

## Project update: September 2018

### Community interviews

The ecosystem services used by the fringe communities have been assessed through community interviews. Community interview was done between the 2nd April and 21st May 2018 to assess the ecosystem services from the five fringe communities. This took about 2 months together with the data entries obtained from the interviews. It took approximately a week and a half for each fringe communities to be interviewed randomly and ended on 1st June 2018 with the data entry. By developing a structured questionnaire, the following topics were assessed; the ecosystem services, the users of these services, the relationship among communities and other users and the choice of measure for sustainable development for each fringe communities. The questionnaires were designed into four parts. The first part was in relation to the demographic, socio-economic characteristics, level of education and household composition. The second part was related to ecosystem assessment of Owabi. The third part was about the conflicts and synergies among users of the ecosystem services. And the final part of the questionnaire was on the support of measures for the sustainability of Owabi ecosystem services.

A total of 50 questionnaires were distributed. Ten questionnaires were randomly distributed in each of the five fringe communities (Nwabi, Esaase, Bokwankye, Ohwim and Atafra). Per community 10 individual households answered the questionnaires and 100% response rate was achieved. The specific ecosystem services used by the community can be seen in table 1 and some pictures was also provided in the appendix.

### Expert Interviews

A semi-structured questionnaire was also developed to interview experts. This was to get access to information on the ecosystem services, its users, conflicts and synergies, the maximum sustainable use of the services and measures for Owabi management. Experts were chosen with a pre-requisite knowledge to provide input necessary for the objectives of this project and all have a direct connection to Owabi. With such relevant restrictions, only two experts were identified and interviewed, namely Wildlife Division (WD) and Ghana Water Company Limited (GWCL). All the interviews were recorded in the field book and summarized per the demand of the experts.

Table 1: specific ecosystem services derived from Owabi. Adapted from (De Groot et al., 2010a, b and UNEP-WCMC, 2011, Roy Haines-Young et al., 2006)

Type of Services	Specific services from Owabi	Indicator for assessment (use indicator)	Unit of measurement	Performance indicator (sustainable use)
Provisioning				
Food	Fishes, Bushmeat, Fruits, Snails	Amount extracted	Kg/ha	Net productivity (Kg/ha/yr)

Type of Services	Specific services from Owabi	Indicator for assessment (use indicator)	Unit of measurement	Performance indicator (sustainable use)
Water	Drinking water	Amount extracted	Litres (L)	Max sustainable water extraction (L/yr)
Raw material	Firewood, sand for construction	Amount extracted	Kg	Net productivity (Kg/yr)
Genetic materials	Herbs	Amount extracted	Kg	Maximum sustainable harvest (Kg/yr)
Medicinal resources			kg	Maximum sustainable harvest (Kg/yr)
Ornamental resources			Kg	Maximum sustainable harvest (Kgyr)
Regulating				
Air quality regulation	Good and clean air	Capacity to extract aerosols	Particles/m <sup>3</sup>	Amount of aerosols extracted (particles/m <sup>3</sup> /yr)
Climate regulation	Micro-climate, Carbon sequestration	Greenhouse gas-balance	Tonnes	Area of the forest (ha), C-sequestration by forest (kg/ha/yr)
Extreme event mitigation	Flood protection, Windbreaks	Role of forest in dampening extreme event	Number of incidence	Number of incidence/year
Regulation of water flows	Watershed/wetland protection	Water-storage capacity	m <sup>3</sup>	Area of forest to protect watershed/wetland (ha)
Waste treatment	Water purification	Water retention capacity in soil	Mm water/cm depth of soil	Maximum Nutrients (eg. S, N) removal and retention
Erosion protection	Erosion prevention	Denitrification	Kg/ha	Maximum potential reduction in soil loss by area of forest [kg/ha/yr]

Type of Services	Specific services from Owabi	Indicator for assessment (use indicator)	Unit of measurement	Performance indicator (sustainable use)
Maintenance of soil fertility	Improve soil fertility for farming	Vegetation cover root-matrix	Kg/ha	Amount of topsoil regenerated per ha/yr
Pollination				
Biological control				
Cultural				
Aesthetic information	Aesthetic beauty	Number of visitors with stated appreciation		Number of visitors
Recreation/tourism	Ecotourism	Number of visitors with stated appreciation		Maximum sustainable number of visitors
Inspiration for culture, art and design				
Spiritual/religious inspiration				
Information for cognitive development	Research, education and public awareness	Presence of features with education/research interest		Number of visitors/research / articles
Nursery habitat	Maintenance of life cycles of migratory birds	Number of migratory birds		Bird species distribution
Genepool protection	Maintenance of genetic diversity	Areas for endemic species	ha	Area managed for gene conservation or conservation investments (ha)

Note: services in red colour was not assessed.



Left to Right: Fuelwood harvest in bundles; Fish harvest in rubber bowl & Aluminum bucket for collecting drinking water



Left: Habitat protection for snakes (cobra species). Right: Collection of fuelwood by children.



Left to Right: Ongoing household interview; Fishing by some community members with hook and line & Temporal drinking water storage in the community (rubber barrel).