

A Socio-economic Assessment of Sustainable Livelihood Opportunities for Communities of Kuruwitu and Vipingo, Kilifi District, Kenya

Incorporating livelihood intervention strategies and proposals for the development of alternative income generating activities

Paul Harrison



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Report compiled by Paul Harrison, Kilimanyika
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Bankipore House
High Street
Brill, Bucks
HP18 9ST, UK
Tel. +44 7739 803 704
Email: paul@kilimanyika.com
Web: www.kilimanyika.com

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Abbreviations and Acronyms

AIG	Alternative income generating activity
CBO	Community Based Organisation
CDTF	Community Development Trust Fund
CDF	Constituency Development Fund
CLA	Coastal Livelihoods Assessment
EARO	Eastern Africa Regional Office (IUCN)
EAWLS	East African Wild Life Society
IUCN	World Conservation Union
KCWA	Kuruwitu Conservation & Welfare Association
KEMFRI	Kenya Marine & Fisheries Resources Institute
KWS	Kenya Wildlife Service
MFI	Microfinance Institution
MPA	Marine Protected Area
NGO	Non Governmental Organisation
RRA	Rapid Rural Appraisal
SME	Small to Medium Enterprises
SSI	Semi-structured Interview
VDC	Village Development Committee
Ksh	Kenyan Shillings

Executive Summary

Kuruwitu - Vipingo lies on the Kenyan coast within Junju Location of Bahari Division in Kilifi District. This coastal area is potentially significant for its marine biodiversity as it has a distinct coral reef ecosystem with diverse coral assemblages which host a wide variety of tropical fish species. Its beaches provide breeding and nesting sites for endangered sea turtles and birds.

In response to declining marine life, and related decreases in local earnings and food security, the local community have formed the Kuruwitu Conservation and Welfare Association (KCWA), through which to develop appropriate interventions to manage the resources more sustainably. The association approached the East African Wild Life Society (EAWLS) for assistance in conserving these resources and supporting the local livelihoods dependent on them, in particular in meeting the following objectives:

- To conserve the marine environment for the welfare of the local community
- To improve the lives of the local community by promoting environmentally friendly projects and initiatives that will increase household income

The East African Wild Life Society intends to implement a pilot community based marine conservation area project at Kuruwitu in Kilifi, Coast Province, for which a number of research activities are being carried out, including a Coastal Livelihood Assessment.

This report outlines the findings of the Coastal Livelihood Assessment for the Kuruwitu – Vipingo community. It does this through three stages of assessment of livelihoods and the development of sustainable livelihood regimes for the future. It incorporates the development of alternative income generating activities where a current livelihood is considered to be unsustainable and out of keeping with the overall objectives of the area, as defined above. These stages are as follows:

- Livelihood Assessments. Building upon a previous socio-economic baseline study carried out in the area, assessments were carried out in two sub-locations. Their main aim was to understand the available resources and assets, limitations and aspirations available to communities in order to establish livelihood requirements for the future
- Identifying interventions that can create an enabling environment for the take-up of alternative income generating activities, that reduce pressure on marine resources and strengthen community livelihoods
- Recommendation of selected interventions through proposals suitable for future implementation that draw on the findings of the livelihoods assessment and stakeholder consultations

Due to time constraints, this report is of restricted scope. The focus is socio-economic, based on qualitative research on community and other stakeholder perceptions.

Two sub-locations were chosen for livelihood assessments, Vipingo and Kuruwitu. Key findings from the assessments indicate that communities are limited in developing their livelihoods by a range of environmental, social and economic factors. Chief amongst these are widespread poverty and subsistence lifestyles, climatic variability and seasonality, lack of access to finance and technology, a restricted access to resources or assets, particularly a lack of land tenure, and the need to balance minimising risks against maximising productivity. Specifically, the livelihood assessments have identified three factors, namely access to financial capital, access to knowledge and training and acquisition of efficient technologies and equipment and as crucial to creating the enabling environment required for income generation. A further, key issue limiting income generating

opportunities is the lack of land tenure. However, addressing the land tenure issue will require complex political engagement over the long term.

