

Promoting Saline Agriculture as an approach to sustainably manage the risk of soil salinity in a changing climate:

Experiences from recent initiatives in Mozambique and Eastern & Southern Africa

Jakob Herrmann¹, Matias Siueia Júnior², Alberto Luis³, Sebastião Famba⁴

¹Weltweit - Association for the Promotion of Local Initiatives e.V., Bad Soden, Germany, jakob@welt-weit.org; ²Municipal Council Maputo, Department for Agriculture and Extension, Maputo, Mozambique; ³ABIODES - Association for Sustainable Development, Maputo, Mozambique; ⁴University Eduardo Mondlane, Faculty of Agronomy and Forestry Engineering, Maputo, Mozambique.

Soil Salinity in Mozambique

- ❖ Salinization is a major driver of **soil degradation**, impairing agriculture globally. Increasingly so under **climate change**.
- ❖ Mozambican **policy strategies** acknowledge salinity as a major constraint to national agricultural development (e.g. NAPA 2007, PEDSA 2010).
- ❖ A variety of production systems are affected, principally in the **semi-arid interior** and along the coast and estuaries due to **seawater intrusion**.
- ❖ However, there is a **lack of data and counteraction** plans.

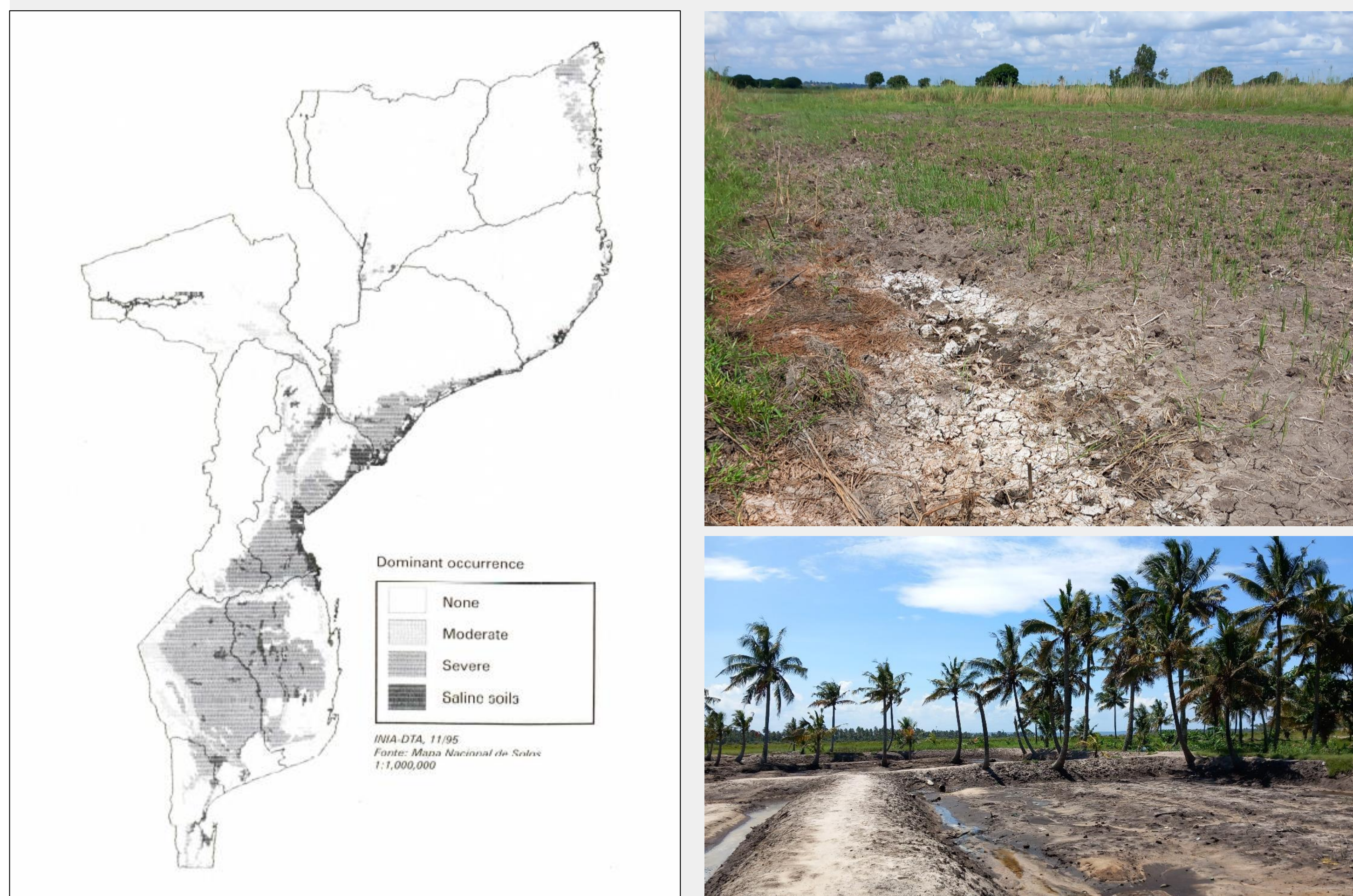


Figure 1: Extend and impact of soil salinity in Mozambique. **Left:** Soil salinity map of Mozambique (Mazuze, 1999; based on Mozambique's National Soil Map from 1995). **Upper right:** Salt-affected rice field at the Incomati river, Marracuene district. **Lower right:** Abandoned field due to seawater intrusion in the urban vegetable growing area (Zona Verde) of Inhambane town.

Saline Agriculture as a Management Approach

- ❖ Saline Agriculture (SA) is a versatile toolbox of practices which allow for **sustained agricultural production under saline conditions**.
- ❖ Our **SaliHort project** successfully piloted the following SA approaches in Mozambican vegetable production:
 - sensor-based salinity assessment,
 - salt tolerant crops and cultivars,
 - adapted soil and water management,
 - organic amendments (manures, composts, biochar, etc.),
 - phytoremediation with *Sesbania* spp.



