International Workshop on Tidal Area Features and Natural Processes

February 24-26, 2009, Taipei, Taiwan

ICID Handbook "Sustainable development of tidal areas" Chapter 1 & 7

Dr. Ir. Henk Ritzema
Wageningen University and Research Centre

ALTERRA WAGENINGEN UR

Outline of presentation

- ICID Working Group SDTA
- Handbook SDTA: outline & scope
- Chapter 1 Introduction, including Position paper
- Chapter 7 Integrated decision support framework
- Next steps

Objectives of the ICID WG-SDTA

- To collect information about the natural environment in tidal areas around the world
- To identify sustainable development and conservation options in the tidal areas
- To find a balance between the preservation and development of tidal areas.

Definition of coastal zone

All those coastal areas where the tidal processes are capable of affecting man's activity or of being influenced by man.

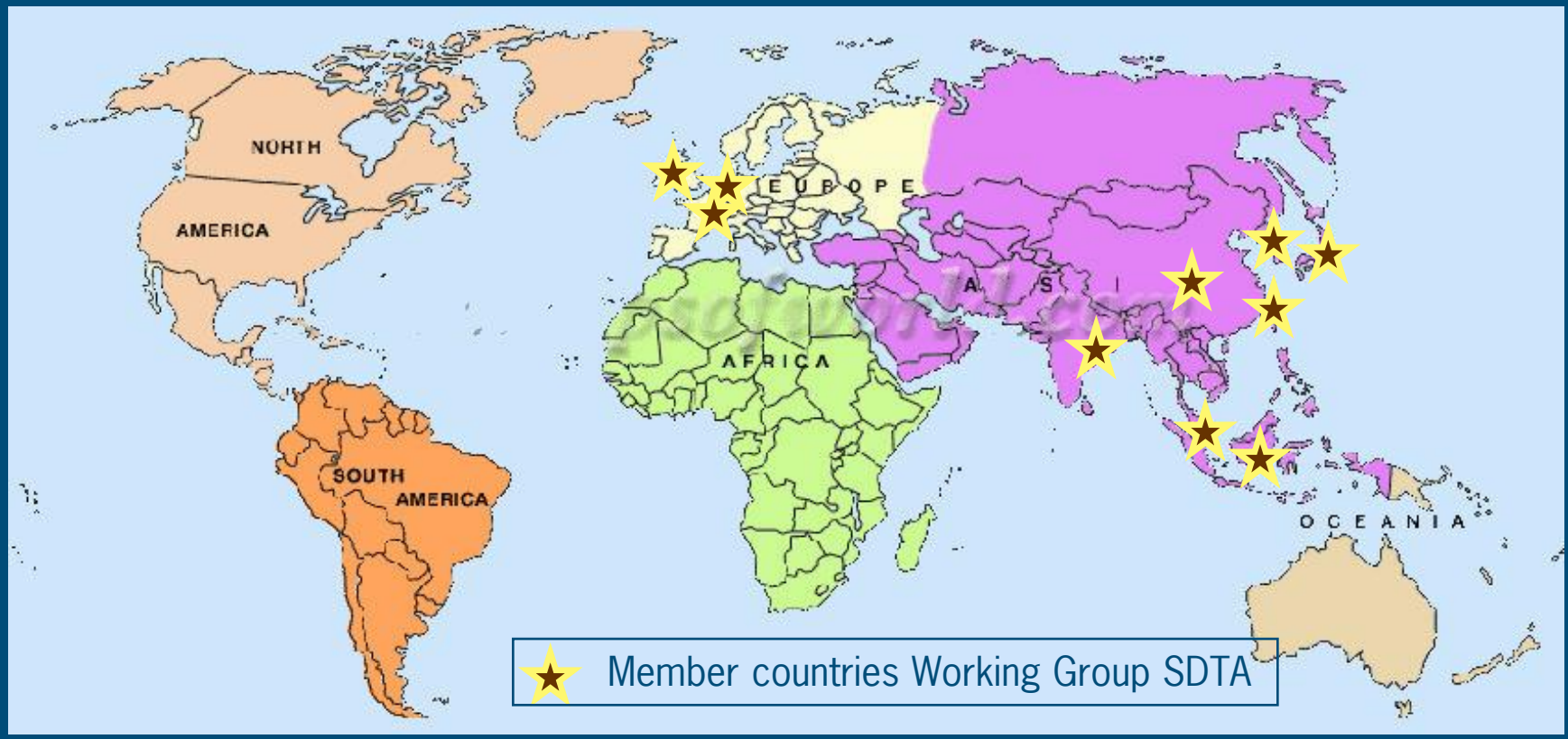
This roughly extends tidal areas between the following limits:

