

Community Study in Forest Again Project Zone

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This paper presents data and conclusions from three separate studies conducted in 2005 (Dose 2005), 2007 (Maurer 2007), and 2008 (Lung 2008) in the project zone of **Forest Again**. All three studies were conducted in villages within five kilometers of Kakamega Forest for the purpose of exploring the conditions of forest adjacent communities, especially in the context of sustainable livelihoods. We use Dose's (2005) and DFID's (Department for International Development - England) definition of sustainable livelihood developed in the context of the Sustainable Rural Livelihood approach (Scoones 1998). Sustainable livelihood, which puts an emphasis on livelihood diversification (important in poor rural communities and based on an analysis of five assets – human capital, financial capital, natural capital, social capital and physical capital), is here defined as:

“A livelihood comprises the capabilities, assets, and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base.” (Chambers and Conway 1991: 6).

The objective of the studies was to assess the economic, health, education, and well-being variables associated with livelihood. Specifically, in this summary, we use the data and conclusions of the studies to show three things:

1. That current conditions in the project zone don't provide for the sustainable livelihood of most people;
2. That without the project (i.e. baseline scenario), communities will be unable to interrupt the cycle of poverty that leads to the inability to achieve sustainable livelihoods;
3. That communities would benefit greatly from Forest Again because the project is designed to specifically address the problems that create the cycle of poverty. These problems include lack of financial capital, lack of physical capital (i.e. water, fuel), and lack of human capital (i.e. education).

Methods

Study Area

Kakamega Forest and the project sites lie within the Kakamega and Vihiga Districts of the Western Province of Kenya. Data on these districts is provided in full document (section G1.3). Districts are divided into Divisions which are divided into locations, sublocations, and villages. These studies were conducted in Kakamega and Vihiga districts in sublocations which are within five kilometers of the forest edge. People in this area are predominately West African Bantu in origin, and are comprised of numerous clans within the agricultural KiLuhya tribe.

Study Design

Dose (2005) collected data from 15 randomly selected households each in five sub-locations (within five divisions of Kakamega District – namely Shinyalu, Ileho, Ikolomani, Lurambi and Municipality) resulting in a sample size of 75. The data set was collected using probability sampling methods and the study area was selected based upon proximity to Kakamega Forest, population density, rural-urban continuum, and cash crop zones. Information was collected via interviews and a questionnaire.

Maurer et al. (2007) collected data from

Lung (2008) collected data from 15 randomly selected households each in twenty villages within five sub-locations (Lugusi, Shiasaba, Makuchi, Lunyu, and Buyangu) resulting in a sample size of 221. Information was collected via interviews and a questionnaire using trained local field assistants.

Results/Conclusions

1. Current Conditions

General. Communities are predominately rural and based upon subsistence agriculture: farms make up close to 90% of households and maize is the most commonly grown food, a staple in this area (Dose 2005, Maurer 2007). Family size averages about 6 people (Dose 2005, Lung 2008) with 4.4 children per household (Maurer et al. 2007). Land is predominately owned (>85%) with the average size about 1.3 hectares (Dose 2005, Maurer et al. 2007, Lung 2008). Dose (2005) found that only 0.4 hectares was used for crops.

Economic (Financial capital). Poverty rates in this region are estimated at 52% (Government of Kenya 2002). Most jobs (~80%) are related to household farms and about 80% of people have this as the only job (Dose 2005, Maurer et al. 2007, Lung 2008). Because of this, Maurer et al. (2007) found 87% of those surveyed reporting unemployment. Incomes are largely dependent upon whether households do something besides farming. Lung (2008) found overall median annual income between \$154 and \$461 USD (based upon 78 ksh/USD); Maurer et al. (2007) found that 92% of households make less than \$308 USD per year and 64% reported no annual income. Dose (2005) found that households with farming only reported an average annual income of \$31 USD, while those who have cash crops or non-farm income (e.g. forestry, business, etc.) earned \$848 and \$971 per year, respectively.

Seventy-two percent of households reported some degree of effort to diversify sources of income. However, the success of this appears related to socio-economic status. Dose (2005) reported about 40% of households are growing cash crops (primarily tea and sugar cane), but Maurer et al. (2007) found that among poorer households the percentage is 8.9% and only tea is grown. Lung (2008) found only tea was grown and in less than 3% of surveyed households.

Dose (2005) argues that diversification is necessary to break the poverty cycle. However, she found that, due to largely seasonal influences, production of food falls very short (55%) of expenditures for food per household. This is largely because crops like maize vary widely in market price; families sell maize at low prices when supply is high and buy maize at high prices when demand and supply are low. This disparity results in no fluid income to invest in diversification.

