

Sustainable Regional Development in the Trilateral World Heritage Wadden Sea Region

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1

Trilateral **Waddensea** area
UNESCO-Worldheritage site since 2009
(extended in 2014 with Denmark)

Denmark

Germany

Netherlands

2

The Wadden Sea is the world's largest coherent intertidal flats with a unique ecosystem characterized by a rich benthic fauna supporting millions of coastal birds

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Ecological values

5

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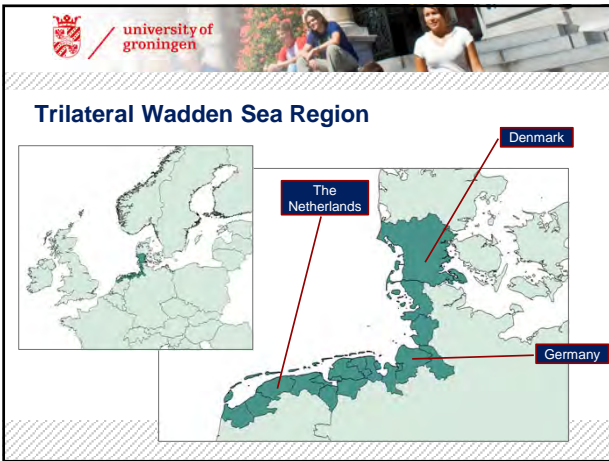


7



8

Wadden UNESCO World Heritage
 Unique nature wetland area in a region where **people** live with their own identity and language who need jobs and income



9

Wadden Sea Region: 25 inhabited Frisian Islands

- The area counts 25 inhabited islands and several smaller vegetated islands and barren high sands in three countries.
- The total area of the islands is about 2.000 km² and the Wadden Sea itself covers about 8.000 km² over 500 km.
- The mainland is one of the oldest and most complex cultural landscapes in Europe and has been inhabited for more than 5.000 years
- At present, 1 million inhabitants live on islands and administrative regions directly bordering the Wadden Sea. An estimated 3.5 million inhabitants live in the 17,500 km² of land with severe flooding risks. i.e. at less than 5 m above or even below mean sea-level in this region.

10

The World Heritage List is the most prestigious List of cultural and natural monuments world wide

2014 entire Wadden Sea on the World Heritage List with the extension of the Danish part (Dutch island excluded!)

An exceptional opportunity to reinforce conservation and management and advance sustainable regional development with the stakeholders

11

The Wadden Sea Region

covers an area, which encompasses the coastal zones, the Wadden Sea with its islands and sands and the relevant parts of the **Exclusive Economic Zones (EEZ)** of Denmark, Germany and the Netherlands. (WSF/CWSS)

Important for rights for fisheries, fossile fuel extractions and windfarms

12

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Nature Conservation and Human Interaction in the Wadden area since many centuries

- Towards safety and protection of flooding: building dikes
- From reclaiming land to nature protection
- From nature protection to shared use
- From regional to national to trilateral management
- The Wadden system needs to be managed so that both the ecosystem and the social system can develop in a sustainable way. This in itself is a real challenge.
- **Proper management can only be applied if there is sufficient ecological and social background information and knowledge to manage this integral system**
- → establishment Waddenacademie + monitoring

13

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Vierde symposium Waddenacademie

in november op 24 juni 2010
in het Biologisch Centrum van de Waddenacademie, Kerkhof 36, 9713 NV HAREN



14


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15

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LEEWARDER COURANT

Extraction of natural gas on sea and land at the edge of the Waddensea: new plans or 2023 approved last week!

→ Lots of critics on social media, referring to among others the recent IPCC-report about climate change



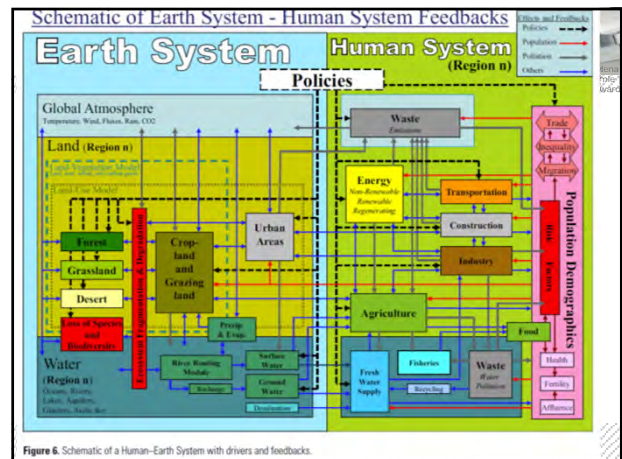
16

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Goals of Trilateral Integrated Coastal Zone Management (ICZM) by Wadden Sea Forum

