Doctoral thesis at Göteborg University:
Fishery Resources and Welfare in Rural Zanzibar

Abstract

This thesis looks at fishery resources and welfare in rural Zanzibar. It is organised into four chapters. Chapter One is a brief overview of the economic analysis of optimum catch in a more welfare theoretical context. A brief discussion is given on why open access to a commercially valuable fishery fails to maximise welfare from the fishery. The chapter then discusses the economic prescription of welfare maximising level of fishery exploitation.

Chapter Two presents an econometric analysis of over-fishing in Zanzibar. Two fishery models are estimated using data from Zanzibar. The first model has a special merit in that there is no need to assume equilibrium in the fishery. The second model assumes that the fishery is in long run equilibrium. Estimating this model therefore involves cointegration analysis for establishing whether the fishery tends towards long run equilibrium and for estimating the steady state parameters of the model. The main finding of the empirical analysis is that the fishery in Zanzibar is over-fished. The chapter also gives a brief discussion of possible policy instruments that can be used to tackle over-fishing in Zanzibar.

In Chapter Three, we use household budget survey data to assess poverty and inequality between different socio-economic groups, particularly artisan fishermen and peasant farmers in rural Zanzibar. A class of poverty indices is used for assessing poverty in each socio-economic group, and a stochastic dominance test is employed to assess the extent to which poverty ranking is preserved over a wide range of poverty lines. Further, a Generalised Entropy Family of inequality measurements and Generalised Lorenz Curves are used to assess inequality in rural Zanzibar. The finding is that artisan fishermen and peasant farmers are worse off than all other groups in Zanzibar in terms of poverty and inequality. It is also found that artisan fishermen are better off than peasant farmers in terms of poverty and inequality.

Chapter Four extends the analysis carried out in Chapter Three in two ways; first, instead of restricting the focus on households below the poverty line, the analysis here covers the entire sample of households. Secondly, in comparing welfare between socio-economic groups (defined in terms of occupation), an attempt is made to control for a variety of factors that may explain welfare differences between different households. Two empirical approaches are used. First, a log linear model is used, where the log of households' welfare is regressed against a list of explanatory variables that includes households' occupation. Second, an ordered logit model is employed with a dependent variable constructed from the households' index of welfare and a set of explanatory variables that includes the households' occupation. The finding suggests that even after controlling for a variety of factors, the households whose main source of income is artisan fishing are better off than households whose main source of income is peasant farming.

Key Words; Fishery Resources, Welfare, Over-fishing, Poverty, Zanzibar.

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