MULTIFUNCTIONAL FLOOD DEFENSES: CHALLENGES FOR GOVERNANCE

REFLECTION

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OVER THE PAST CENTURIES, NUMEROUS EXAMPLES OF WHAT WE NOW CALL MULTIFUNCTIONAL FLOOD DEFENCES (MFFDs) HAVE EMERGED IN THE NETHERLANDS, RANGING FROM HOUSES ON SMALL ISLANDS TO THE GREAT WALLS OF THE NATION. THESE DEVELOPMENTS WERE NOT PLANNED AS SUCH, BUT EMERGED AS A CONSEQUENCE OF OFTEN-UPTURNED EVENTS.

WE ARE NOW CONSIDERING MORE DELICATE FUNCTIONAL COMBINATIONS, BUT WORKING TOWARDS PLANNED MFFDS IS NO SMALL TASK. ONE REASON IS THAT, OVER TIME, RESPONSIBILITIES IN DIFFERENT SECTORS HAVE BECOME MORE SPECIFIC AND FRAMEWORKS FOR UNDERSTANDING THE EFFECTS OF THE FLOOD DEFENCES, INCLUDING HOW THEY COMBINE WITH OTHER FEATURES, HAVE NOT BEEN DEVELOPED.

THE VARIOUS CONTRIBUTIONS IN THIS BOOK PROVIDE A CROSS-SECTION OF PERPECTIVES ON THE CHALLENGE OF PLANNING AND DESIGN OF MFFDS AND POSSIBILITIES FOR FUTURE ACTIONS. MOST OF THE CONTRIBUTIONS IN THE GOVERNANCE SECTION OF THIS BOOK FOCUS ON THE CHALLENGE OF CONNECTING AND INTERFACING KNOWLEDGE FROM DIFFERENT SECTORS AND DISCIPLINES.

A COMBINATION OF APPROACHES IS NEEDED FOR EXAMPLES RETAINED IN POLICY ANALYSIS SHOWN, THERE IS NO SINGLE APPROACH TO DO THIS. MFFDs ARE A COMBINATION OF APPROACHES FOR EXAMPLES A PROCESS DESIGN THAT SIMULATES FRAME-REFLECTION (SUCH AS THE WORLD CaREDFUL OR A GAME-LIKE SETTING), AN APPROPRIATE SET OF TOOLS (SUCH AS A DECISION TOOL, A MAP, A TOUCH TABLE, OR A JOINT MODEL), AND ADECORATE FACILITATION OR KNOWLEDGE BROKERS.

WHILE INTEGRATING KNOWLEDGE IS CRUCIAL, SIMILAR ATTENTION MUST BE PAID TO INCLUDING AND INTEGRATING NEW OR EXISTING KNOWLEDGE. SOCIAL STAKEHOLDERS BRING THEIR OWN PERSPECTIVE AND KNOWLEDGE, IN ADDITION TO SPECIFIC MEANS AND DESIGNS, SOME OF WHICH MAY BE INCOMPATIBLE OR EVEN CONFLICTING. FOR MOST MFFD SITUATIONS, THE NATURES, ORGANIZATIONS WILL BE INVOLVED, INCLUDING WATER BOARD, MUNICIPALITIES, REGIONAL PLANNING AGENCIES, AND THESE WILL ALSO COME WITH THEIR OWN TIMES AND SCALES OF PREFERENCES.

IDEALLY, KNOWLEDGE OR SCIENCE-BASED INPUTS CAN BE USED TO IDENTIFY THE BOUNDARIES OF FEASIBLE SOLUTIONS, ASSESS THE COST OF ALTERNATIVE SOLUTIONS OR DESIGNS, AND CREATE INNOVATIVE SOLUTIONS OR DESIGNS THAT BENEFIT MOST, IF NOT ALL, STAKEHOLDERS. HOWEVER, AS SEVERAL AUTHORS IN THIS BOOK HAVE POINTED OUT, ESTABLISHING A BASIC LEVEL OF TRUST BETWEEN THE DIFFERENT PARTIES INVOLVED IS A CONSIDERABLE CHALLENGE. WITHOUT TRUST, DIFFERENT PARTIES WILL NOT BE OPEN TO THE PERSPECTIVES OF OTHERS. STILL, ESTABLISHING TRUST IS CHALLENGING, AS ACTORS MAY BE INCLINED TO USE THEIR KNOWLEDGE SELECTIVELY AND BEHAVE STRATEGICALLY TO FURTHER THEIR OWN INTERESTS.

ON TOP OF THE CHALLENGES OF MULTI-ACTOR MULTI-STAKEHOLDER MULTI-DISCIPLINARY PROCESS IN THE CHALLENGE OF COMPLEXITY AND DIVERSITY, MFFDS COMPLEMENT, DUE TO THEIR COMPLEXITY, BOTH TECHNICAL AND MANAGERIAL, IN THEIR DAILY DEVELOPMENT AND EVOLUTION. UNCERTAINTY COMES IN TO THE FACT THAT BOTH PHYSICAL AND PSYCHOLOGICAL CONDITIONS MAY CHANGE SIGNIFICANTLY AND IN UNPREDICTABLE WAYS, OVER THE LIFE OF A MFFD. THIS WILL REQUIRE, ON THE ONE HAND, THE ABILITY TO ADAPT AND ADOPT TO THE PERSPECTIVES OF OTHERS. STILL, THE CAPABILITY OF THE MANAGEMENT AND GOVERNANCE SYSTEM TO ACKNOWLEDGE UNIVERSITY, AND BE FLEXIBLE TO LEARN AND ADAPT IN RESPONSE TO FUTURE DEVELOPMENTAL CHANGES, SOMETHING WHICH IS AT ODDS WITH THE TRADITIONAL CULTURE OF ESTABLISHING FIXED RULES.

MOVING TOWARDS A SITUATION IN WHICH EFFECTIVE COOPERATION AND INTEGRATION ACROSS DISCIPLINES, SECTORS AND STAKEHOLDERS IS THE RULE, INSTEAD OF THE EXCEPTION, WILL REQUIRE SIGNIFICANT TIME. IT IS ESSENTIAL TO ESTABLISH COLLABORATIVE COMMUNITIES THAT BUILD ON EXPERIENCE IN PRACTICE, AND INNOVATIVE EDUCATIONAL PROGRAMS THAT PREPARE FUTURE GENERATIONS FOR CROSS-DISCIPLINARY COOPERATION.

While this remains challenging, a recent visit to Bangladesh and Indonesia made me realize that the Netherlands can be a 50 years’ experience and development towards systems thinking, integration, participation, and co-design in water and coastal management, as exemplified, for example, by the success of a program like Room for the River and parts of the Delta Program. The STW-sponsored research program underpinning the contributions to this book provides building blocks for further steps. While the academic setting of the program and the requirements for PhD research do not provide the incentives (or the setting) for full knowledge integration, creating a community of young researchers who have been exposed to the knowledge and perspectives of other disciplines related to MFFD is an important contribution.