- on the seaward side up to the limit of conventional construction or dredging activity (typically of the order of 30m water depth) and
- on the landward side up to the limit of the action of the sea, including all those areas that might be subject to flooding by seawater and up all estuaries and rivers to the tidal limit.

Tidal areas differ greatly depending on their location, geo-physical conditions, climate, tidal range and cultural differences.

Coastal zone

3% of the earth surface, 60% of the population



Member countries Working Group SDTA

- China
- Chinese Tapei
- Germany
- India
- Indonesia
- Japan
- Korea
- Malaysia
- The Netherlands
- United Kingdom

Vision of the WG-SDTA

Sustainable development of tidal areas provides appropriate social and economic development and productivity of tidal areas, whilst caring for and working with the natural environment, in a way that is fair and affordable both now and in the future.

Vision is based on:

- Convention of RAMSAR
- Dublin Principles
- Principles of IWRM
- Principles of ICZM

ALTERRA
WAGENINGEN UR

Handbook – outline & scope

- To draw together existing knowledge and experience and the results of recent and current research to produce detailed procedural guidance on sustainable development of tidal areas.
- To provide an overview of current best practices for use by professionals working in the planning, design, construction and operation and management of flood control and land & water management in tidal areas

Handbook - structure

- Synthesis based on:
- Case studies of historically significantly monumental tidal reclamation projects from member countries, in particular China, Chinese Taipei, Germany, India, Indonesia, Japan, Korea, Malaysia, the Netherlands and UK

Case studies will be available on CD-Rom

Handbook - Content

1. Introduction
2. Managing the development of tidal areas
3. Features of tidal lowlands
4. Natural processing in tidal lowlands
5. Engineering aspects for a sustainable development of tidal lowlands
6. Tidal reclamation and their impacts on natural processes
7. An integrated decision support framework

Chapter 1

Principles

1. Integrated multi-functional approaches
2. Holistic engagement with social, economic and environmental issues
3. Management of risk and uncertainty and adaptation to change
4. Enabling methods and means

Principle 1 – Integrated multi-functional approaches

Issue 1.1: Integrated land management

Issue 1.2: Integrated water management

Principle 2 – Holistic engagement with social, economic and environmental issues

Issue 2.1: Engagement with all stakeholders

Issue 2.2: Management of resources and promotion of sustainable production

Issue 2.3: Environmental enhancement and stewardship of natural resources

Principle 3 – Management of risk and uncertainty and adaptation to change

Issue 3.1 Risk management to protect people, property and the environment from natural and man-made hazards

Issue 3.2: Adaptive management to take account of climate change, population growth and other long-term changes and uncertainties

