Index

actors/participants, in water projects
boundary judgements
  in Breakthrough project 105–8
cognitions 17–25, 28–9, 74–8, 143–9
contextual factors 21–5
during crisis situations 74–5
motivation 22–5, 29–30, 74–8, 99–105, 109, 134–49
during planning/decision-making processes 75–8
scientific information 135–40, 143–9
strategies for changing 27–30, 111, 195, 199
and boundary spanning 11–12
capacity of 22–5
characteristics of 22–4, 195
discourse coalitions 47
environmental/natural resource management behaviour of 52
exclusion of 80, 86, 115, 150, 169, 173
in implementation processes, serial vs. parallel 161–2, 167–73
interactions between
  in Ameland Dune Fringe project 127–33
  in Bargerveen project 125–7, 130–33
  conflicts 45, 83–4, 127–33, 147–9
coping strategies 190–91
in Eperbeken project study 161–2, 165–6, 170–71
land use re-ordering process, role in 117–19, 125–33
managing out 178–80
numbers of, influences on 39, 47
and Ostrom’s institutional rules 117–19
in policy-making, role in 44–5, 122, 137–40, 143–6
Adaptive Water Management (AWM) 7–11, 17, 19, 63
administration, public boundary spanning 11–12
  political influences on 183–4
culture of 175–7
of EU subsidies 95
aggregation rules, in land use re-ordering process 118
agricultural associations, role in water projects
  in Breakthrough project 91, 97–8
  in Vecht project 69–78, 80–81, 83–4
Ainslie, G. 51
aldermen, role of 102–4, 110–11
Ameland Dune Fringe project 118, 127–33
  background 127
authority rules, in land use re-ordering process 118
AWM see Adaptive Water Management
Bargerveen project 125–7, 130–33
  background 125
  soil contamination in 126, 130
Becht Commission (1975) 37–8
Berger, P. L. 46–7
boundaries, generally
  and communication 28, 34–5
  enclosing boundaries 42–4, 49
  geographic boundaries 42–3, 47–8
  interdisciplinary approach to 44, 48
  intermediary boundaries 44–7, 49
mental boundaries 46–8
public–private boundaries 47
for sense-making 46–7, 49
shifts in 47–9
and social systems theory 41–2, 48–9
boundary judgements
in Breakthrough project 105–8
changing, strategies for 27–30, 85, 111–12, 199
cognitions, of actors 17–18
cognitive filters 18–19, 51
convergence 19–21, 26, 108–10, 196–8
divergence 19–21
frames of reference 18–20, 23–5, 51, 139, 150
new cognitions 28–9, 85, 111, 199
receptivity 19–20, 24–5
Contextual Interaction Theory (CIT) 21–5
domain dimensions
in Breakthrough project 106–8
in Eperbeken project 167–72
generally 25–6, 199–200
geographical 11–12, 42–3, 47–8
scale/ spatial dimensions 79, 106–7, 151, 169–71, 196
governance issues 108–10
sectoral dimensions 80, 107, 150–51, 171–2, 196
temporal dimensions 167–9
coherence of 107–8
project phases 46, 108
temporal discounting 52–4
temporal orientation 55–6, 60
temporal perspective 51–2, 55–8, 61–2, 66–7
time horizon 12–13, 54–5, 60–61, 64–6, 80, 196–7, 200
governance issues 108–10
learning processes, role in changing 28–9
and parallel implementation 157–8, 167–73
and politics 183–4
receptivity 19–20, 29, 31, 65–6, 196–8
and scientific information 149–54, 150–51, 153
and serial implementation 157–8, 167–73
structural context of 31–2, 198
in Vecht river system project 79–81
boundary objects
defining 115–16
and land use re-ordering process 116–19
boundary organizations
defining 115–16
and land use re-ordering processes 133–4
boundary spanning 11–15, 193–4
and boundary governance issues 108–10
in Breakthrough project 108–12
challenges for 81–3
communication, importance of 130–31, 186–9, 203
and cultural differences 190, 199
defining 11, 16
domain dimensions 16
sectoral 11–12, 81–2
temporal 12–13, 50–51, 62, 66–7, 196
flexibility, need for 63–4
managing across time 65–6
time perception 63–5
and environmental issues 116
and European Water Framework Directives 40
external/societal perspective of 178–80
general systems theory 40–41
in implementation
parallel (integrative)
implementation 157, 167–73
serial (step-by-step)
implementation 157, 167–73
internal/bureaucratic perspective of 181–3
and language differences 190–91, 199
and linkage characteristics 15–16
and mission characteristics 180–83
political perspective
influence on 183–4
knowledge of other participants 188–9
