Netherlands Enterprise Agency

## Quick Scan / Study on Saline Agriculture in the Ayeyarwady Delta

Food production is one of the greatest challenges for the years to come. The world population will continue to increase, and because of rising incomes the demand for food will increase even more. At the same time the agricultural areas where food is produced are under pressure. One of the pressures is climate change, leading to rising sea water levels and salinization in coastal areas. Saline agriculture can be one of the solutions to this problem. Saline agriculture makes use of salt tolerant crops and improved management practices.

Myanmar is widely recognized to be one of the countries that is most vulnerable to climate change. The ocean tides, combined with the river geometry and the discharge of the river, determine how far the saline water intrudes into the delta. Especially during low discharge and spring tide, the salinity front can move deeper into the delta. Because of the large tidal propagation inside the deltas of Myanmar, the salinity front is able to move far inland. A large part of the coastal areas is affected by soil salinity, causing unfavorable conditions and restricting normal crop production throughout the year. A switch to saline agriculture at relevant locations could provide a wide range of possible benefits for Myanmar. Including improved livelihoods of farmers, enhanced food security, knowledge development and economic growth.

***Project title:***
Quick Scan and study Saline Agriculture, Ayeyarwady Delta

***Location:***
Ayeyarwady region and Yangon region, Myanmar

***Duration project:***
6 months

***Starting date:***
July 2019

***Strong support:***
Embassy of the Kingdom of the Netherlands in Yangon

***Cooperation:***
MoALI, farmers and other stakeholders

***Consortium partners***:
Arcadis (lead), Wageningen University and Research and The Salt Doctors

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### Project objective

The primary goal of this project is to explore by means of a quick scan if introduction of salt tolerant crops and improved management practices is feasible and supportive to the development of sustainable climate-smart agriculture in the coastal areas of Myanmar. With the aim of securing food production, nutrition and increased income for the local farmers, with also protection of biodiversity as a (future) key deliverable. The quick scan will focus on the Ayeyarwady region (partly) and Yangon Region. Secondly, this project aims to form the basis for long-term engagements from the Netherlands with coastal areas in the whole of Myanmar.

### Approach

The project will describe characteristics of the country (with a focus on coastal areas), the agricultural value chain in the coastal areas and its main products and regions including alignment of the government plans and pilots. A stakeholder analysis and consultation will outline the main actors, facilitators and influencers, their capacities and their linkages. The quick scan will describe the main issues, trends and developments, challenges and opportunities and potential risks (SWOT analysis, risk analysis) in relation to salinization of the coastal areas. First a diagnosis of the local salinity issues, based on field visits and sampling will be done. Secondly, identification of potential future pilot locations/region(s). Next a market scan for public and private sector cooperation and business in relation to saline agriculture, describing how and in which specific areas of knowledge, trade (inputs) and/or technology, further support is needed. Including a quick scan of suitable saline crops.

### Experiences in Asia

Several projects in Asia have shown that by adapting to salinity, rather than fighting against it, it is possible to increase crop production and improve the capacities of the farmers and the livelihoods of their families in salt affected areas. For instance, the Salt Doctors are currently training over 5000 farmers in Bangladesh on saline agriculture. The farmers are now using the salt affected soil and are able to cultivate nutritious crops with good market value like potato, carrot, cauliflower, cabbage and beet, and their income increased by 34% after 2 years into the project. This by planting salt tolerant crops during periods where previously no planting was possible due to the salinity issues and many of the trained farmers are now close to year-round crop production and year-round employment.