

Soil Salinity and Saline Agriculture in Eastern & Southern Africa

Assessment of the Status Quo and Call for Action

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Soil Salinity in Eastern & Southern Africa (ESA)

- ❖ Salinization is a considerable driver of **soil degradation** in ESA. Increasingly so under progressing **climate change**.
- ❖ A variety of agricultural production systems are affected, principally in the **semi-arid interior** and along the coast due to **seawater intrusion** (cf. Figure 1).
- ❖ **Policy strategies** of the region generally acknowledge salinity as a relevant constraint to national agricultural development.
- ❖ However, there is still a **lack of data and concerted counteraction** plans.

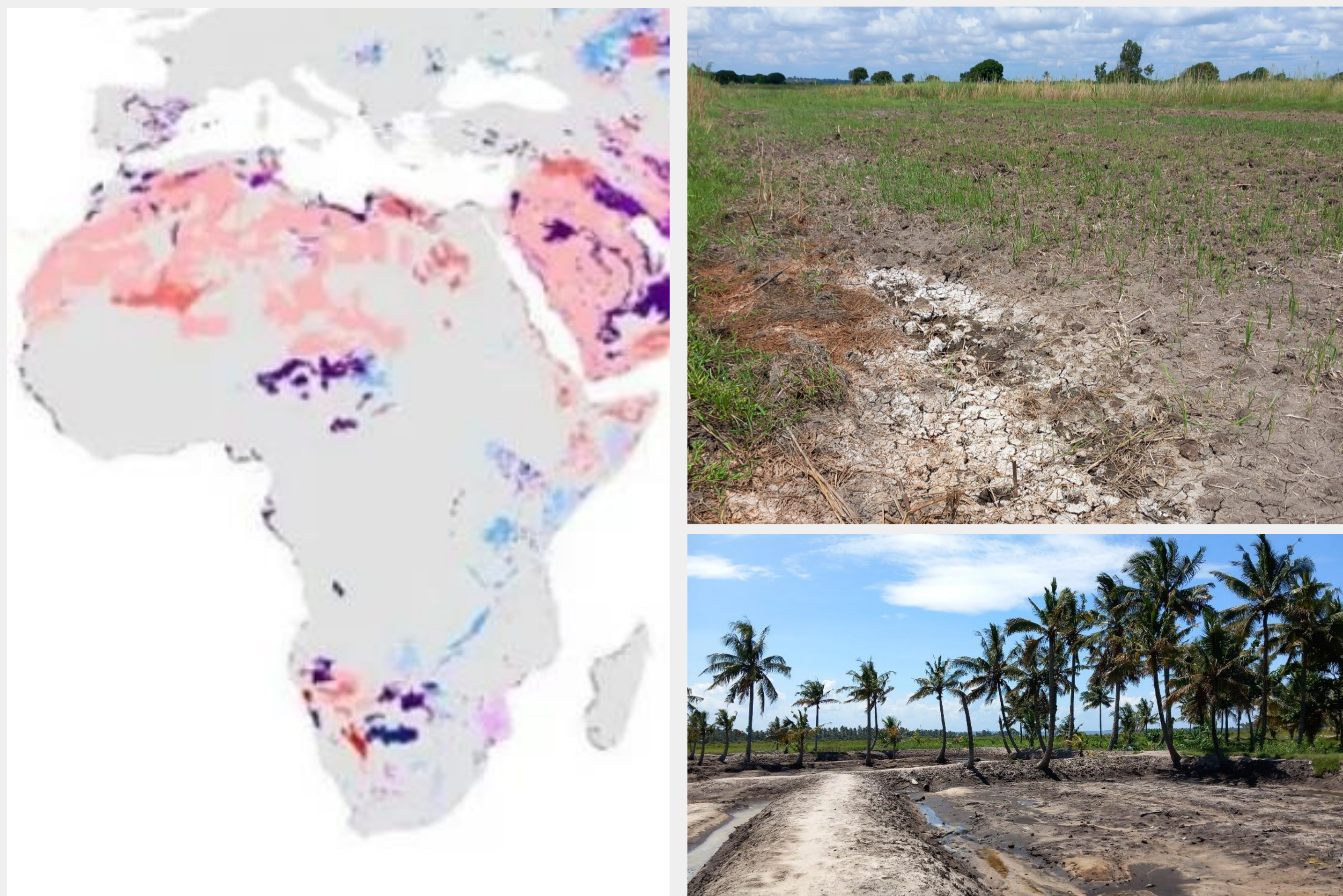


Figure 1: Extent and impact of soil salinity in ESA. **Left:** Soil salinity map of Africa. Red shades: saline. Blue shades: sodic. Purple shades: saline-sodic. Based on data from the HWSD25, taken from Wicke et al. (2011). **Upper right:** Salt-affected rice field in the Incomati estuary (Mozambique). **Lower right:** Abandoned vegetable field due to seawater intrusion (Inhambane town, Mozambique).

Saline Agriculture (SA) in ESA

- ❖ SA combines different agronomic practices which allow for **sustained agricultural production under saline conditions**, ideally contributing to the restoration of the degraded land. Including, inter alia: application of salt tolerant crops, adapted soil and water management, agroforestry and short-rotation based phytoremediation.
- ❖ **Local knowledge** on salinity management among affected farmers is often existent, but expandable. However, targeted **SA research and development action** in ESA is confined to isolated limited term projects. An effective regionwide scaling of adapted SA practices is lacking.
- ❖ **Selected SA initiatives in ESA:**
 - SaliHort project on SA solutions for vegetable production (MOZ),
 - RESADE project on SA solutions for diverse upland crops (MOZ),
 - CIP's research on salt-tolerant sweet potato varieties (MOZ),
 - Climate-Smart African Rice project on salt-tolerant rice (TAZN),
 - SAT's initiative on salt-tolerant local crop varieties (TAZN),
 - Univ. of Rwanda's research on salinity in rice production (RWND),
 - multiple initiatives of The Salt Doctors (KENY, SAFR),
 - multiple initiatives of Seawater Solutions (KENY, MALW).

The ESA Saline Agriculture Network Initiative

- ❖ Aims at addressing above shortcomings, by facilitating thematic **awareness raising, knowledge exchange and action** among researchers, and other relevant stakeholders in ESA. Evolved out of the SaliHort project in Mozambique.
- ❖ **Selected previous activities:**
 - facilitation of intensive technical exchange among SA research initiatives in Mozambique and Tanzania, establishment of links to researchers in Kenya and Rwanda,
 - scoping excursions for salinity assessments in different cropping systems of Mozambique,
 - facilitation of Mozambican contributions to international SA networks, e.g. INSAS.
- ❖ Currently, working towards **consolidating and scaling** above efforts. Seeking **strategic support and collaboration** with relevant actors from the Research & Development community.



Figure 2: 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: Call for Action

- ❖ 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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