

MANGROVE ECOSYSTEM SERVICES IN THE MEKONG DELTA: COMBINING SOCIO-ECONOMIC HOUSEHOLD SURVEYING WITH REMOTE SENSING BASED ANALYSES

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Introduction

Knowing the real value of mangrove ecosystem service is playing an important role in our life, it can be an important feedback signal to the management of human activities in natural ecosystem. Remote sensing data have been used in a wide range of applications such as land cover, biodiversity, species richness monitoring, inventory of forest quality and quantity. The functions and services provided by mangrove ecosystems have positive economic value and these are often ignored in the ongoing process of mangrove conversion. Therefore, it is an urgent need to develop a valuation model that accurately estimate all mangroves services and functions in the coastal zone areas in the Mekong delta

Materials and Methods

- SPOT5 multispectral satellite scene, 2010-03-24
- 222 sample points collected during the field trip in 2010
- 26 permanent sample points of Forest Inventory and Planning Institute (FIPI), HCMC
- Total economic value is calculated by sum up individual service of the mangrove ecosystem.
- Image classification based on object-based approach (Fig. 1)

Preliminary Results

- The distribution map of mangroves (communities and species) in the coastal area in the Mekong Delta the result from mangrove mapping and economic values are shown in Fig.2
- All the related mangrove ecosystem values of different coastal areas in the Mekong Delta
- The spatial modeling framework for economic evaluation of mangrove ecosystem services in the coastal areas in the Mekong Delta