Principle 4 - Enabling methods and means

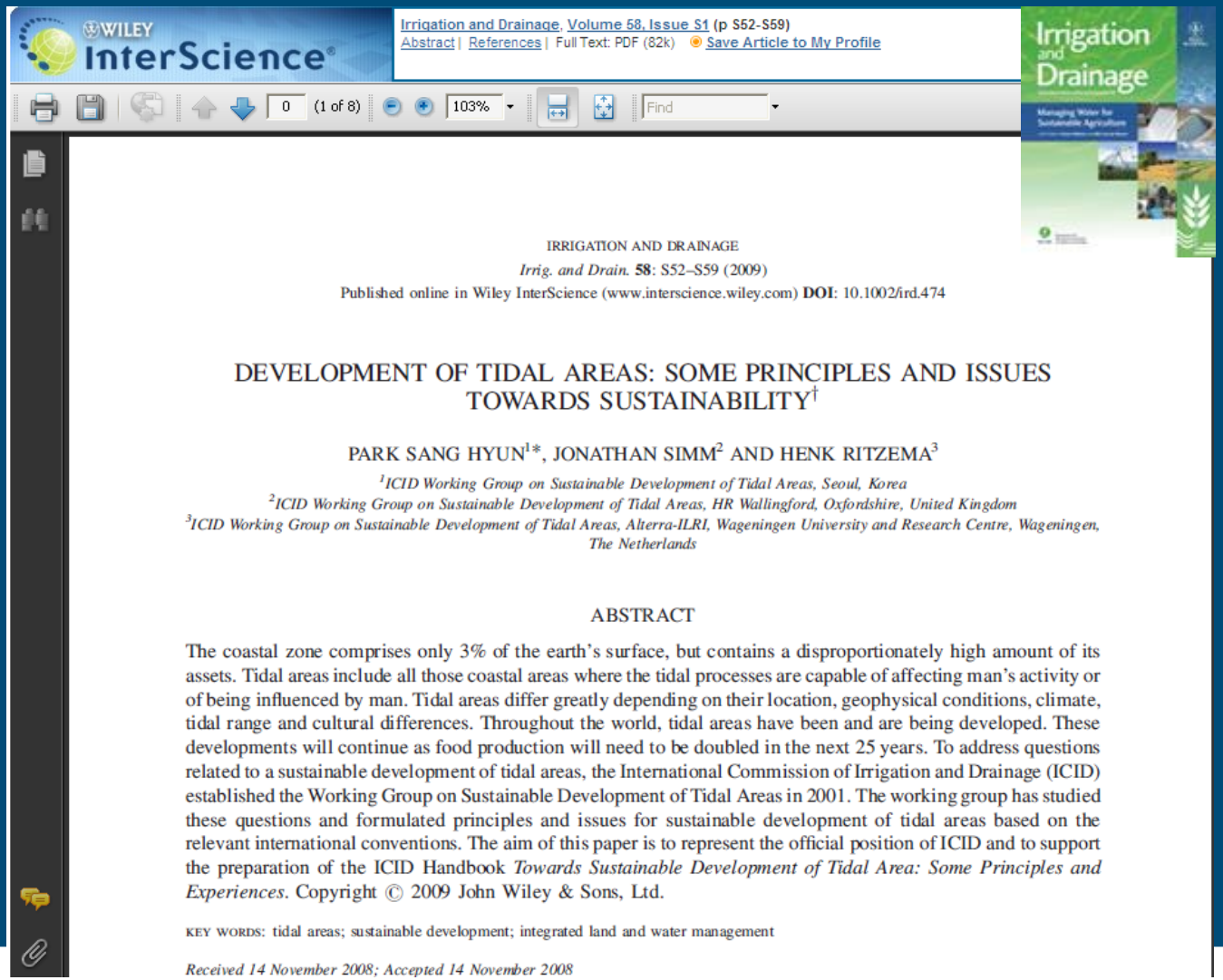
Issue 4.1 Appraisal using methods that are rigorous, coherent and transparent and consider social, environmental and economic costs and benefits

Issue 4.2 Knowledge, skills and awareness to promote sustainable approaches

Strategy paper

Special Issue on Water for Food and Poverty Alleviation

for 5th WWF



WILEY InterScience®

Irrigation and Drainage, Volume 58, Issue S1 (p S52-S59)
Abstract | References | Full Text: PDF (82k) Save Article to My Profile

IRRIGATION AND DRAINAGE
Irrig. and Drain. **58**: S52–S59 (2009)
Published online in Wiley InterScience (www.interscience.wiley.com) **DOI**: 10.1002/ird.474

DEVELOPMENT OF TIDAL AREAS: SOME PRINCIPLES AND ISSUES TOWARDS SUSTAINABILITY†

PARK SANG HYUN[1]*, JONATHAN SIMM[2] AND HENK RITZEMA[3]