- A **balanced population structure** with a healthy share of young and elderly people, with indigenous young people choosing to stay in the region and population decline being averted.
- **Almost full employment** for which a wide diversity of jobs is needed.
- With regard to welfare WSR residents should have an adequate income, good living conditions and high life expectancy. Social equality and work-life balance should ensure satisfaction among the population.
- **This requires balanced economic development that provides future prospects for people living and working but should also generate surpluses for environmental protection measures.**
- The economy in the WSR should be made resilient for economic recessions and international competition by means of strategies for innovation and entrepreneurship.
- → Needed: knowledge and monitoring

17

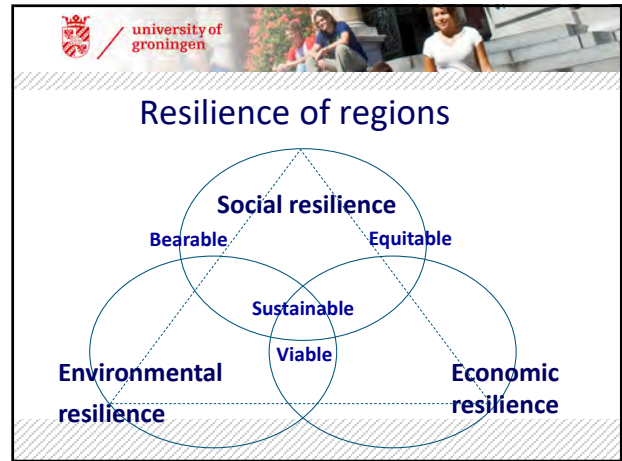


Trilateral Research Agenda
for the Wadden Sea Region and its World Heritage Site

Trilateral Research Agenda is approved by the Trilateral Government Conference in May 2018 in Leeuwarden
→ next step is implementation by a Program Committee that will be established soon by the Trilateral Wadden Sea Board.

3. Challenges and opportunities		
3.1	The Wadden Sea Region as living lab for human-nature interactions	8
3.2	The Wadden Sea Region coping with climate change and relative sea level rise	9
3.3	The Wadden Sea Region towards a sustainable maritime region	12

19



20

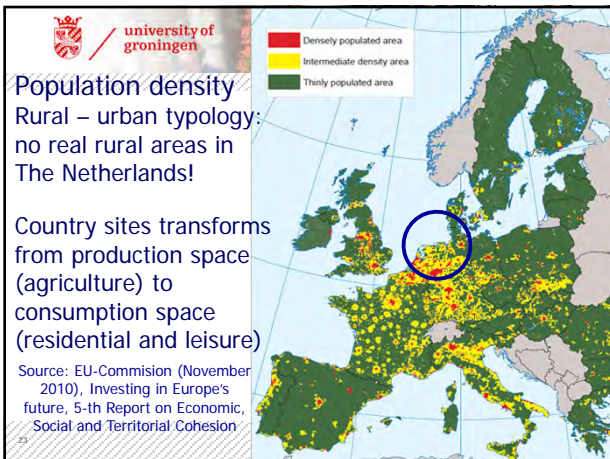
Options for economic development and jobs

- Economic activities with **locational advantages** in the Wadden area, but also **interaction Economy-Ecology**: (i) agriculture and fishing, (ii) extraction of energy (oil, gas, wind), (iii) harbours and (iv) tourism and related personal and business services → also
- Innovations: production of salt-tolerant potatoes and other crops that will grow in a salt environment
- Promote more localized value chain for shrimp fishing: innovative mechanical shrimp peeling machines instead of peeling in Maroc (3.000km away) because of cheap labour → higher prices for better product with less catch
- Attraction of **footloose economic activities and people with zero effect on the ecosystem**: designers, journalists, scientists, writers, artist can do their business everywhere but like the quiet and healthy environment of the Wadden region. They live and do their business in redundant farms, churches and industrial buildings. Crucial: fast ICT-Broadband access

