

A Functional Landscape Approach

for sustainable wetland and upland management

The Functional Landscape Approach (FLA) has developed from research collaboration between the **University of Worcester**, the University of Huddersfield and a range of local and international NGOs working in Africa.



Supporting Sustainable Development

The FLA supports sustainable development by engaging communities in the monitoring, analysis and management of environment-livelihood interactions at a catchment-wide level.

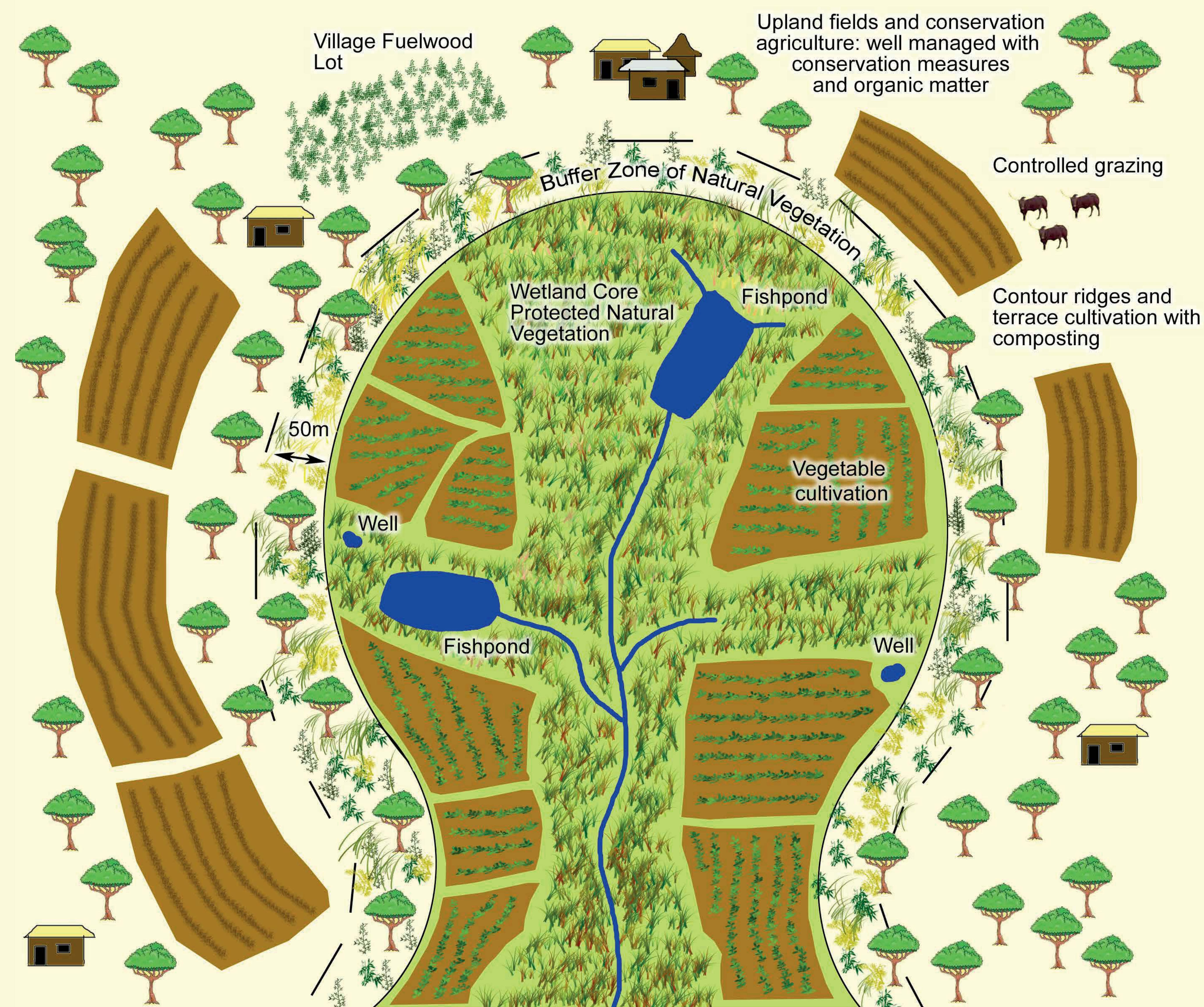
Concepts

- draws upon ideas emerging from **socio-ecological systems theory** and holistic landscape management approaches that recognise the multiple interconnections between people and the environment at different scales and in unique places;
- examines how different landscape facets support different **ecosystem services** and how these interact with each other;
- incorporates technical innovations in both wetlands and catchments, which build upon site specific **local knowledge** of the environment to ensure **environmental, economic and social sustainability**;
- emphasises the need for **community-based institutions** that enhance **resilience** and **adaptive capacity**;
- seeks to build local capacity to manage ecosystem services sustainably, while enhancing peoples' opportunities to develop their livelihoods through **income diversification** and access to new and emerging market chains;
- encourages communities to monitor and manage their resources through a process of **adaptive co-management**.



Field Implementation

Measures implemented depend on the unique socio-ecological characteristics of each site, and are developed in collaboration with local resource users.



In the Wetland

- Wetland zoning controls the expansion of cultivation and protects the centre of the wetland where natural vegetation helps stop erosion and gully formation. Natural vegetation also enhances biodiversity.
- Wells in the centre of the wetland are avoided since they can become focal points for gully formation.
- Ensuring the domestic water supply increases the value of wetlands.
- Watering cans or treadle pumps for water extraction need to be carefully monitored by the community to ensure equitable access and avoid environmental degradation.
- Wetland cultivation should be restricted to small plots or beds adapted to local conditions, and surrounded by natural vegetation to reduce the risk of erosion.

In the Village

- Village Natural Resource Management Committees can be developed by communities to establish for managing FLA interventions and resource use.
- Village savings and loans schemes can facilitate investment and improved marketing.

In the Catchment

- Afforestation improves the infiltration of rainfall which has positive effects on the wetland's water supply, and reduces runoff, erosion and sedimentation in wetlands.
- Contour ridges reduce runoff and encourage infiltration of rainfall.
- Organic composting improves crop yields and enhances water infiltration.
- Conservation agriculture techniques such as deep bed cultivation help improve water infiltration, soil structure and fertility.
- Agroforestry increases water infiltration, improves soil fertility and stability, and can provide marketable goods.
- Wetland edge buffer zones of natural vegetation prevent sediment and runoff reaching the wetlands.