Access to financial capital is the most problematic. Current activities do not bring returns sufficient enough to reintroduce capital into enterprises; only basic needs are met. There is little tradition of saving, largely because the participants show little familiarity with having anything left over to put aside. Typically, income is spent as it is generated. Access to markets for goods generated is also problematic. The seasonal nature of fishing and farming activities mean income generated considerably over the course of the year. Particularly difficult times are during the *kusi* season for fishermen (May to October) and between the short and long rains for farming activities (December to April).

Access to knowledge and training is also a major limiting factor. Most community members have education up to leaving primary school. A tiny minority have secondary education. Further, livelihood practices have been in much the same mould (subsistence agriculture, fishing, a little livestock, small business and artisanal trade) for generations. Linked to these limitations is a marked individualism, the community is not homogenous. Community members of both genders have varying views on how income should be managed, and cooperatives have often failed where they have been let down by individual members not willing to pay their share of costs.

Access to cost effective technology (and by extension, equipment) is another key limitation. In part, this problem would be solved by addressing the first two (capital and training), but on another level this issue requires intervention because the type of gear introduced may have adverse effects on the local ecology.

There are a broad number of livelihood activities available to the community given the right factors. If an AIG is to be taken forward it will need to adhere to the core objectives of the KCWA: to reduce pressure on marine resources and to strengthen livelihoods. If the AIG is seen to have potential as an alternative to current livelihood practices which degrade the marine environment (such as fishing in shallow waters only) the pros and cons of the AIG are discussed. The report shows whether interventions into a specific AIG are feasible, recommends AIGs to be developed and suggests those which would not be worth addressing at present.

On the basis of the information and issues raised in the *livelihoods assessment* and *interventions* sections, and the recommendations given in the *interventions* section, the following five income generating activities are proposed for implementation as pilot projects.

- Community Tourism & Research Centre
- Livestock: Rearing broiler chickens
- Offshore Fishing: Introducing seafaring boat and new gear
- Small Businesses: Vipingo Market Development
- Tailoring School and Operation

Tools for interventions are assessed and the degree to which they may address the needs of the community. These are microcredit, donor support, technical support and advice, and gear exchange. Potential partners are suggested and some of these have been consulted. In the *proposals* section, the five activities above are considered in more detail, bearing in mind the tools and partnerships required to implement them.

Introduction

1 Kuruwitu -Vipingo

Kuruwitu - Vipingo lies on the Kenyan coast within Junju Location of Bahari Division in Kilifi District. This coastal area is potentially significant for its marine biodiversity as it has a distinct coral reef ecosystem with diverse coral assemblages which host a wide variety of tropical fish species. Its beaches provides breeding and nesting sites for endangered sea turtles and birds.

Fishing and related activities form the economic mainstay for the area, which has 6 fish landing sites (Mwanamia, Kijangwani, Kuruwitu, Kinuni, Vipingo and Bureni). The majority of households under study primarily depend on marine resources for their livelihoods, alongside subsistence agriculture and small business activities.

According to local reports, the amount of fish caught in the area has decreased recently. This trend has been attributed variously to the following:

- Excessive and unregulated collection and harvesting of live coral for sale, thus damaging the ecology of the reef.
- Over fishing and illegal collection of ornamental fish
- Use of destructive and illegal fishing

In response to declining marine life, and related decreases in local earnings and food security, the local community have formed the Kuruwitu Conservation and Welfare Association (KCWA), through which to develop appropriate interventions to manage the resources more sustainably. The association approached the East African Wild Life Society (EAWLS) for assistance in conserving these resources and supporting the local livelihoods dependent on them, in particular in meeting the following objectives:

- To conserve the marine environment for the welfare of the local community
- To improve the lives of the local community by promoting environmentally friendly projects and initiatives that will increase household income

2 Focus

The East African Wild Life Society intends to implement a pilot community based marine conservation area project at Kuruwitu in Kilifi, Coast Province. To undertake this, it first has to build a stewardship foundation for constructive community and government engagement. In preparation for the pilot initiative, EAWLS has commissioned the following:

- Socio-economic baseline study
- Coastal livelihood assessment (CLA).
- Legal & policy analysis
- Community mobilization & sensitization