and redundancy 9–10, 15–16, 26, 63
reflexivity 9–10, 63, 178
scale boundaries 11–12, 81–2, 184
across national borders 177, 187–92
scientific/accounting perspective of 185–7
scientific information, role in decision-making 135–55
strategies for 13–15, 200–204
across national borders 177, 187–92
and added complexity 202
advocacy strategies 15
communication 28, 64, 85, 111, 183–4, 186–9, 203
directive strategies 14
empathy 64–5
facilitative strategies 14, 85–6, 112
information gathering 200–201
linkages, criteria/characteristics of 14–16, 20
long-term 13–14
managing in 181–3
managing out 178–80
managing through 185–7
managing up 183–4
networking 201
organizational dynamics 201–2
short-term 13
and temporal issues 62–7
whether to use at all 200
success of, measuring 130–33, 185, 193–5, 197–200
Boyd, J.N. 55–7, 61, 64
Breakthrough, new river building project 88–113
actors
influences on 99–110
media, role of 97, 103
plan development, role in 89–92, 96–8
use of scientific information 143–9
and water authority, local views differing from 104–5
background studies 89–90
boundary judgements in 105–8
sectoral 107
spatial 106–7
temporal 107–8
boundary spanning 108–12
delays in 98–9, 107–8
Environmental Impact Statement (EIS) 92–3
funding 92, 94–6, 98, 100, 105
plan development 89–94
Almelo zoning policy 99, 103–4, 109
business park 90, 92–3, 95, 97, 103–4, 106–7, 109
changing emphasis 93–6, 106–8
communication of 96–7
ecological basis for 90–93, 97–8, 102, 104, 106–7, 109–10
farmers’ attitudes towards 97–8
and land prices 92–5
and land use re-ordering process 89–92, 100–103, 107, 109
linkages in 91–3, 96–7, 100, 106, 108–10
steering committee role 95, 101
water authority’s focus 104–6
water retention 88–9, 93–4
Wierden zoning policy 92–3, 96–7, 100–101, 103
plan implementation 98–9
and Vecht project, compared 112–13
Bressers, H. 20, 22, 24–5, 35, 81, 119, 121–2, 134, 150, 198
Brook Foundation 161–3, 165, 167
brook water systems see Eperbeken project
Cash, D.W. 115–16, 131
climate change
and drought 4–5
and flood management 2, 4, 38–40, 42–5
influence on water management policies 4, 43–4, 47, 95–6
National Programme for Spatial Adaptation to Climate Change 43–4
Coenen, F. 14, 175–7
cognitions, of actors
boundary judgements 17–18
cognitive filters 18–19, 51
convergence 19–21, 26, 108–10, 196–8
frames of reference 18–20, 23–5, 51, 139, 150
new cognitions 28–9, 85, 111, 199
receptivity 19–20, 24–5
in Breakthrough project 99–105, 109
and policy making
pooled perceptions 138–9
and scientific knowledge 138–43, 147–9, 150–54
strategies for changing 28–9, 85, 111–12, 199
in Vecht project 74–8
Committee Water Management for the 21st Century (WB21) 38, 82, 94, 112
communication
importance of 28, 130–31, 186–9, 203
miscommunication 187, 203
in social systems theory 34–5, 41, 48
strategies for 28, 64, 85, 111, 183–4, 186–9, 203
compensation 70–72, 81, 97–8, 103, 203
Consideration of Future Consequences (CFC) 54–5
Contextual Interaction Theory (CIT) 31
and boundary judgements 21–5
cooperation 121
dependent variables 121–2
independent variables 119–21
information 120
and land use re-ordering process
implementation, interaction with target 119–22
studies of 127–33
motivation 120, 122, 125–30
opposition/obstruction 121–2, 128–30, 132–3
power 22–5, 119
balance of 121, 126–7, 129
conceptualization of 120–22
process models 21–5
studies of
Ameland Dune Fringe project 127–33
Bargerveen project 125–7, 130–33
study methods 122–4
success/failure, analysis of 130–33, 193–5
cooperation
advantages for water managers 144–6
in Contextual Interaction Theory (CIT) 121
scientific information used to assist 135–55
cross-border boundary spanning, strategies for 187–92
culture
and boundary spanning 190, 199
cultural context, role of 31, 36, 190
cultural historical value, of waterways 161–2, 165, 168
of public administration 175–7
decision-making
integrated decision making 70–73
inter-temporal trade-offs 51–4, 63–4
motivations and cognitions during 75–8
and scientific information 135–55
delays, in water management projects
disease-related 164
finance-related 166
in land use re-ordering process 107–8
physical problems 98–9, 126, 130, 164