[1]*ICID Working Group on Sustainable Development of Tidal Areas, Seoul, Korea*
[2]*ICID Working Group on Sustainable Development of Tidal Areas, HR Wallingford, Oxfordshire, United Kingdom*
[3]*ICID Working Group on Sustainable Development of Tidal Areas, Alterra-ILRI, Wageningen University and Research Centre, Wageningen, The Netherlands*

ABSTRACT

The coastal zone comprises only 3% of the earth's surface, but contains a disproportionately high amount of its assets. Tidal areas include all those coastal areas where the tidal processes are capable of affecting man's activity or of being influenced by man. Tidal areas differ greatly depending on their location, geophysical conditions, climate, tidal range and cultural differences. Throughout the world, tidal areas have been and are being developed. These developments will continue as food production will need to be doubled in the next 25 years. To address questions related to a sustainable development of tidal areas, the International Commission of Irrigation and Drainage (ICID) established the Working Group on Sustainable Development of Tidal Areas in 2001. The working group has studied these questions and formulated principles and issues for sustainable development of tidal areas based on the relevant international conventions. The aim of this paper is to represent the official position of ICID and to support the preparation of the ICID Handbook *Towards Sustainable Development of Tidal Area: Some Principles and Experiences*.

KEY WORDS: tidal areas; sustainable development; integrated land and water management

Received 14 November 2008; Accepted 14 November 2008

ALTERRA WAGENINGEN UR

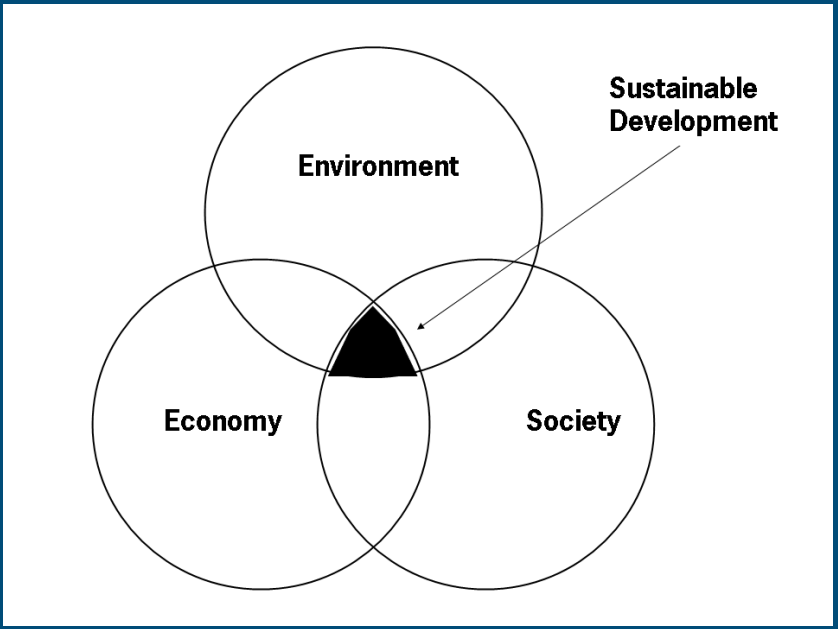
Chapter 7 - Integrated decision support framework

7.1 Integrated multi-functional approaches
7.2 Holistic engagement with social, economic and environmental issues
7.3 Management of risk and uncertainty and adaptation to change
7.4 Enabling methods and means

7.1 Integrated multi-functional approaches

Vision is based on:

- Convention of RAMSAR
- Dublin Principles
- Principles of IWRM
- Principles of ICZM



