



Creating Sustainable Agricultural Livelihoods and Enhancing Eco-system Services in a Changing Climate

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Can UNFCCC support agricultural adaptation, mitigation, & social goals synergically?

- Where does the synergy need to be?
 - Legislative frameworks?
 - Funding mechanisms?
 - Support programmes?
- These synergies only have value if the farmer is able to analyse, plan and act synergically
- Synergies attain meaning when they manifest in practice in enhanced livelihoods and farming practices that adapt and conserve biodiversity and sequester carbon

For the farmer, carbon has value

- Carbon in farming systems enhances fertility and water holding capacity of soils
- More carbon = greater resilience of farming systems
- Cash benefits to farmers for sequestration are not a worthwhile incentive to drive sustainable change
- Robust and defensible livelihood and environmental gains can be achieved more directly, efficiently and effectively through other means

UNFCCC as an obstacle to sustainable development

- Complex messages about the climate can confuse, dishearten and disempower people
- Top-down solutions tend to disempower and to undermine local institutions and initiatives
- Project approaches seldom leave lasting legacies
- The false promise of meaningful carbon finance for small-scale farmers has the potential to undermine real development

Experience from the field

The Suid
Bokkeveld is
situated in the
Northern Cape
Province of South
Africa on the
Bokkeveld
Plateau



The Suid Bokkeveld

Small scale
farmers in
the Suid
Bokkeveld
rely on
rooibos tea
for their
annual cash
incomes



Rooibos: uniquely adapted to climate variability

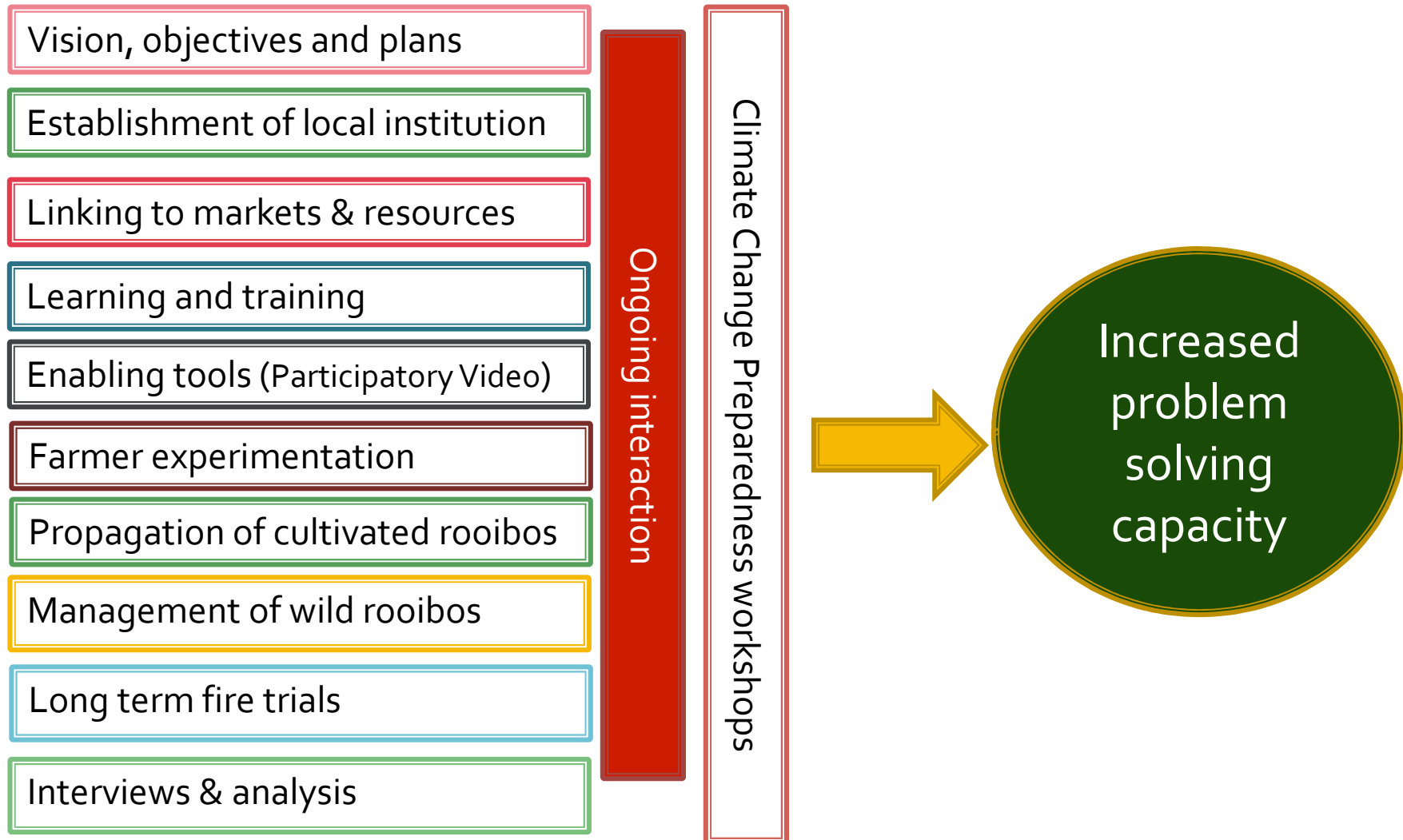
- Drought resistant rooibos grows in the hot, dry summer
- As a fynbos species, its “fine” leaves enable it to minimise moisture loss
- Its tap root supplies the plant with water from >3 metres below the surface of the soil
- Nitrogen-fixing bacteria provide adequate nitrogen in very nutrient poor soils
- Mycorrhizal association with rooibos roots provides essential plant nutrients