time delays 98–9, 107–8
weather-related 73, 163–4, 166
Delta Commission 37, 39
demotivation 29, 109
discourse coalitions 47
domain dimensions see boundary judgements; boundary spanning; geography; scale; spatial; temporal
drought 2, 60–61
and climate change 4–5
Easton, David 21
ecology 116
in Ameland Dune Fringe project 127–33
Index 219

in Breakthrough project 90–93, 97–8, 102, 104, 106–7, 109–10
developing importance of 2–3
and European Water Framework Directive 161
interdisciplinary approach to planning 44
National Ecological Network 90, 102
and success, of restoration projects 124
in Vecht flood management project 71, 176
empathy 64–5
entry and exit rules, in land use re-ordering process 117
environment, influence on water management projects see ecology
Eperbeken project 160–73
actor interactions 161–2, 165–6, 170–71
boundary judgments of scale 169–71
sectoral 171–2
temporal 167–9
Brook Foundation, role of 161–3, 165, 167
construction phase 163–6
cultural historical value 161–2, 165, 168
ecological value 161
financing 163, 166
goals of 160–61
implementation, study of parallel (interactive) 157–8, 167–73
serial (step-by-step) 160, 167–73
planning phase 161–3
European Commission
water policies, development of 3 (see also European Water Framework Directives)
European Interreg Programme subsidies 71, 74–5, 77, 80, 163–4, 166
in Breakthrough project 94–6
time pressures caused by 107–8
European Water Framework Directives 62, 81–2, 112

and boundary spanning, influence on 176–9, 182, 184
ecological focus of 161
first (2000/60/EC) 3, 34
implementation of 176–7
second (2007/60/EC) 3, 40

farmers see also agricultural associations
influencing, strategies for 140–41
scientific knowledge, use of 143–54
opposition/obstruction by 72, 77–8, 97–8, 109, 128–9
water management practices of 50, 59–61, 65–6, 140–41
water policy conflicts with 83–4, 97–8, 128–9, 140–42, 147–55
financing water programmes and cross national border projects 189–90
European Interreg Programme subsidies in Breakthrough project 94–6
in Eperbeken project 163–4, 166
time pressures caused by 107–8
in Vecht flood management project 71, 74–5, 77
integrated funding 71, 83
and project delays 166
subsidy administration 95
time pressures on 71, 73–4, 77–8, 80–81, 107–8, 163–4
flood management 4 see also Ameland; Bargerveen; Breakthrough; Vecht
boundaries enclosing 42–4
intermediate 44–6
for sense-making 46–7, 49
and climate change 2, 4, 38–40, 42–5
Committee Water Management for the 21st Century (WB21) 38, 82, 94, 112
cross-border agreements 42
Delta Commission 37, 39
dikes, reinforcing/raising 36–9, 43, 68
European Water Framework Directives on 40
flood Commissions (Boecht; Boertien I, Boertien II) 37–8
‘Living with Water’ 44 policies
boundaries of 43–6
development 37–8
evaluation 38
history 36–8, 42–3
prevention vs. protection, as focus of 46
recommended safety levels 37–8, 42–3
river catchment areas 36–7
safety chains 39–40
social systems approach to 33–49
‘Space for the River’ 37, 43
and spatial planning 43–4, 79
foot-and-mouth disease 166–4, 168
frames of reference
and boundary judgements 18–20, 23–5, 51, 139, 150
and knowledge interpretation 138–40, 148–9
Geldof, G.D. 156, 158–9, 167–72
general systems theory 40–41
geography
boundary dimensions of 11–12, 42–3, 47–8
cross-border boundary spanning, strategies for 187–92
Germany
Dutch–German joint projects (see Vecht Vision)
German–Dutch Border Waters Commission 176, 179
public administration culture 175–7
governance, generally
cross-border boundary spanning strategies 187–92
defining 41
local government, role of 102–4, 106, 110–11
multi-level boundaries for 45–6
and social systems theory 24, 34–5, 41–2
Griesemer, J.R. 115
Guston, D.H. 115
Hajer, M. 47
harvesting history 168–9
Hendrickx, L. 51–2, 54, 58, 66
history
cultural historical value, of waterways 161–2, 165, 168
harvesting history 168–9
water management, role of pre 1900 1–3, 5
1900–2000 3, 5
post 2000 4–5
water policy, influences on 11–13, 36–8, 42–3, 167–9
implementation
boundary judgements 157–8, 167–73
of Breakthrough, new river building project 98–9
evaluation criteria 159–60
interaction with target, in land use re-ordering process 119, 121–2
