

## **EXECUTIVE SUMMARY**

This report originates from a consultancy of the Water Research Commission (WRC) titled “*A theoretical foundation for understanding and managing benefit sharing in socioecological systems with particular reference to water resources.*” The main aim of the consultancy was to provide a sound theoretical foundation to enable researchers, funders and managers to understand and engage the process of benefit sharing in aquatic social-ecological systems. It was designed to assist the WRC research community and others to gain deeper insights into the theory and practice of benefit sharing as it applies to social-ecological systems in the water sector.

Over the past three decades, a plethora of literature has been published on a range of topics that relate to benefit sharing. These topics include the Millennium Development Goals (MDGs), the Millennium Ecosystem Assessment (MEA), Community-Based Natural Resource Management, Payments for Ecosystem Services (PES), and Access and Benefit Sharing (ABS), to mention a few. This report explores and interprets these topics and proposes a typology of benefit sharing arrangements within the common context of the governance of ecosystem services in an effort to set the context for developing the theoretical framework. The typology introduces the basic components of the framework as a key deliverable of the consultancy. Basically, the typology comprises three generic categories of benefit sharing arrangements: hierarchical, distributive and egalitarian. The three categories provide a basis for exploring the social structures and processes required for equitable, effective and efficient delivery of the benefits from ecosystem services. It is argued that if typologies of aquatic ecosystem services are to provide a useful foundation for developing effective frameworks for water resource decisions, they must also incorporate classifications of benefit sharing arrangements. The range of benefit sharing arrangements must be represented in any effective typology of aquatic ecosystem services that acknowledges the linkages between the services and human well-being. Accordingly, the typology proposed in the report offers an extended view of ecosystem services by focusing on how these services are dealt with once they enter the social system.

The report exposes the important role played by collective identity and property rights in egalitarian benefit sharing arrangements. It presents the argument that the concepts of collective identity and common property provide a useful premise for interrogating collective actions problems in the governance of aquatic ecosystem services in general and egalitarian benefit sharing arrangements in particular. It is suggested that the majority of the benefits that are collectively accessed from aquatic ecosystem services are governed as common pool resources through collective action. In so doing, the report offers a resilience perspective of egalitarian benefit sharing arrangements that illustrates how user groups can enable aquatic ecosystems to cope with discontinuous change and shocks based on the nature of collective identity and property rights. Such a perspective is instructive in that it shows how user groups can make decisions about how to shape the performance of egalitarian benefit sharing arrangements based on the two variables. Importantly, it highlights how user groups can either change or maintain forms of benefit sharing arrangements that buttress the common interests of participants. It is postulated that most egalitarian benefit sharing arrangements largely fail due to incompatibilities between the two variables.

The theoretical framework presented in the report provides an important foundation for understanding and managing benefits sharing arrangements in the water sector. It is premised on the rationale that the design and implementation of most benefit sharing arrangements have been conducted in the absence of strong theoretical foundations. It is argued that there are relatively fewer theoretical frameworks that can contribute to understanding the social dynamics of ecosystem services. Such frameworks are important in the context of applying systematic approaches to the governance and management of the use of ecosystem services.

The framework presented in the report thus theoretically captures the different ways in which benefit sharing arrangements can be designed and implemented. Importantly, the framework is considered as a preliminary foundation for further research and conceptual development. In conclusion, the report highlights the research and policy implications of the framework in light of the vision, mission and mandate of the WRC. In so doing, it acknowledges and emphasizes that research in the water sector has paid less attention to the issues of benefit sharing which are dominant in policy and management domains. This is attributed to the understanding that benefit sharing is strongly viewed as a normative concept. The report identifies some of the key research questions explored and addressed using the framework. These are:

- How do different constituencies define benefits?
- What kinds of institutions, including markets, have been established to allocate the benefits of ecosystem services?
- To what extent are these institutions viewed as legitimate by differing constituencies?
- To what extent can the flow and provision of benefits be changed by changing ecosystem services flows?
- What are the beliefs of varying constituencies about priority in access to and sharing of benefits deriving from ecosystem services?
- What policies and laws restrict or facilitate access to and sharing of benefits?
- What core principles underpin the design and operation of an effective and equitable benefit sharing process?
- How can strategic adaptive learning processes of benefit sharing foster collective identity and collective action directed at sustaining the resilience of Social-Ecological Systems (SESs)?
- How do benefit sharing arrangements contribute to the resilience of SESs?

The report further identifies some of the policy implications that can be explored and addressed using the framework. These are:

- The intentions of water resource policy are not being supported by research that will inform decision-making in respect of benefit sharing
- Informed decision-making on benefit sharing is not possible because of significant weakness in understanding of the concepts and in practical experience
- Collaborative and transdisciplinary research (social, economic, political, legal and ecological) will be required to develop the necessary understanding and competencies
- A programmatic rather than project approach to research on benefit sharing will be required to establish the necessary collaboration.