A Participatory Action Research Approach

to increase resilience to climate change



Methodology makes a difference



Vision, objectives and plans

- People's own collective vision provides a legitimate and robust starting point for local action
- Planning for achievement of locally defined vision focuses on local resources, capacities and objectives
- On the basis of a shared vision, internal and external resources can be mobilised for action



Establishing (or strengthening) a local institution

The Heiveld Co-operative was formed in 2000 to further the interests of the small farmers by establishing a joint marketing channel for “fairly produced” organic rooibos



Linking to markets & resources

- Certification and sound linkages to fair trade markets have helped build a strong local organisation
- Retaining organic and fair trade certification provides impetus in developing local capacities



Learning and training

- Most households now use photo-voltaic power for lights and cell phones
- Sustainable production, quality management, climate change etc. have also been foci



Enabling tools

- Participatory Video was used to document farmers perception of the climate and general challenges they are facing
- Telling their stories on video generated enthusiasm which has motivated people to act



Farmer experimentation

- Farmers decided to learn more about propagation of wild rooibos
- Experimentation has included comparison of different methods
- Results are shared back to the wider community
- Farmer scientists are very proud of their contribution



Propagation of cultivated rooibos

- Conventional approaches to propagation and cultivation were not resilient in extreme weather events (floods and droughts)
- Farmer innovation explored adaptive alternatives
- Direct seeding with cover crops reduces wind damage and increases organic content of soil



Management of wild rooibos

- Wild populations of rooibos have proven to be far more resilient in the face of extreme weather events
- Farmers have participated in research to verify and examine traditional management practices
- The results have provide the basis for industry-wide standards
- Market access means that land managers who apply best practice are rewarded with improved incomes



Long term fire trials

Farmers are involved in monitoring the long-term impacts of fire on this fire-driven eco-system via:

- Participation in the design and implementation of scientific trial on two sites
- Regular monitoring of biodiversity at the sites
- Discussion about what this data means for land management practices



Results

- ❖ Shelter belts maintain biodiversity in cultivated areas
- ❖ Damage and loss from extreme climate events is limited
- ❖ Organic agriculture retains higher levels of soil carbon
- ❖ Incomes are more sustainable
- ❖ Farmers have a strong sense of ownership
- ❖ The Fairtrade market rewards these initiatives



Making the difference

- A learning approach fosters ownership for innovation
- Interventions that help people satisfy the full range of human needs are truly synergic
- Financial support and incentives can play an important role, but....
- The balance must be maintained in favour of enabling, not disempowering



Conclusions

- Agriculture provides rich opportunities to support adaptation, mitigation and achievement of social goals if the conditions are right and if interventions do not do more harm than good
 - Enhanced eco-system services in the Suid Bokkeveld include more sustainable water supply, diminished rates of soil erosion, a range of biodiversity services (pollination, pest management, enhanced soil carbon in cultivated areas, retained soil carbon in wild harvested areas).
 - Enhanced livelihoods and satisfaction of the full range of human needs at local level can be achieved more effectively within broad, inclusive processes that pass on benefits of responsible action to farming communities

Thank you for
your attention

