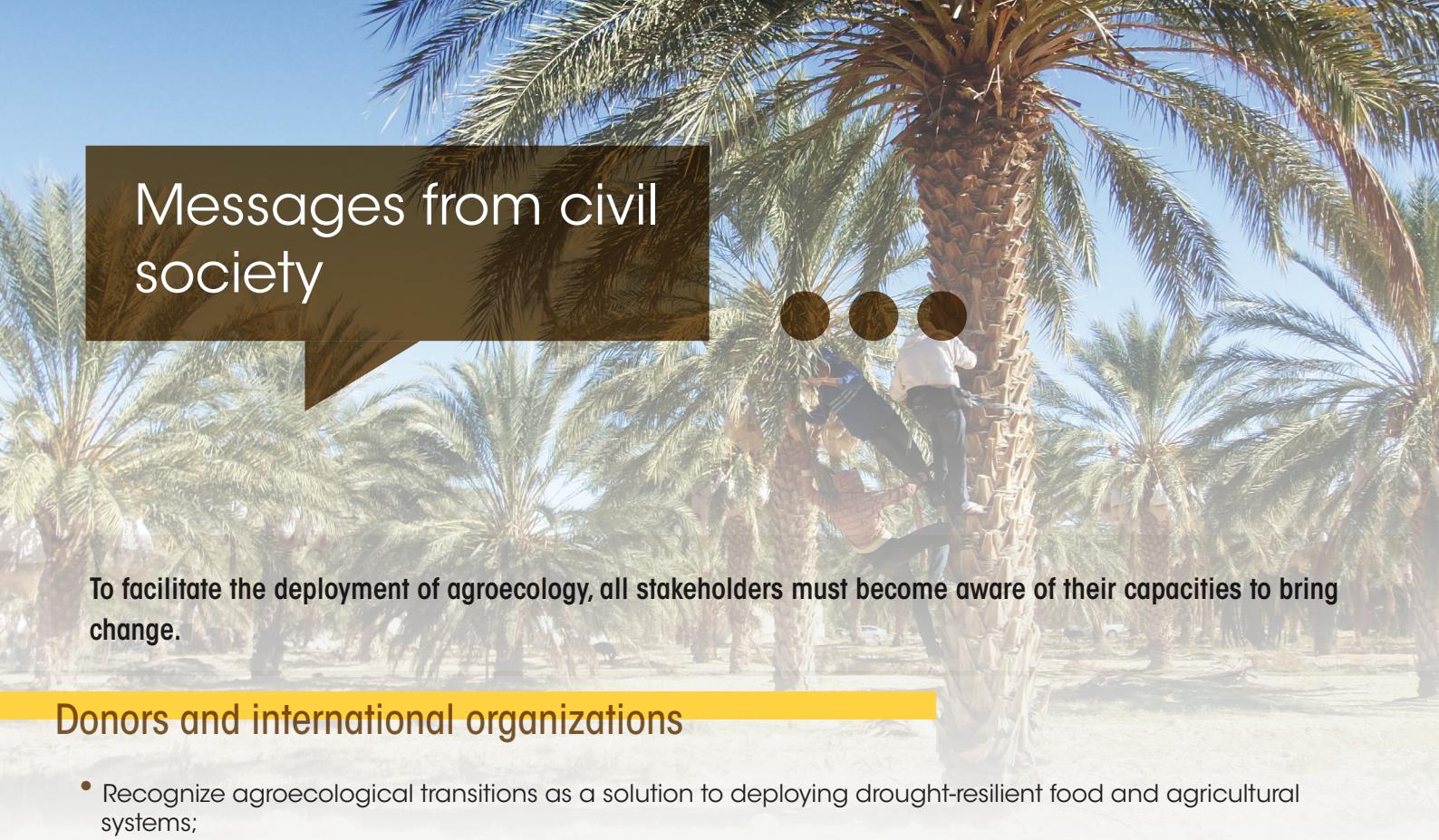
- The diversification of crops and the promotion of agroforestry ensure continual harvests throughout the year and thus allow to better cope with drought episodes;
- Farmers' seeds adapted to local ecosystem contexts are more resistant to water stress and consume less water.

Agroecology for water-saving management

- Techniques such as zaï allow to avoid water runoff and to improve water infiltration in the soils;
- Traditional rainwater harvesting techniques and micro-irrigation practices, such as drip irrigation, prevent water waste.

Agroecology provides greater resilience

- The combination of agriculture and farming allows the production of straw for livestock and manure to fertilize the fields, reducing dependence on agricultural inputs whose cost can fluctuate in case of unexpected events;
- The collective organization between the different actors of the agricultural and food systems, by developing for example short marketing circuits, allows to reinforce local food sovereignty, and to reinforce solidarity in case of crisis.



Messages from civil society

To facilitate the deployment of agroecology, all stakeholders must become aware of their capacities to bring change.

Donors and international organizations

- Recognize agroecological transitions as a solution to deploying drought-resilient food and agricultural systems;
- Make financing facilities available in the framework of drought adaptation, allowing to subsidize the initial investment of small farms that engage in an agroecological transition.

Governments

- Fully integrate agroecology as a key measure to transform agricultural and food production systems in national drought action plans;
- Strengthen the capacities of state support and advisory services to farmers on agroecological approaches and techniques.

Research and education

- Provide scientific data on existing agroecological production systems and their contribution to drought control;
- Contribute to the improvement of knowledge and conservation of plant and animal varieties developed by farmers and adapted to local climatic contexts.

AGROECOLOGY RIGHT NOW!

We target Sustainable Development Goals (SDGs) 2, 3 and 15 (Zero hunger, Good health and well-being and Life on Land), while contributing to knowledge and development practices aimed at achieving SDGs 1, 2, 3, 6.7, 10, 13 and 15.