7.2 Holistic engagement with social, economic and environmental issues

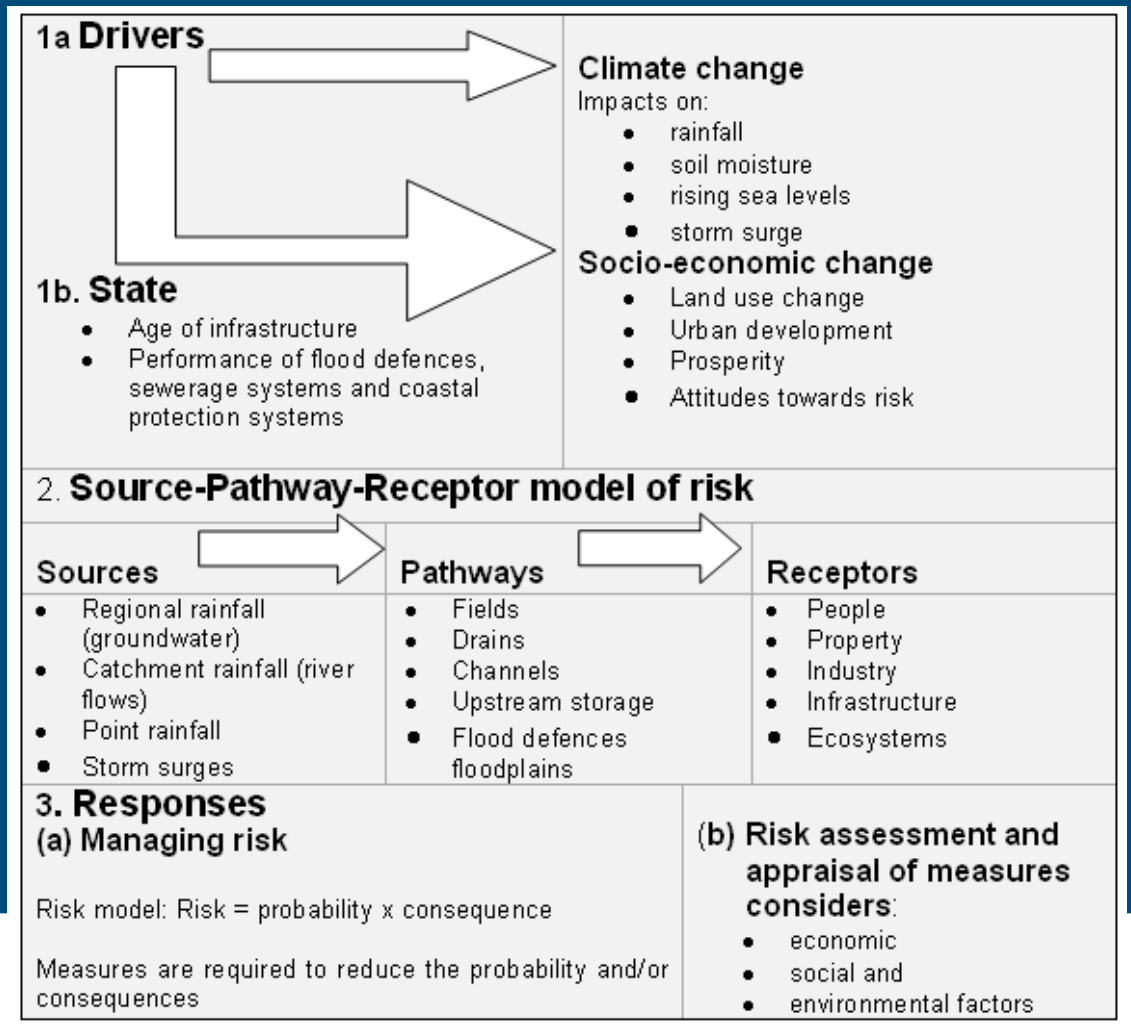
High ▲ Low			
	8	Citizen control (or self-governance)	Degrees of citizen power (or participation)
	7	Delegated power	
	6	Partnership (or co-operation)	
	5	Placation	Degrees of tokenism (or symbolic participation)
	4	Consultation	
	3	Informing	
	2	Therapy	Levels of non-participation "contrived to substitute for genuine participation"
	1	Manipulation	