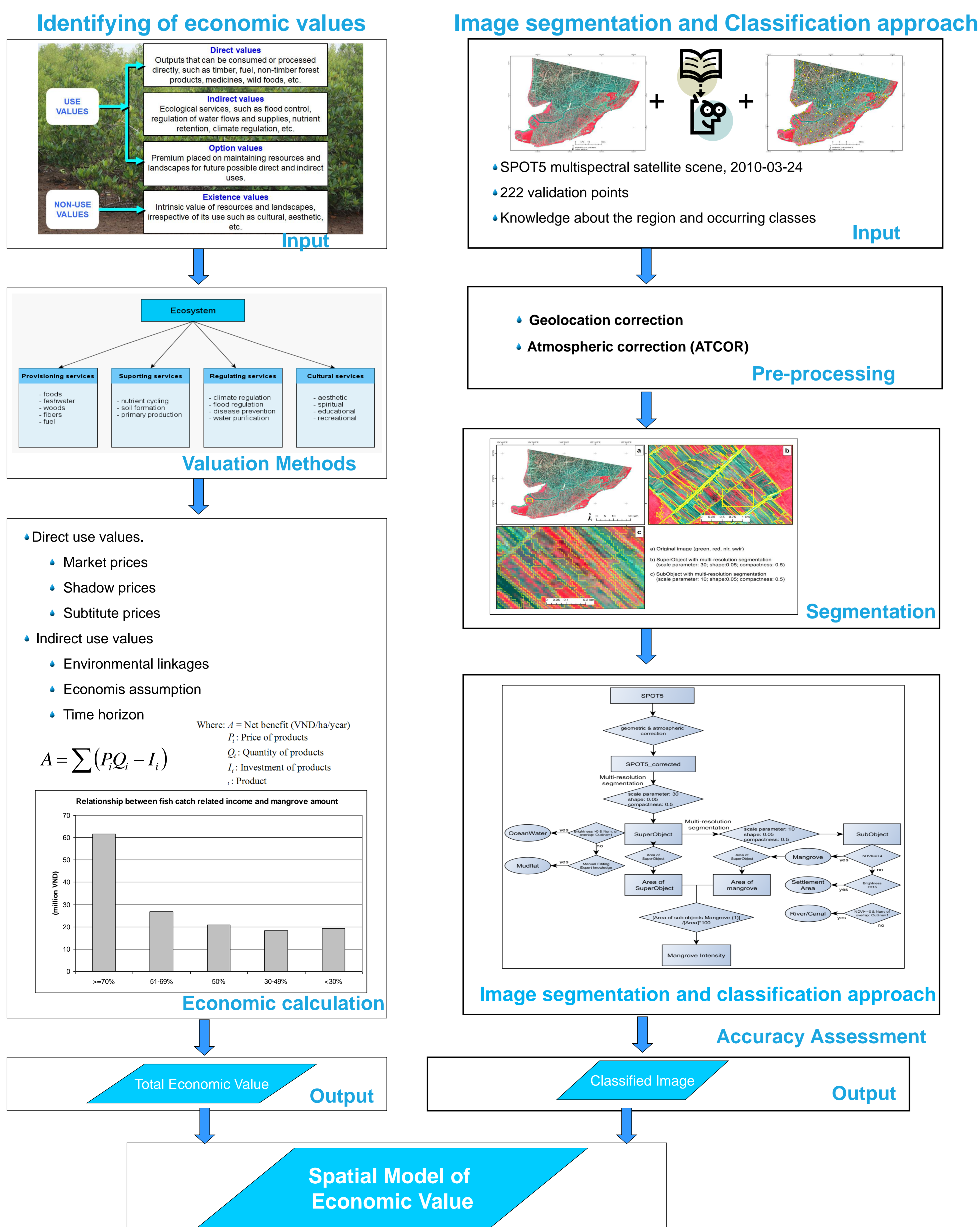


Figure 1: Framework for economic modelling and image classification

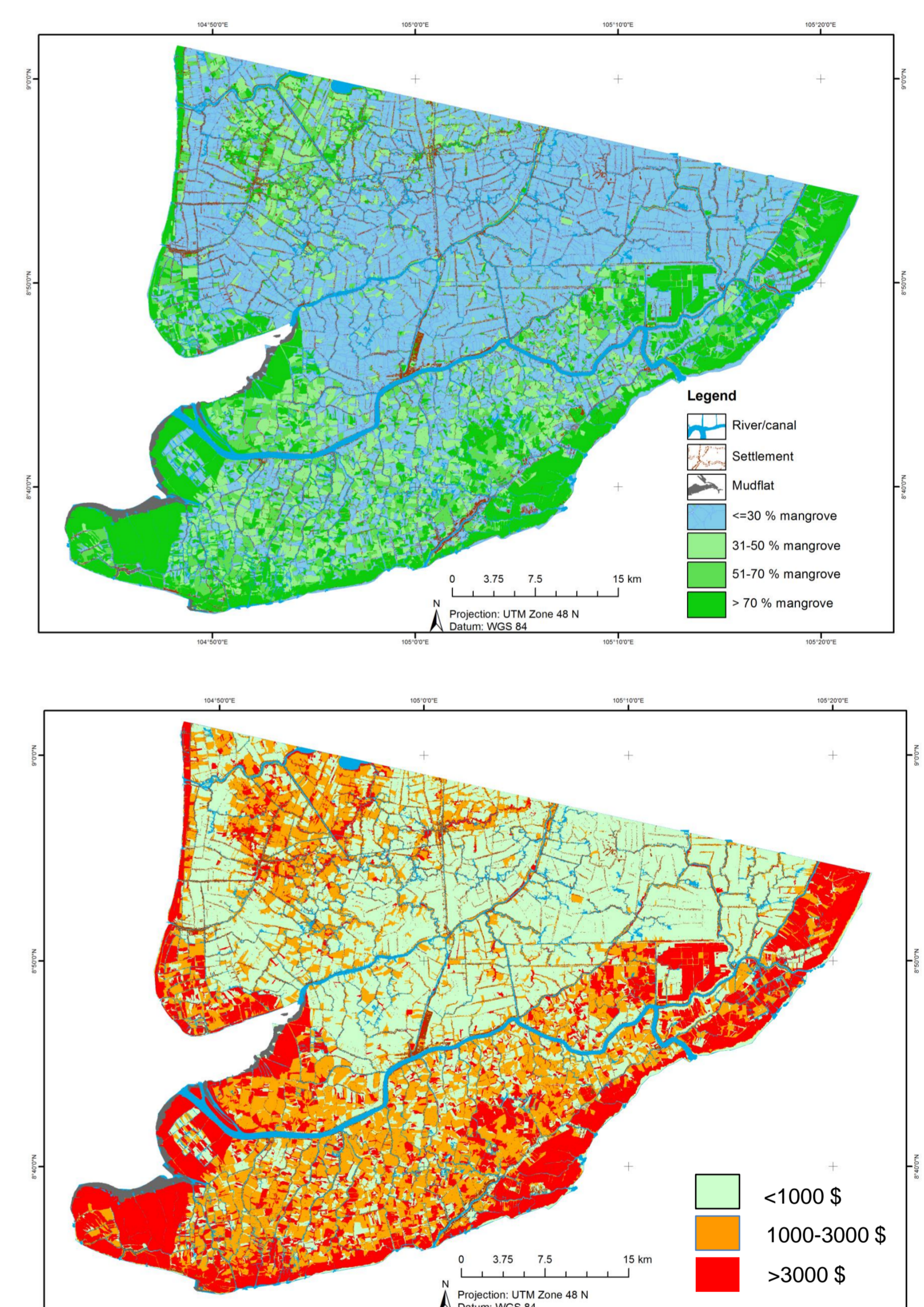


Figure 2: The spatial distribution of economic value of mangrove ecosystem services

Conclusion

Based on the estimation of total economic value of mangrove, management options in decision making can be laid out. The total economic value can be used as a tool in estimating the activities, especially the mass conversion of mangroves to other purposes.

Remote sensing remote sensing technology could be integrated in long-term studies, both current and future in order to calculate the value of mangrove ecosystem services. It can be used as a tool in order to support to temporal and regional transferability of evaluation methodologies.

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