parallel (interactive) implementation 157–60, 167–73
serial (step-by-step) implementation 157, 160–73
of Vecht flood management project 73–4
industrialization, impact on water management 3–4
institutional rational choice rules 116–19
Integrated Water Management (IWM) 6–7, 9, 11
Integrated Water Resource Management (IWRM) 6–7, 9, 11, 13
interactive implementation see parallel implementation
IRMA see European Interreg Programme subsidies
IWM see Integrated Water Management
IWRM see Integrated Water Resource Management
Jeffrey, P. 20
Johnson, B.L. 9
Joireman, J.A. 52, 58
Kaats, E.A.P. 174
Kearney, J. 133
Kingdon, J.W. 8, 70
knowledge, scientific see scientific information
knowledge interpretation 138–40, 148–9
Konya Closed Basin (Turkey) 57–62
Kuks, S. 3, 20, 24–5, 35, 81, 198
land use re-ordering process 114
as boundary object 116–19
as boundary organizations 133–4
and Breakthrough project 89–92, 100, 107, 109
influence on local actors 101–3
time delays in 107–8
characteristics of 131–3
classifying/analysing 117–19
by Contextual Interaction Theory (CIT) 119–22, 127–33
Ostrom’s institutional rules for 117–19
as linkage device 125–7, 130–33
studies of
Ameland Dune Fringe project 127–33
Bargerveen project 125–7, 130–33
criteria for successful outcome 124, 130–33
methodology 123–4
language, and boundary spanning 190–91
learning processes, role in boundary spanning 28–9, 129, 159–60
Lewin, K. 52
‘Living with Water’ 44
local government, role of 102–4, 106, 110–11
Loewenstein, G. 51, 60, 64
Luckmann, T. 46–7
Luhmann, N. 33–5, 41–2, 45, 48–9, 198
Lulofs, K. 14, 175–7
managing in 181–3
managing out 178–80
managing through 185–7
managing up 183–4
March, J.G. 8
media, role of 28, 97, 103
Moser, S.C. 115–16, 131
motivation of actors 22–5, 29–30, 134–49
in Breakthrough project 99–105, 109
in Vecht project 74–8
and Contextual Interaction Theory (CIT) 120, 122, 125–7, 128–30
demotivation 29, 109
and scientific information 143–9
strategies for changing 29–30, 199
and time perspective 57
of water managers 74–8, 114–16
National Administrative Agreement on Water (NBW) 82, 112
National Countryside Service 95
National Ecological Network 90, 102
National Programme for Spatial Adaptation to Climate Change 43–4
Nature and Countryside Policy Plan see Breakthrough project
networking 201
North and South Meene flood management see Vecht flood management
Olsen, J.P. 8
opposition/obstruction 71–2, 171–2
in Contextual Interaction Theory (CIT) 121–2, 128–30, 132–3
and scientific information 135
organizational dynamics, as boundary spanning strategy 201–2
Ostrom, E. 116–18
Otto, M.M. 174
parallel (interactive) implementation 157–60
boundary judgements 157–8, 167–73
payoff rules, in land use re-ordering process 118
physical systems vs. social systems theory 41
politics, and boundary spanning influence on 183–4
knowledge of other participants 188–9
position rules, land use re-ordering process 117
power, of actors 9, 22–5, 119, 195, 199
balance of 121, 126–7, 129
and changing boundary judgements 28–30
conceptualization of 120–22
formal vs. informal 120–21
problems experienced in water management projects
disease-related 166–4, 168
soil contamination 126, 130, 164
time-related 12, 71, 73–4, 77–8, 80–81, 107–8, 163–4
weather-related 73, 163–4, 166
reciprocity, and boundary spanning 16
redundancy, and boundary spanning 9–10, 15–16, 26, 63
reflexivity, and boundary spanning 9–10, 63, 178
resources, and boundary judgements 11–12, 22–7, 30
new resources 30, 199
temporal issues 51, 58
safety chains 39–40
scientific disciplines
democratization of 137
interdisciplinary approach to 48
and policy, interaction with 44–5, 136–40
scientific information
and actor cognitions 138–43, 147–54
and decision making, role in 135–6, 154–5
and actor influences 143–6
and boundary judgements 149–54
conflicts over 146–9, 151–4
integrated assessment 138
linked with actor concerns 137–8
motivations for using 144–6
obstruction, use for 135
strategies for using 154–5
success or failure, reasons for 151–2
uses by policy makers 138–40, 143–6
influence on process dynamics 140, 149
and knowledge
interpretation of 138–40, 148–9, 151–4
knowledge itself, role of 140, 146–7