GOVERNMENT RESPONSIBILITY: LOW ▲ HIGH			COMMUNITY INVOLVEMENT: HIGH ▼ LOW
	4	Governments abrogate responsibility	Individuals encouraged to DIY
	3	Governments devolve responsibility	Community takes major responsibility
	2	Governments take reduced responsibility	Significant community involvement
	1	Governments take major responsibility	Minimal community involvement

Finding a balance between Government responsibility and community participation

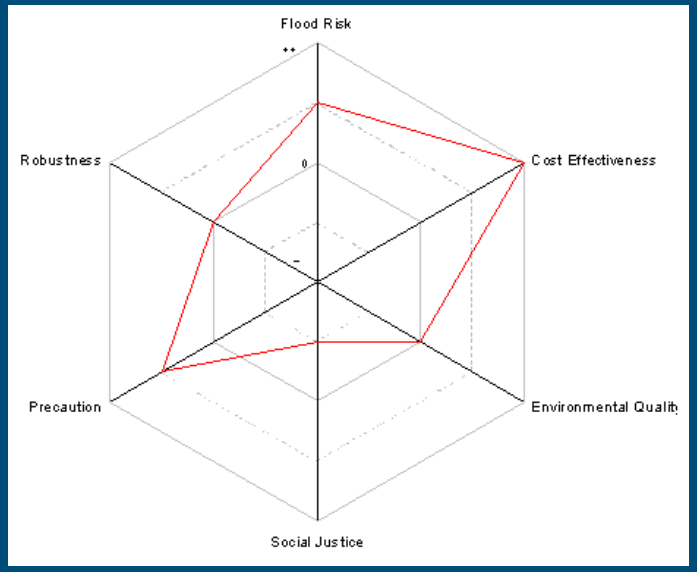
ALTERRA
WAGENINGEN UR

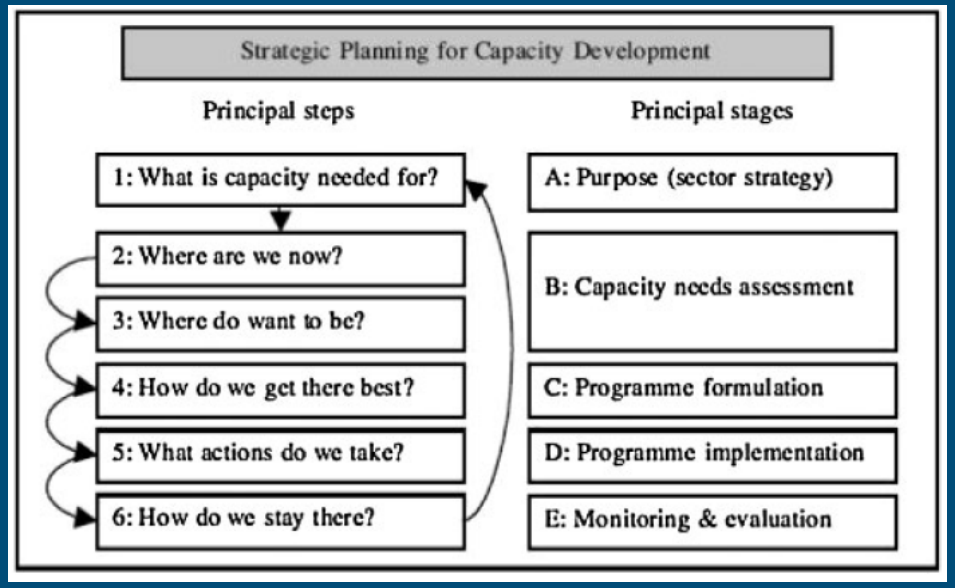
7.3 Management of risk and uncertainty and adaptation to change



ALTERRA
WAGENINGEN UR

7.4 Enabling methods and means





Express results in a 'simple' way

Strategic planning for capacity development

Next steps

Where are we now?

Draft versions of chapters are discussed during this workshop

- Review of chapters
- Final drafts of Chapters
- Presentation of handbook: when & where?

Thank you for your attention

ALTERRA
WAGENINGEN UR