

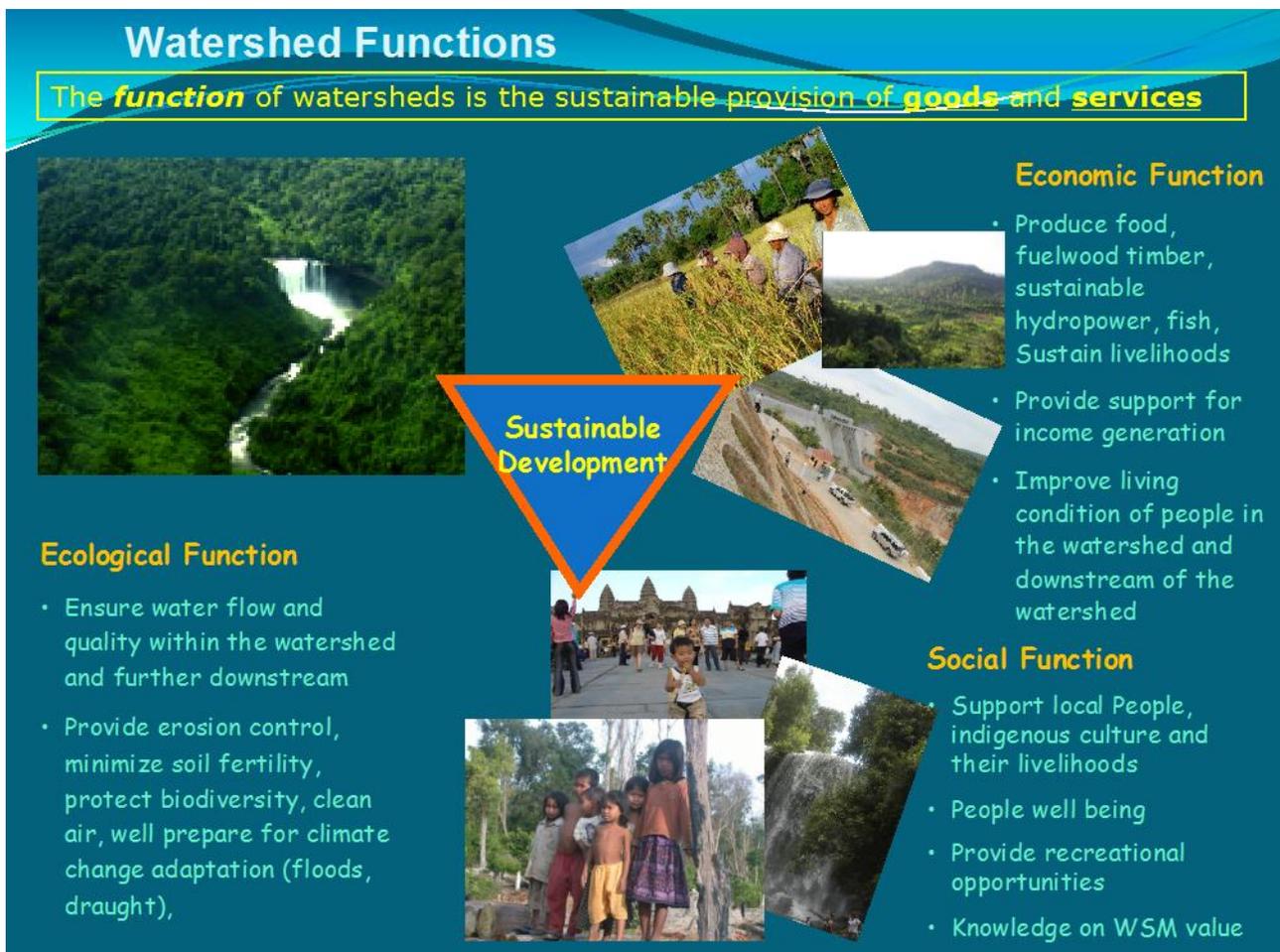
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Watershed Functions

Watersheds are understood to have various functions, as seen for example from the point of view of sustainable development: **Watershed function is the sustainable provision of goods and services.** This comprises biophysical and ecological (such as provision of water of sufficient quantity and quality) as well as economic (such as sustainable provision of natural resource products) or social and cultural (such as protection and improvement of livelihoods) goods and services.

"Watershed functions can be defined as the way landscapes determine quantity, timing and quality of river flow, by the way they transmit, buffer and gradually release the rainfall that is received, modify water quality and maintain the integrity of the soil capital in the catchment area." (Thomas, D.; Preechapanya, P.; Saipothong, P. 2004: Impacts of Changing Land Use in an Upper of Watershed)

More recently, however, the interdependency and overlap of the ecological functions with social and economic aspects has been recognized and integrated in a more holistic view. The following figure presents an overview of the watershed functions, and provides further examples.



Source: Tuyll, C. 2005: Concept, Principle of Watershed Management. Min, B: WSM Paper-Presentation 2004-2007



Examples of Watershed Functions

Category	Examples
Ecological Functions	<ul style="list-style-type: none"> • Ensure water flow and quality within the watershed and further downstream • Provide erosion control, soil fertility, biodiversity, clean air and carbon sequestration
Economic Functions	<ul style="list-style-type: none"> • Produce food, fuel wood, timber, water, fish, and hydraulic energy required for the basic needs of the local population • Support income generating opportunities • Sustain livelihoods
Social and Cultural Functions	<ul style="list-style-type: none"> • Maintain social structures • Protect and develop knowledge and lifestyle arrangements • Maintain and revitalise cultural identity and values • Provide recreational opportunities

References:

Tuyll, C. 2005: Watershed Management Programme. Min. B: WSM Presentation 2007;
 Tideman, E.M. 1996: Watershed Management – Guidelines for Indian Conditions. Omega Scientific Publishers, New Dehli. [hardcopy]
 UNEP, 2004: Integrated Watershed Management

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