Figure 2: Selected Saline Agriculture practices promoted under the SaliHort project in the urban vegetable growing area (Zona Verde) of Maputo city. **Left:** Use of salt-tolerant crops, e.g. beetroot. **Right:** Prevention of salt-build up in upper soil layers through improved drainage, leaching and mulching.

The ESA Saline Agriculture Network Initiative

- ❖ Facilitates thematic **awareness raising, knowledge exchange and action** among researchers, agricultural practitioners and other relevant stakeholders in Mozambique and the wider Eastern & Southern African region (ESA).
- ❖ Selected **previous achievements:**
 - hosting of numerous field days along with training of extension personnel and farmers through the SaliHort project,
 - intensive technical exchange with other SA research initiatives in Mozambique and Tanzania, focussing on different cropping systems (rice, sweet potato, etc.),
 - scoping excursions for salinity assessments in different cropping systems of Southern Mozambique,
 - facilitation of Mozambican contributions to international SA networks, e.g. International Network of Salt-Affected Soils.
- ❖ Currently, working towards **consolidating and scaling** above efforts. Seeking **strategic support** from the wider Research & Development community.



Figure 3: Technical networking activities conducted under the SaliHort project. **Left:** Excursion to the Xai-Xai irrigation scheme, in-field salinity assessment. **Right:** Technical workshop on Saline Agriculture experiences bringing together relevant stakeholders from Mozambique.

Outlook: Required Next Steps

- ❖ Systematize research and knowledge exchange at the ESA level for conclusively **defining salinity impact and SA action needs**.
- ❖ Tap into international SA networks for targeted transfer and **adaptation of existing SA knowledge**.
- ❖ Increase advocacy for **policy and donor support**.
- ❖ Provide expertise to existing Agriculture for Development initiatives and devise specific projects for **targeted SA dissemination**.
- The **ESA Saline Agriculture Network** intends to be a catalyst for above action needs; for more info please consult: <https://welt-weit.org/en/project/esa-saline-agriculture-network/>.

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