local 147–8
mutual understanding, of
measurements 147–8, 169–71, 189
processing of 140, 147–8
scope rules, in land use re-ordering process 117–18
sea level rises 38–9, 45
Seaton, R.A.F. 20
serial (step-by-step) implementation 157, 160–73
Service for Rural Territory 125–6
sewage treatment, policy development 2–3, 6
social capital, role in water management 5, 8, 10, 13, 15–16, 30
social systems theory 33–5, 41–2, 45, 48–9, 198
soil subsidence, and flooding 39
‘Space for the River’ 37, 43
spatial planning, and flood management 43–4, 79
stakeholders see actors
Star, S.L. 115
State Forestry Service 125–6
step-by-step implementation see serial implementation
Strathman, A. 54–5
subsidies see financing
Swart, J.A.A. 115
temporal boundaries 47–8
and boundary spanning 12–13
coherence of 107–8
and decision making, inter-temporal 51–4, 63–4
historical influence on 11–13, 42–3
phase boundaries 46, 108
and resource management 51
temporal discounting 52–4, 66
temporal orientation 55–7, 60
time horizon 12–13, 54–5, 60–61, 64–6, 80, 196–7, 200
Time Perception Inventory 55–6
emphasis, categories of 56, 61–2
time perspective 51–2, 58, 66–7
impact on problem definition 60–61
impact on selection of an adaptive action 61–2
in Konya Closed Basin (Turkey) 57–62
as source of conflict 58–9
as source of rivalry 59–60
time pressure 12, 71, 73–4, 77–8, 80–81, 107–8
transparency 120, 191
Turkey, water management in 57–62

Ulrich, W. 18

van Andel, J. 115
Vecht flood management project actors
conflicts between 83–4
during crisis 74–5
motivation and cognition 74–8
during planning/decision-making process 75–8
boundary judgements 79–81
and linkages 80–81
boundary spanning challenges 81–3, 86–7
cross-national borders 175–80
linkages 72–74, 84–6, 175–80
and Breakthrough project, compared 112–13
compensation under 70–72, 75–6, 81
ecological/nature development 71, 176
European Interreg Programme subsidies 71
flood policy background 69–70
implementation processes 73–4
integrated decision making 70–73
and municipal zoning 71–2
regional characteristics
administrative culture 175–7
historical development 175
strategies adopted 83–6, 178–87
Sub-area Committee Gramsbergen, role of 70–71, 75
time pressures 71, 73–4, 77–8, 80–81
Vecht Vision 176–87
cross-border actor interactions/linkages 175–80
Von Bertalanffy, L. 40–41

water, generally
conflicts over policies for 140–41
historical importance/roles of 1–5
quality, development of policies for 2–3
water authorities see water managers
water depletion
impacts of 139–40
management strategies 140–42
scientific knowledge used in decision-making 135–55
actor conflicts over 140–43, 147–54
sectoral preferences for 140–41
water management, generally see also implementation
assumptions in 9–10
and cross-border boundary spanning 188
defining 35
disease-related problems in 163, 164, 168
innovations in 5–6
Adaptive Water Management (AWM) 7–11, 17, 19, 63
Integrated Water Management (IWM) 6–7, 9, 11
Integrated Water Resource Management (IWRM) 6–7, 9, 11, 13
institutionalization of 2
motivations of 144–6
redundancy 9–10, 15–16, 26, 63
reflexivity 9–10
scientific information, role in decision-making 136–55
soil contamination 126, 130, 164
strategies for and added complexity 202
facilitating and compromising 14, 85–6, 112
information gathering and networking 200–202
manipulating actors 85, 111–12
new cognitions and motivations, creating 27–30, 85, 111–12, 199
organizational dynamics 201–2
scientific information, using 154–5
trends in 33–4, 160
water boards, formation of 2
Water Safety 21st Century (WV21) 39
weather-related problems 73, 163–4, 166
water managers, generally
changing historical role of 1–5
and farmers, relationship between 83–4, 128–9, 140–42, 147–55
motivations and cognitions 114–16
during crisis 74–5
during planning/decision-making process 75–8
strategies for changing 27–30, 85, 111–12, 199
water retention areas 41, 69–78
and boundary judgements 78–83
and boundary spanning 83–7
Water Safety 21st Century (WV21) 39
water system, defining 7, 34
Weingart, P. 136–7
Weiss, C. 137
Westley, F. 8, 178
Whetten, D.A. 15–16, 20
Zimbardo, P. 55–7, 61, 64
ZTPI see Time Perception Inventory