This report outlines the findings of the Coastal Livelihood Assessment for the Kuruwitu – Vipingo community. It does this through three stages of assessment of livelihoods and the development of sustainable livelihood regimes for the future. It incorporates the development of alternative income

generating activities where a current livelihood is considered to be unsustainable and out of keeping with the overall objectives of the area, as defined above. These stages are as follows:

- **Livelihood Assessments.** Building upon a previous socio-economic baseline study carried out in the area, assessments were carried out in two Sub-locations. Their main aim was to understand the available resources and assets, limitations and aspirations available to communities in order to establish livelihood requirements for the future
- Identifying interventions that can create an enabling environment for the take-up of alternative income generating activities, that reduce pressure on marine resources and strengthen community livelihoods
- Recommendation of selected interventions through proposals suitable for future implementation that draw on the findings of the livelihoods assessment and stakeholder consultations

Due to time constraints, this report is of restricted scope. The focus is socio-economic, based on qualitative research on community and other stakeholder perceptions.

3 Geographical Context

The area lies on the Kenyan coast, south of Malindi and north of Mombasa. The climate is seasonally variable, influenced by the north and south monsoons. Rainfall is low and bimodal, produced by the movement of the Inter-tropical Convergence Zone.

The areas residents are of both African, Asian and European descent. Residents of European and Asian extraction own much of the first and second row beach plots. The African community is dominated by the Miji Kenda ethnic groupings, particularly the Giriama.

3.1 Population

According to the socio-economic baseline assessment, the population of Junju location is 23, 243 people. Kuruwitu sub-location comprises of 6,591 of these and Vipingo sub-location approximately 8,000. (Maitha & Tapata, 2005). Further information on baseline socio-economic data of the area can be found in the Maitha & Tapata report.

3.2 Land Tenure

Kenya has been undergoing a process of land tenure reform since prior to Independence. The emphasis has largely been on increasing individualised tenure security. The titling and registration process remains incomplete. The land titling process in Kenya to date has tended to generate damaging impacts on the position of the poor, summarised as follows in Toulmin & Quan (2000):

Land registration [in Kenya] has been accompanied by:

- *Increased concentration of land ownership, especially in the hands of recipients of former settler land, and those influential enough to manipulate the registration process in their own interests;*
- *The weakening of customary rights, within households and between social groups, resulting in diminished security of tenure for non-title holders, notably wives, children and landless farmers...;*
- *Diminished food security and increased vulnerability to drought amongst groups whose access to land has been diminished by the titling process;*
- *Increased level of disputes resulting from individual rights being imposed on pre-existing systems of multiple rights (Toulmin & Quan, 2000)*

3.3 Common Pool Resources

Common pool resources (including cultivatable land, forests, grazing areas, coastal habitats, and marine fisheries) are shared by multiple users and support rural livelihoods in diverse ways, providing water, grazing, raw materials for tools and building, fuel, food and marketable goods. These resources also fulfil aesthetic, ritual or spiritual functions within communities.

Such resources support 'traditional' livelihoods but also offer opportunities to support newer economic activities, often linked to private sector enterprises, including eco-tourism. Common pool resources also often provide a safety net to the poor that helps in reducing risk and vulnerability. In utilisation of common resources, sound management is essential to prevent over utilisation and degradation of resources that will affect the long-term benefits to all.

Systems of land tenure and access to common pool resources need to be clarified and strengthened in relation to livelihoods of the poor. Reform can potentially provide both greater security of livelihoods and more sustainable management of common pool resources (see Cousins, B., in Toulmin & Quan, 2000).

In the Kuruwitu – Vipingo community, where financial capital is limited, access to common pool resources is crucial for maintaining livelihoods. However, access to such resources is limited by the extent to which land in the area is held by either the government (formerly 'crown' land) or private individuals. In this context, social capital becomes crucial to supporting or enabling livelihood opportunities.

4 *Alternative Livelihoods*

In situations of widespread poverty and reliance by communities on natural resources for subsistence, it is essential to find a balance between poverty alleviation and the conservation of ecological resources.

