

HELSINGIN YLIOPISTO — HELSINGFORS UNIVERSITET

Tiedekunta — Fakultet Matemaattis-luonnontieteellinen		Laitos — Institution Ekologian ja systematiikan laitos, populaatiobiologian osasto	
Tekijä — Författare Innocent Joseph Enos Zilihona			
Työn nimi — Arbets titel Environmental implications of the lower Kihansi hydropower dam to the arthropod community on the spray zone along the Kihansi Gorge, southern Udzungwa Mountains, Tanzania			
Oppiaine — Läroämne Morfologis-ekologinen eläintiede			
Työn laji — Arbets art Pro gradu -tutkielma		Aika — Datum Elokuu 1999	Sivumäärä — Sidoantal 44
Tiivistelmä — Referat <p>This study was conducted from June to September 1997. Arthropod communities of four micro-habitats; open spray, forest spray, riverine and forest were compared. Data were collected using sweepnetting, pitfall traps, light traps, sticky traps, baited Lepidoptera traps, malaise traps and timed Lepidoptera counts.</p> <p>Potential adverse impacts of the constructed dam along the Kihansi gorge were determined through the use of the checklist of Environmental characteristics. It was revealed that diversion of river flow will alter the local hydrology of the area, and will result in four main effects; (i) spray will be reduced, (ii) temperature will be increased, (iii) the water table will be lowered and (iv) an increase or decrease of arthropod diversity will depending on how the project will be operating. Several mitigation measures are suggested in order to rescue the biodiversity.</p> <p>The Kihansi gorge was found to have high arthropod diversity. The highest was found in the forest spray zone where the Shannon's index of diversity was 0.71. A total of 23 arthropod orders were recorded. Spray zone had the highest number of arthropod orders where 21 orders were recorded. Arthropod were most abundant in the riverine site where 43% of all sampled individuals were found. Arthropods were found to be not equally partitioned in all four micro-habitats. The highest Percentage Similarity index (80.5%) was between forest spray and riverine sites and the lowest 48.5% was between riverine/open spray. Distribution of arthropods were significantly different from all studied micro-habitats.</p> <p>The study revealed that the sprays generated by the waterfall provide a special micro-habitat for arthropods. It is suggested that each undertaken conservation measure should consider the continuity of the existing physical features in all micro-habitats in the river gorge for maintaining its biodiversity. Efficiency of sampling methods varied depending on arthropod group and habitat type. Sweepnetting method meet the demand for biodiversity studies in remote areas since it captures a representative proportion of arthropods. The method also provided a relatively undistorted picture of the arthropod community since it is not based on the activity of sampled arthropod.</p>			
Avainsanat — Nyckelord Biodiversity, Tanzania, insects, arthropods			
Säilytyspaikka — Förvaringställe Populaatiobiologian osaston kirjasto			
Muuta tietoja — Övriga uppgifter			