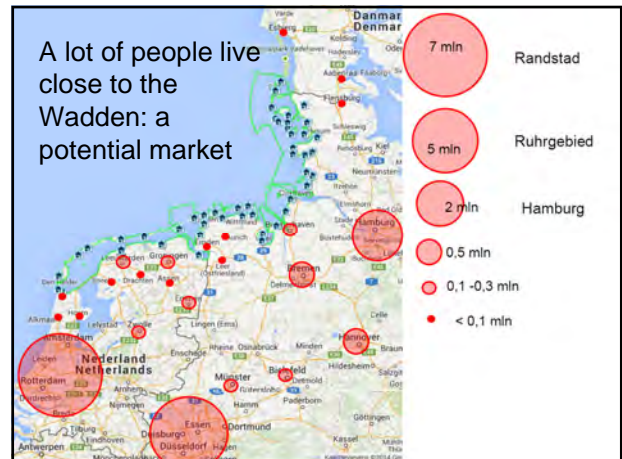
21



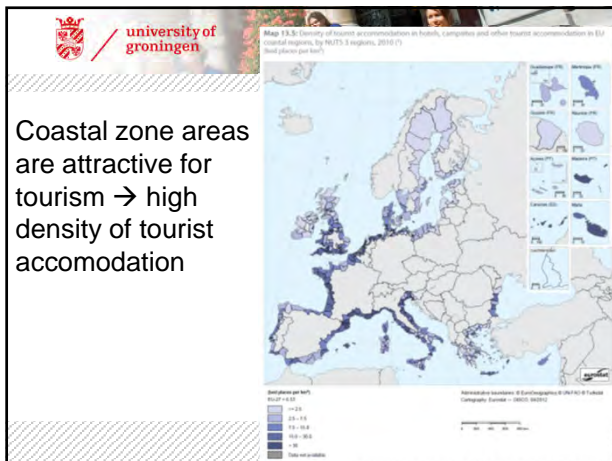
22



23



24



Coastal zone areas are attractive for tourism → high density of tourist accommodation

25

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Dinsdag 18 september 2012. Het laatste nieuws het eerst op NU.nl

Deel:

Kustbewoners gezonder dan mensen die in binnenland wonen

AMSTERDAM - Mensen die aan de kust wonen hebben over het algemeen een betere gezondheid dan mensen die verder landinwaarts wonen. Dat blijkt uit een Engels onderzoek.

Wetenschappers van de universiteit van Exeter baseren hun conclusie op een bevolkingsonderzoek uit 2001 waarbij meer miljoen mensen onder meer werden ondervraagd over hun gezondheid tijdens de afgelopen twaalf maanden.

Het team keek naar de mensen die hun gezondheid als 'goed' bestempelden en keek vervolgens hoe groot de afstand tussen voornamelijk deze mensen en de kust was. Daaruit concludeerde dat kustbewoners hun gezondheidsstatus in het algemeen inschatten dan mensen die in het binnenland (meer dan 50 km kust) wonen.

De wetenschappers hebben een aantal mogelijke verklaringen voor dit verschil. Mensen vlak bij de kust wonen hebben meer mogelijkheden om te sporten, zoals strandwandelen maken en fietsen door de duinen. Ook biedt de kust mensen meer gelegenheid om te ontspannen.

Door: NU.nl/Hans Bloemswart

Inhabitants of the coast are healthier

Germany: Kurorts

26

Waddenbalans
Monitoring the sustainable development of the Dutch Wadden Islands

The Telos tree capital model
Model for monitoring and assessing sustainability at a regional/local level

telos brabant centrum voor duurzame ontwikkeling

27

Wadden area in terms of socio-economic problems very different
We therefore look geographically detailed!

Waddenbalans built up from geographical level of the municipality.
Distinction between: harbor, coastal and island municipalities

Legenda

- Harbor gemeenschap
- Eiland gemeenschap
- Kust gemeenschap
- Inland gemeenschap

28

Factsheet per municipality

Terschelling

Demografie

- Bevolking: 10.100
- Wonen: 4.500
- Werkloosheid: 10%

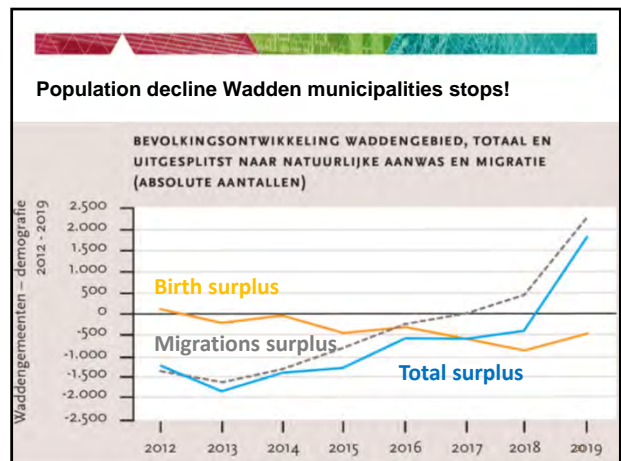
Economisch kapitaal

- Arbeid: 84,2%
- Wetenschap: 10,1%
- Wetenschap & innovatie: 15,7%
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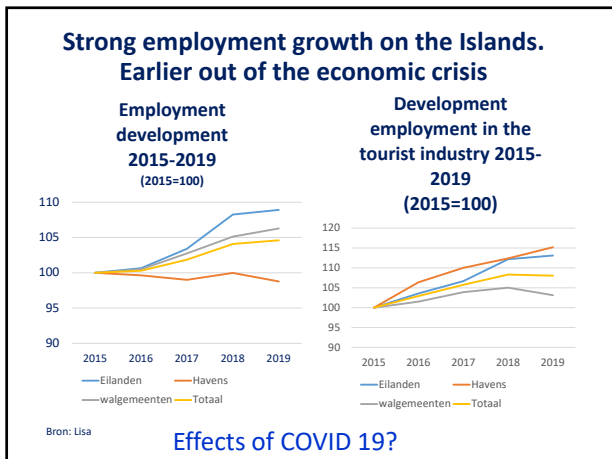
Sociaal-cultureel kapitaal