The Jakarta Mandate advocates for 'the sustainable use' of marine and coastal resources. It recognises that these resources provide food and livelihoods to millions of people and if sustainably used can offer increased potential to meet nutritional and social needs particularly for the poor, whilst maintaining biological diversity. It is within this vision that our goal of sustainable coastal livelihoods should be driven and interventions identified. (Ireland et al, 2004)

The diversification of livelihoods, including the introduction of alternatives where a particular livelihood involves unsustainable utilisation of natural resources, provides an opportunity to create an enabling environment where wealth is spread amongst various income generating activities and develops through multiple income sources without over-utilisation of a particular resource. However:

Livelihood diversification is about more than multiple income sources, it relates also to the transformation of economies and to the complex nature in which people make decisions within those economies. The introduction of alternatives alone will therefore not necessarily bring about the change that is desired or expected. Creating an enabling environment that enables people to live their lives in a sustainable way is shown to have a much greater success in achieving sustainable use of resources, than a series of stand alone alternative livelihood projects (Ireland et al, 2004)

These insights must inform any assessment of opportunities for change within rural coastal communities, and they underpin the recommendations in this report.

5 Assessing Livelihoods

The following section provides an overview of the livelihood assessments specific to the two sub-locations chosen for this study, namely Kuruwitu and Vipingo. Information is drawn both from this study and previous socio-economic research and analysis carried out in the area. Attention is given to livelihood assets (capital) divided into five types:

Table 1: Livelihood Assets

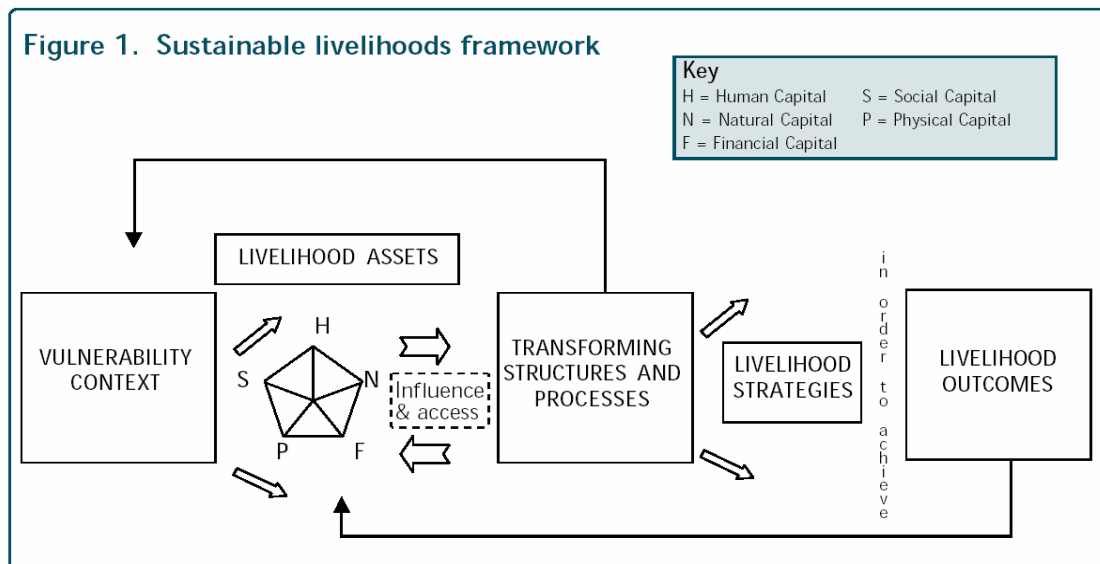
Natural	Land, forest, rivers, marine life, terrestrial life, biodiversity.
Financial	Savings in the form of cash and liquid assets such as grain, livestock etc.
Human	Knowledge, skills such as boat making, good health, ability to work etc.
Physical	Roads and transport, buildings, communications etc.
Social	Networks between individuals, relationships, members of groups etc

Source: after Scoones, I. in Carney, D., (ed) (1998)

An understanding of these assets brings awareness of the opportunities and limitations facing a community or individuals in developing their livelihoods. People are either enabled or restricted by these assets, for example, the skills and experiences they have, the equipment available to them, the existence or otherwise of savings or the availability of natural resources for utilisation within income generating activities.

