



Institute for Environment and Sanitation Studies

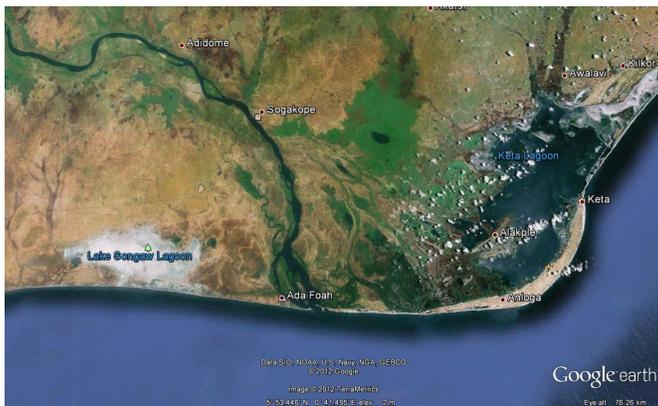
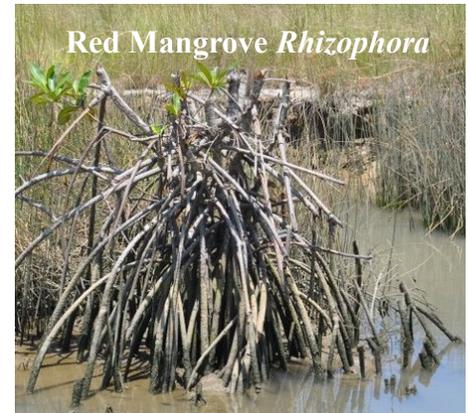
UG.IESS.IB.011

May 2012

The Value of Mangroves to Ghana's Coasts

What are Mangroves

Mangrove is a term that is used to refer to two things, first is the mangrove plant (usually the trees) the second is the mangrove ecosystem. Though there are globally over 80 species of plant that fall under the mangrove label, in Ghana we have just six mangrove species, but the most common are the red mangrove and the black mangrove *Rhizophora* and *Avicennia* respectively, both of these species have roots that help bring air to the plant in muddy soils. Mangroves can survive daily flooding and high salinity soils and this is why they are found frequently along coastlines in the tropics.



Economic returns from Mangrove

Mangrove related economic activities such as fuel wood, fish smoking, *akpeteshi* distilling, construction of houses, harvesting of crabs, fish and black snails are significant. The figures below are conservative estimates.

The net return per person to fish smoking is about US \$30 per week while the contribution to roofing a house is estimated to be US \$ 85. The total returns to mangrove related harvesting to the study area comes to US \$ 340 per hectare per year.

Mangroves benefit marine fisheries by increasing the yield. The increase in fisheries as a result of the presence of mangroves was estimated to be US \$ 165 per hectare. Based on these figures from the lower Volta, The total value for just mangrove related harvesting and contribution to marine fisheries is over US \$ 500 per hectare.

Using an estimated 12,000 ha. as the area of mangrove in Ghana, gives the value of mangrove as well over US \$ 6,000,000 per year as this does not include all the other ecosystem services that mangroves provide such as erosion control, trapping of pollutants provision of biomass for the food chain which would be about three times the direct benefit so the **annual** returns from mangroves are about **US\$ 20 million**.

The Volta Estuary

The Mangrove Ecosystem consists of the mangrove community, along with the non-living parts of the environment such as the tidal movements, soil, mud, and water. Mangroves are found all along the coast of Ghana but the largest areas are in the Volta Delta and in the Western Region.

Crabs from Mangroves



What are the threats to Mangroves in Ghana

- Natural disasters
- Population pressure
- Coastal pollution
- Over-exploitation by traditional users

Poor Management of:

- Forestry
- Agriculture
- Aquaculture
- Salt Production
- Mining
- Urban and industrial development
- Tourism
- Hydrological diversions e.g. dams



Clear-cutting of red mangrove at Salo, The lack of seed trees left behind results in smaller and smaller mangroves harvested in just five years rather than 30 years

Medicinal Value of Mangroves

Rhizophora (Red Mangrove)

Roots: used with palm oil as an ointment for boils.

Bark: extract used for fungal infections of the skin; treatment of diarrhoea and dysentery in children; leprosy; sore throat;

Avicennia (Black Mangrove)

Bark: powdered bark mixed with palm oil for treatment of lice, ringworm and mange;

Conocarpus erecta (Grey Mangrove)

Leaves: decoction used as a febrifuge. (fevers)

Latex: applied to cuts to stop bleeding.

Roots: ground and boiled as a cure for catarrh.

Bark: used in the treatment of gonorrhoea.



Black Mangrove *Avicennia* at Ada, note the pneumatophores - roots which look like fingers. The help bring air into the rest of the plant root system.

What you can do to help

Plant some Mangroves !!!

References and Further Reading

Dankwa, H.R. & Gordon C. (2002) The fish and fisheries of the Lower Volta Mangrove swamps in Ghana. African Journal of Science and Technology, Science and Engineering Series 3 (1): 25-32

Diop, E.S., Gordon, C., Semesi, A.K., Soumare, A., Diallo, A., Guisse, A., Diouf, M., & Ayivor, J.S. (2001) Mangroves of Africa in Mangrove Ecosystems: Function and Management L.D. de Larceda (ed.) Springer-Verlag, Berlin 292pp

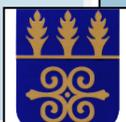
Gordon, C, Mensah, A.M., Ayivor, J.S., Tweneboah, E., (2009) The Application of the Ecosystem Approach to Mangrove management: Lessons for Ghana, Nature & Faune, Vol. 24, Issue 1

Rubin, J., Gordon, C., & Amatekpor J. K. (1998) Causes and consequences of mangrove deforestation in the Volta Estuary, Ghana: Some recommendations for ecosystem rehabilitation *Marine Pollution Bulletin* 37 (8-12): 441-449

Useful Websites

Www. Isme.net; Wwww. Glomis.com; Wwww.wcmc.come;

Chris Gordon



The Information Briefs series of the Institute for Environment and Sanitation Studies presents topical and emerging issues central to its mandate in simple, non-technical language in order to contribute to the general understanding of science and outreach. For more detailed information on any topic in the series: please contact the IESS below:

Institute for Environment and Sanitation Studies
(IESS), University of Ghana, P.O. Box LG 209, Legon, Accra, GHANA
Tel: + 233 302 962 720 (Secretariat)
Tel: + 233 302 512 819 Fax: + 233 302 512 681
e-mail: infoiess@ug.edu.gh

The Mission of IESS, University of Ghana is: “To meet the nation's needs for broad-based education, training and research in the science, policy and management of environmental and sanitation processes in the wider African and global context.”

UG IESS—Established 2010