- Menselijke ontwikkeling: 82,0%
- Participatie: 84,3%
- Wetenschap & innovatie: 15,7%
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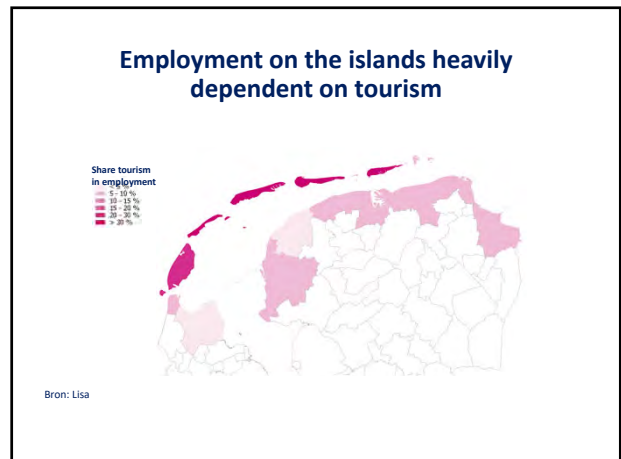
29



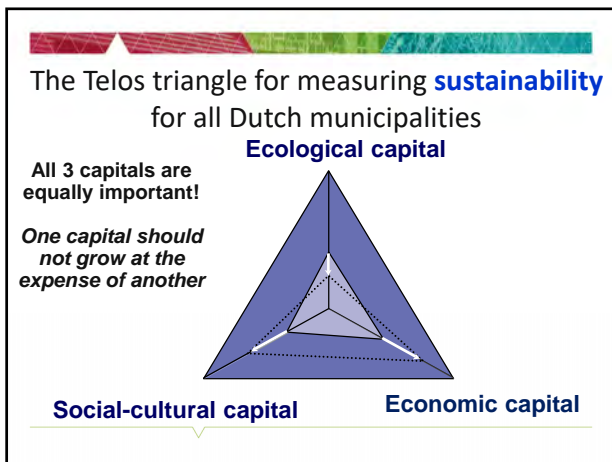
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31



32



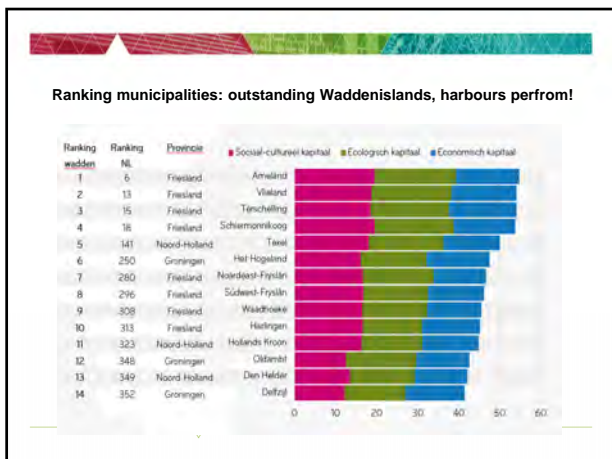
33

A broad view on sustainability

Stocks per capital (benchmark)

Ecological capital	Social-cultural capital	Economic capital
Nature & Landscape	Social participation	Labor
Soil & Groundwater	Economic and political participation	Spatial local conditions for business development
Surface Water	Safety	Infrastructure, connectivity, mobility
Air	Housing & Living Conditions	Competition
Energy and Climate	Health	Knowledge
Waste	Education	
Hinder & calamities	Arts and Cultural heritage	

34



35

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Important issues for sustainable future

- Gas and salt extraction: surface subsidence
- Climate change and sea level rise; salination
 - Safety protection for people and capital by dikes etc.
 - Flyway: Waddensea is important for migratory birds
 - Swimway: dikes etc. prevent that fish migration
- Fisheries: new techniques
- Harbour activities; power plants, chemical industries, Cruiseships Meyer Warff Papenburg
- Windpower: horizon pollution, cables needed, pipelines, ship wrecking, lost containers
- Tourism carrying capacity; effects of COVID19

36