Based on this understanding, it is possible to discuss and analyse externalities and areas of vulnerability which affect livelihoods, such as climatic seasonality, institutional/political structures and processes and access to land and other resources. After accessing this information, through a livelihood assessment, the next step is to devise sustainable livelihood strategies which are realistic and appropriate to the conditions and issues raised during assessment. The following diagram gives an overview of this framework.

Figure 1: Sustainable livelihoods framework



Source: Carney, D., (ed) (1998)

6 Selected Locations

Due to the limited time available to carry out the livelihood assessment required for this report and to satisfy a balance of the following criteria, two study areas were chosen, **Vipingo Sub-location** and **Kuruwitu Sub-location** of Junju Location. The criteria were:

- Relative locations, i.e. north and south of the project area
- Community being reliant on marine resources
- Population using the six fishing landing sites
- Communities located on the coastal strip

7 *Activity Timetable*

This report is based on a 10-day consultancy, of which 6 days were spent in the field (or travelling) and 2 days in presentation. A guide to the methodology used for the coastal livelihood assessments (CLA) is given in Appendix 1. The following table indicates the time spent on field activities.

Table 2: Field activities

Date	Activity
01/10/2005	Travel to Kuruwitu-Vipingo Area, Kilifi
02/10/2005	Orientation
03/10/2005	CLA women, CLA Men Vipingo
04/10/2005	CLA women, CLA Men Kuruwitu
05/10/2005	SSI European Residents, SSI Sisal Estate Manager
06/10/2005	SSI Cultural Tourism Group, Local Healers, Community Focus Groups
07/10/2005	CLA Kuruwitu Conservation & Welfare Association; Prioritisation Exercise
08/10/2005	SSI European Residents, Nairobi
09/10/2005	Documentation Review
10/10/2005	Report Preparation, Nairobi
11/10/2005	Report Preparation, Nairobi
12/10/2005	Report Preparation, Nairobi
13/10/2005	Report and Presentation Preparation, Nairobi
14/10/2005	Presentation, Strategic Planning Workshop, Kilifi
15/10/2005	Discussion, Strategic Planning Workshop, Kilifi

Livelihood Assessments

1 Introduction

This report is based on livelihoods assessments and limited stakeholder consultations conducted in the area, with additional insights from existing socio-economic information. It is useful to make a number of initial comments on the development of sustainable livelihoods before going into further detail.

The term 'Alternative Income Generating Activities' (AIGs) is widely used in work of this kind, including in this report, and has become a somewhat generic term for sustainable income generation activities. It is important to note that not all of the livelihoods proposed will be alternative. In fact, some are based on the development of existing livelihood activities in order to most effectively fulfil the stated objectives of the KCWA and its partners, EAWLS and IUCN EARO - to both relieve the strain on marine resources and generate income for the Kuruwitu - Vipingo communities. Some AIGs may require greater amounts of training and lifestyle change than existing livelihoods which can be adapted or have new technology and approaches applied to them but have the advantage of being understood and part of the social framework.

Building upon the recommendations of Ireland et al (2004), proposed AIG interventions will best be kept small-scale. Large projects have not been successful in this context. The majority of community members spoken to have not raised an interest in large projects, tending to think on individual household or village cooperative level.

2 Key Findings

Key findings from the assessments indicate that communities are limited in developing their livelihoods by a range of environmental, social and economic factors. Chief amongst these are widespread poverty and subsistence lifestyles, climatic variability and seasonality, lack of access to finance and technology, a restricted access to resources or assets, particularly a lack of land tenure, and the need to balance minimising risks against maximising productivity. Specifically, the livelihood assessments have identified three factors, namely access to financial capital, access to knowledge and training and acquisition of efficient technologies and equipment and as crucial to creating the enabling environment required for income generation. A further, key issue limiting income generating opportunities is the lack of land tenure. However, addressing the land tenure issue will require complex political engagement over the long term.

Access to financial capital is the most problematic. Current activities do not bring returns sufficient enough to reintroduce capital into enterprises; only basic needs are met. There is little tradition of saving, largely because the participants show little familiarity with having anything left over to put aside. Typically, income is spent as it is generated. Access to markets for goods generated is also problematic. The seasonal nature of fishing and farming activities mean income generated considerably over the course of the year. Particularly difficult times are during the *kusi* season for fishermen (May to October) and between the short and long rains for farming activities (December to April).

