

## **ABSTRACT**

### **IMPACTS OF DEFORESTATION ON COFFEE BASED LIVELIHOODS: CASES OF ZEGIE PENINSULA, ETHIOPIA**

By  
Worku Kebede Aynalem

*This research work was undertaken in Zegie Peninsula, Amhara National Regional State. It was aimed to assess the effects of deforestation on coffee based rural livelihoods of Zegie. The result of the study is then to be used for the formulation and application of strategic plan in sustainable forest management and sustainable livelihood options. Both qualitative and quantitative data were collected from primary and secondary data sources. The quantitative data that include land holding, family size, income and income sources; amount of annual wood cut; coffee productivity were collected at household level using semi-structured interview from 60 sampled households. In addition, the numbers of shade trees and coffee yields were collected in each 52 sample plot areas (25m\*25m) to know the relation between the number of shade trees (shade coverage) and coffee productivity. The NDVI data was acquired from University of Arizona. The qualitative data for causes and trends of deforestation, household rationalities for pursuing livelihood changes were collected from both 60 sampled households, 15 key informants, and relevant secondary sources. Sample respondents were selected randomly from the total listed households in each three Kebeles. Collected data were analyzed by descriptive statistical methods and map displays using ArcGIS version 9.3 and Excel 2007. The results were finally consolidated using the "Crunch and Release" Model. Due to different interrelated factors, coffee production decreased from 175 Kg to 121 kg per hectare. Thus households pursuing coffee based livelihoods undertake diversified types of on farm and off farm income generating activities such as coffee production, fruit production, animal production, plantation, fuel wood cutting and selling, petty trading, and tourism related activities to sustain basic demands. Among above stated livelihood options, fuel wood cutting, plantation and animal production have caused damage on natural forests and coffee production. Greater exploitation of natural resources for fuel wood selling decreased the total average NDVI value from 0,59 in 2001 to 0.47 today and number of trees from 180/ha in 2001 to 144 trees per ha today. Deforestation followed by eucalyptus plantation changed forest with coffee to non coffee livelihood activity that create complete loss of income generated from former coffee lands and plant diversities that used for additional income. In general both youth and female households that lack resources and have more family size were more affected by coffee production failure as well as loss of incomes derived from forest product. Based on the results obtained from the study, it is proposed both GOs and NGOs should participate in use of supplementary irrigation to reduce coffee production failure due to unreliable rainfall condition and to reduce vulnerability of livelihoods. In addition, livelihood diversification through non-farm livelihoods as well as on farm livelihoods that do not required more additional land resource should be implemented. This is to carry the newly coming landless households and reduce dependency on farm livelihoods and to promote economic diversification. Since almost all livelihood activities in Zegie are land demanding activities and most of the generations after 1975, there should be reallocation of land to them from communal lands to reduce fuel wood trading.*