Alternative ways to stay dry

urban development experiences from a flood prone country

by Hans Oerlemans
Context

1. Peat Developments
2. Connect with the river
3. Floating houses

Relevant for WA?
Easy to develop land is running out

Context
Parallels with the Netherlands
Wet land, under sea level

Amsterdam
The Hague
Rotterdam
Water from the hinterland

Image: Provincie Utrecht, the Netherlands
Wet, swampy landscape

Image: Lucas de Boer
Swamp drained for agricultural use

Image: Freek Mayenburg
System of pumps

swamp with mosquitos

farmland with ditches

weirs control water levels

levee / dyke

canal or sluice gate

river

daughter way

System of pumps
Urbanising the wet landscape

Image: Siebe Swart
Cover with sand
New water system, with black water & storm water
Increasing hard surface overburdens sewer system
Flood water from the hinterland
Expensive and uniform & bare suburbs
1. Peat developments

New-Peat-Lands, Meppel

Image: OKRA landscape architects
City district, 5300 dwellings
Building in a wet landscape
Marrying city and landscape

Image: OKRA landscape architect
Change drainage management + fill partially
Keeping all the ditches, 10% surface water
Adjusting water level areas

Image: OKRA landscape architects (top: zulherbitse.wordpress.com)
Weirs and bridges

Image: OKRA landscape architects
Types of water & water uses

Image: OKRA landscape architects
Surface run-off & water quality
Buffering & water quality
Green roofs: water buffer & insulation
Visible storm water run off
Permeable paving
2. Connect with the river

IJssel Quay, Doesburg
Connecting to the river

Image: Siebe Swart
Reducing need for fill
Double promenade and panoramic views
Protecting against high river levels
Grandstand to the landscape

Image: OKRA landscape architects
Land side residential street

Image: Raoul Suermondt
3. Floating dwellings

Waal River Front, Tiel
Connecting the city to the river
Dwellings in the flood zone
Flood zone dwellings
Marina dwellings
Combining all 3

Braassem, Roelofarendsveen

Image: Google maps
2500 dwellings, marina and town centre

Images: SVP & OKRA landscape architects
Relevant for WA?
Wet agricultural land?
Along rivers and coast lines?
Marina’s and tidal areas?
Water as an urban quality

Hans Oerlemans

e. hans.oerlemans@rpsgroup.com.au
t. 08 9211 3574 | m. 04 9904 9104