

Topic: Conservation of subterranean fauna in Zanzibar Island

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	Topic name	Learning outcomes Participants should be able to:	Learning activities / Assignments	Basic learning materials
Day 1	Introduction to subterranean fauna in Zanzibar	<ul style="list-style-type: none"> • Define subterranean fauna • Distinguish the two major groups of subterranean fauna • Identify species of subterranean fauna found in Zanzibar 	<ul style="list-style-type: none"> • Lecture on the subject • Reading handbooks, leaflets and web pages • Lab work on identification of subterranean species using morphometric techniques (in groups) 	<ul style="list-style-type: none"> • Open access resources: Google scholar, UN archives ResearchGate, American National Archives. • Biology lab manual • Taxonomic key
Day 2	Introduction to geospatial techniques for conservation	<ul style="list-style-type: none"> • Define basic terms in geospatial science • Access freely available remote sensing data • Use open source platforms for geospatial analysis 	<ul style="list-style-type: none"> • Lecture slides • Download Landsat and Sentinel-2A satellite imagery from Earth Explorer USGS/NASA, ESA • Getting familiar with GRASS, QGIS and R 	<ul style="list-style-type: none"> • Computer lab equipped with relevant software – R, QGIS, GRASS • Web page links https://www.r-project.org/help.html https://docs.qgis.org/2.8/en/docs/user_manual/

Day 3	Spatial distribution of subterranean fauna in Zanzibar Island	<ul style="list-style-type: none"> • Project and transform geo-referenced data • Classify major land cover types around coastal zones • Map the distribution of subterranean fauna 	<ul style="list-style-type: none"> • Preparation of field data • Identification of major land cover types • Collection of training data • Land cover classification using Support Vector Machine methods (all done in groups) 	<ul style="list-style-type: none"> • Existing field data • Google Earth for collection of training data for land cover classification • R online help for SVM methods
Day 4	Identification of major threats to subterranean fauna in Zanzibar Island	<ul style="list-style-type: none"> • Establish the natural and anthropogenic threats to subterranean fauna 	<ul style="list-style-type: none"> • Lecture slides • Literature review • Group discussion based on map generated previously 	<ul style="list-style-type: none"> • IUCN Red List • Environmental Factor Guideline: Subterranean species • Google scholar
Day 5	Propose conservation strategies for subterranean fauna using geospatial techniques	<ul style="list-style-type: none"> • Apply GIS techniques (buffers and overlays) to correlate land cover and subterranean fauna distribution • Recommend appropriate management practices for conservation of subterranean fauna 	<ul style="list-style-type: none"> • Group work • Group presentation on findings 	<ul style="list-style-type: none"> • QGIS, R • ESRI Story Maps