Education (Human capital). Dose (2005) found that 75% of head's of household had only achieved a primary education and nearly 20% had no formal education at all. Maurer et al. (2007) found similar results and in addition, found that in the poorest communities only 23.5% had achieved a primary education. Finishing secondary school was very rare and found predominately among the higher socio-economic classes. As an important asset for livelihood development, Dose (2005) found a positive relationship between education level and employment rates. In addition, Maurer et al. (2007) found a positive relationship between education level and income levels. Primary education is free in Kenya as of 2003, but secondary education is very costly compared to annual incomes and usually requires remittances from relatives to send a child to secondary school. Thus poverty is a barrier to education which is an important asset to improving livelihood.

Water, Health, Roads, and Energy (Physical capital). While access to health and education facilities (primary and secondary) is good in this area (Dose (2005) found average distance to be 1.0-1.5 kilometers), access to paved roads, clean water, and fuel sources is poor. The average household is 5.7 km from a paved road (Dose 2005) and less than 10% have access to clean, piped water (Dose 2005, Lung 2008); most households use streams and rivers for water with average distances of 200-300 meters (Lung et al. 2008). The most common source of fuel for cooking and heating is wood with nearly 90% of surveyed households (Dose 2005, Maurer et al. 2007, Lung 2008). Charcoal is the next most common, and electricity, totally absent in rural households close to the forest, is found in only 8% of households adjacent to the district capital. The most common source of fuelwood is the forest; Maurer et al. (2007) reported 67.5% of households using forest wood, while Lung (2008) reported 52.1 % using forest wood. The remaining wood is secured largely from on-farm plantations while less than 1% of households purchase wood at markets. Of families that get wood from the forest, 63% make at least 1 trip per week and 35% at least one trip per day, with each trip averaging 3-4 hours (Lung 2008). On average,

households spend between \$31 and \$46 USD per year on wood (mostly from permits to collect in the forest).

Social and natural capital. While social capital was addressed by Dose (2005) and was found to be very adequate (with supportive women's groups and agricultural coops common), natural capital (i.e. natural resources) was not covered in the three studies. However, several other studies have observed that with combined scarcity of land and an annual population growth rate of 2.1%, the size of farms is declining as families subdivide what they have (Lung and Schaab 2006). This results in less food/income output and families are forced to search for income elsewhere. The closest source of this income is the Kakamega Forest where households go to get medicines, wood, charcoal, honey, and many other products that supplement their income. Estimates show that over 90% of households use the forest as a source of livelihood (Kokwaro, 1988; Emerton, 1994; Habermehl, 1994; Guthiga and Mburu, 2006). Most of this use is timber related (e.g. fuelwood, polewood, charcoal, medicines) resulting in considerable disturbance related to the cutting of trees. Certain studies (Habermehl 1994, DeBann 2003, Lung et al. 2008) roughly estimate that over 87,000 tons of fuelwood is removed from the forest per year. This is over ten times the estimated sustainable yield (KIFCON 1994). The Kakamega Forest also provides an indirect source of livelihood through such things as tourism and a) a source of pollinators for crops.

Communities under Baseline Conditions (i.e. without Forest Again project).

Over the five years encompassing these three studies, no changes in conditions were observed. In addition, Dose (2005) specifically concluded that communities require diversification of income to secure sustainable livelihoods. She found that communities in the project zone lack income to diversify, mainly because of seasonal influences on food prices and the large difference between expenditures and incomes from food production. Because of growing land scarcity the only alternative for diversification is non-farm income generation but because of lack of financial capital, human capital (i.e. education) and infrastructure (i.e. clean water, electricity, roads) communities are unable to do so. She concludes that sustainable livelihood is not achievable in these communities in its present state.

Communities with Forest Again Project

Forest Again is specifically designed to address the problems faced by communities in the project zone (see above). **Forest Again** will provide over 100 full and part-time jobs to individuals in adjacent communities. These jobs will offer a generous salary for the average worker that is double the average annual income of \$308 USD (see above) and considerably more for management positions. **Forest Again** is purchasing seedlings from local social groups (Community Forest Associations) which will provide additional income for many families for diversification. In addition, **Forest Again** will give 10% of all seedlings to farmers for on-farm plantations. This will reduce income and time spent collecting fuelwood, and reduce pressure on the forest. Finally, **Forest Again** is investing in a local grassroots community organization (KEEP) to build its capacity to develop non-farm income projects for communities. Currently, KEEP is working with communities developing medicinal, tree nursery, bee and butterfly keeping, and tourism incomes. We believe that the investment in KEEP and the communities will assist in breaking the cycle of poverty that disables diversification of income and sustainable livelihoods.

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