Access to knowledge and training is also a major limiting factor. Most community members have education up to leaving primary school. A tiny minority have secondary education. Further, livelihood practices have been in much the same mould (subsistence agriculture, fishing, a little livestock, small business and artisanal trade) for generations. Linked to these limitations is a marked individualism, the community is not homogenous. Community members of both genders have varying views on how income should be managed, and cooperatives have often failed where they have been let down by individual members not willing to pay their share of costs.

Access to cost effective technology (and by extension, equipment) is another key limitation. In part, this problem would be solved by addressing the first two (capital and training), but on another level this issue requires intervention because the type of gear introduced may have adverse effects on the local ecology.

3 Livelihood Activities

An inclusive listing of livelihood activities practised by or deemed viable in the future, to the Kuruwitu - Vipingo communities being assessed, is found in the table below. The high number of these give some indication of both the diversification opportunities available to communities and the difficulty of identifying selected interventions to develop as proposals for pilot implementation. Note the allocation for each activity of shaded boxes showing:

- Dependence or otherwise of the activity on marine or terrestrial resources.
- Whether the activity is derived directly from the resource or comes about as a secondary product of the primary activity. For example, fishing can be seen as a primary activity; fish selling as a secondary activity.
- Whether the activity is currently practiced in one form or another and whether the activity is likely to be a feasible option as an income generating activity in the future.

Table 3. Livelihood activities

Livelihood Activities	Dependent Natural Resources				Activity Sector			Current Status	
	Marine	Terrestrial	None		Primary	Secondary		In practice	Potential AIG
Agriculture - Bananas		Green			Red			Yellow	Orange
Agriculture - Beans		Green			Red			Yellow	Orange
Agriculture - Cashew Harvesting		Green			Red			Yellow	
Agriculture - Cassava		Green			Red			Yellow	
Agriculture - Coconut Palms		Green			Red			Yellow	Orange
Agriculture - Groundnuts		Green			Red			Yellow	
Agriculture - Mangoes		Green			Red			Yellow	Orange
Agriculture - Oranges		Green			Red			Yellow	Orange
Agriculture - Pigeon peas		Green			Red			Yellow	Orange
Agriculture - Rice		Green			Red			Yellow	
Agriculture - Sesame		Green			Red			Yellow	
Agriculture - Subsistence Food Crops e.g. maize		Green			Red			Yellow	
Agriculture - Vegetable Gardens		Green			Red			Yellow	Orange
Artisan - Bicycle repair			Orange		Red			Yellow	
Artisan - Carpenter			Orange		Red			Yellow	
Artisan - Mason		Green			Red			Yellow	
Artisan - Weaving (1)		Green			Red			Yellow	Orange
Artisans - Boat building & repair		Green				Cyan		Yellow	
Artisans - Hairdressers			Orange					Yellow	
Artisans - Mechanics		Green						Yellow	
Artisans - Net making & repair	Blue	Green				Cyan		Yellow	
Artisans - Painters & Decorators			Orange		Red			Yellow	
Artisans - Plumber			Orange		Red			Yellow	
Artisans - Rope makers		Green			Red			Yellow	
Artisans - Tailors			Orange		Red			Yellow	Orange
Artisans - Thatchers		Green			Red			Yellow	

Livelihood Activities	Dependent Natural Resources				Activity Sector			Current Status	
	Activity	Marine	Terrestrial		None	Primary		Secondary	In practice
Artisans - Trap making									
Blacksmiths (local materials)									
Building pole collection									
Business - Charcoal seller									
Business - Food Preparation									
Business - Fruit seller (2)									
Business - Tobacco Seller									
Business - Community Aquarium Fish Sales									
Business - Baker									
Business - Bar work									
Business - Beekeeping and Honey									
Business - Butcher									
Business - Butterfly Farming									
Business - Clothes Seller									
Business - Coconut Seller									
Business - Cook									
Business - coral block selling									
Business - Dress Maker									
Business - Dried fish sales									
Business - Firewood Seller									
Business - Fishmonger (non-refrigerated)									
Business - Fresh crustaceans sales									
Business - Fishmonger (refrigerated)									
Business - Grocery (3)									
Business - Juice Seller									
Business - Livestock Seller (4)									
Business -Makuti Thatch Seller									

