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Developing sustainable ports in Africa
Introduction of the NWO-UDW research project

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VOICES ON SUSTAINABLE PORTS IN AFRICA

STORIES FROM TEMA PORT, GHANA

Baukje Bee Kothuis & Jill Slinger (Eds.)

The Sustainable Ports in Africa program is a collaborative multidisciplinary
NWO Urbanizing Deltas of the World research project

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Images below: Impression of the stakeholder workshop at the port of Tema in 2017, kindly hosted by Ghana Ports and Harbours Authority. Including participants from Ghanaian and Dutch businesses, national and local governmental organizations, local NGO's, and academics from the University of Ghana, Legon, Delft University of Technology, Wageningen University, Free University Amsterdam, UNESCO-IHE, Deltares and respresentatives of the NABC/GNBCC and the Dutch Embassy in Accra.

Image page 3: Design of the NWO-UDW research project "Integrated and Sustainable Port Development in Ghana within an African Context".

Jill Slinger, Tiedo Vellinga, Kwasi Appeaning Addo

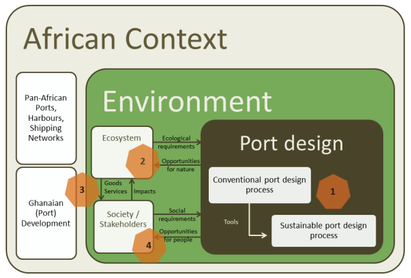
DEVELOPING SUSTAINABLE PORTS IN AFRICA

INTRODUCTION OF THE NWO-UDW RESEARCH PROJECT

Prof. dr. Jill Slinger is the scientific research leader of this project. She is an associated professor at TU Delft and visiting professor at Rhodes University, South Africa.

Prof. (emeritus) dr. Tiedo Vellinga is the Dutch program leader of this project. He is emeritus professor at TU Delft and worked as a director of infrastructure management at the Port of Rotterdam.

Prof. dr. Kwasi Appeaning Addo is the Ghanaian scientifc and program leader of this project. He is associate professor of Marine and Fisheries Sciences, University of Ghana, Legon.



Ports provide an essential link to the world market, enabling countries to trade their goods and strengthen their economies. However, the global and regional benefits of port developments do not always translate into benefits to local stakeholders. There is often a mismatch between the positive global and regional effects of port development and the impacts (dis-benefits) that can be experienced locally. Port development requires a paradigm shift from a conventional economic and engineering oriented approach to a stakeholder-inclusive and environmentally, economically and socially integrated approach to become sustainable.

The research project "Integrated and Sustainable Port Development in Ghana within an African Context" aims to learn how to develop integrated and sustainable African ports that meet economic, social and environmental needs now and in the future. The Port of Tema, which has evolved from a small fishing village to Ghana's leading industrial centre and seaport in the last decades, forms the focal case study of the research.

The research project, funded by the Netherlands Organisation for Scientific Research, is carried out by a consortium comprising the University of Ghana, Delft University of Technology, the VU Amsterdam, Wageningen University, Deltares, UNESCO-IHE-Delft and the Netherlands African Business Council and is supported by NGO's and private sector companies. The project is characterized by:

- An inter-disciplinary approach, combining the engineering, ecological, economic and governance aspects of port development will produce an 'Africa-specific' design-framework and design tools to integrate and optimise the environmental, economic and public benefits of ports.
- A basis in the PIANC and IAPH Sustainable Ports Documents, which provide guidance on the planning, design and operation of sustainable ports;
- An 'action based' research approach and an applied research perspective;
- Demand driven knowledge development, meaning that users are in direct contact with the researchers and provide input in the form of stating their interests
- Ecosystem-based engineering design;
- A focal case study in Ghana and the aim to spread the message to other ports in Africa;
- A bottom-up, stakeholder-inclusive approach that emphasizes cooperation and collaboration between researchers and local stakeholders. Multi-stakeholder workshops and interviews with stakeholders to hear their stories are key aspects.

Specifically, the research is organised into four connected sub-projects, each covering a different aspect of sustainable port development:

1. Integrated engineering design
2. Ecological change and opportunities
3. Ecosystem services
4. Governance

A specific objective of the governance component of the project is to find out what local stakeholders value as a sustainable port. This book is an outcome of this endeavor, seeking to present and share the voices of a range of stakeholders on Tema and its port.