Livelihood Activities	Dependent Natural Resources				Activity Sector			Current Status	
	Marine	Terrestrial	None		Primary	Secondary		In practice	Potential AIG
Business - Palm Wine Seller		Green				Cyan		Yellow	
Business - Photographer			Orange			Cyan		Yellow	
Business - Prepared Food Seller (5)	Blue	Green				Cyan		Yellow	Orange
Business - Selling non-consumables (6)								Yellow	Orange
Business - selling paraffin								Yellow	
Business - Shopkeepers	Blue	Green				Cyan		Yellow	
Business - Tailoring College			Orange			Cyan			Orange
Business - Tailoring Uniforms			Orange			Cyan			Orange
Business - Tea sellers			Orange					Yellow	
Business - Vegetables Seller (7)		Green				Cyan		Yellow	
Business - Water Seller		Green			Red			Yellow	Orange
Casual Labour			Orange			Cyan		Yellow	
Charcoal making		Green			Red			Yellow	
Community worker/leader			Orange			Cyan		Yellow	
Employment - Aquarium Fish Harvesting	Blue				Red			Yellow	Orange
Employment - Cleaner			Orange					Yellow	Orange
Employment - Cook			Orange					Yellow	Orange
Employment - Gardener		Green						Yellow	Orange
Employment - Local Government								Yellow	
Employment - Mason		Green						Yellow	Orange
Employment - Mechanic			Orange					Yellow	Orange
Employment - Plumber			Orange					Yellow	Orange
Employment - Road Maintenance			Orange						
Employment - Sisal Estate		Green						Yellow	
Employment - Supplying Food to Residents	Blue	Green				Cyan			
Fishing - Canoe based; inside reef	Blue				Red			Yellow	
Fishing - Deep water crustaceans trawling	Blue				Red				Orange

Livelihood Activities	Dependent Natural Resources				Activity Sector			Current Status	
	Marine	Terrestrial	None		Primary	Secondary		In practice	Potential AIG
Fishing - Deep water long line fishing & trawling	Blue				Red				Orange
Fishing - Nets & lines; inside reef	Blue				Red			Yellow	
Fishing - Spear guns; inside reef	Blue				Red			Yellow	
Fossil Coral Harvesting		Green			Red				
Fuelwood collection		Green			Red			Yellow	
Housewife	Blue	Green				Cyan		Yellow	
Labourer - Driver			Orange			Cyan		Yellow	
Labourer - Quarry mining		Green			Red			Yellow	Orange
Livestock - Broiler Chickens		Green			Red				Orange
Livestock - Cattle		Green			Red			Yellow	
Livestock - Ducks		Green			Red			Yellow	
Livestock - Goats		Green			Red			Yellow	
Livestock - Layer Chickens		Green			Red			Yellow	Orange
Livestock - Sheep		Green			Red			Yellow	
Mariculture - Fish and crab ponds	Blue	Green			Red				Orange
Mariculture - Fish Cages	Blue				Red				Orange
Mariculture - Seaweed	Blue				Red				
Marine Research Centre	Blue	Green			Red				Orange
Palm wine tapping		Green			Red			Yellow	
Politicians			Orange					Yellow	
Shell collection	Blue				Red			Yellow	
Student - IT Trainee			Orange					Yellow	
Teacher			Orange					Yellow	
Tourism - Acrobatic Shows			Orange			Cyan		Yellow	Orange
Tourism - Community Tourism lodge	Blue	Green				Cyan			Orange
Tourism - Cultural & Ritual sites	Blue	Green				Cyan			Orange
Tourism - Diving Centre	Blue					Cyan			Orange

Livelihood Activities	Dependent Natural Resources				Activity Sector			Current Status	
	Marine	Terrestrial	None		Primary	Secondary		In practice	Potential AIG
Tourism - Glass bottomed boat	Blue					Cyan			Orange
Tourism - Proposed golf course clients			Orange			Cyan			Orange
Tourism - Snorkelling	Blue					Cyan			Orange
Tourism - Traditional Dancers			Orange			Cyan		Yellow	Orange
Tourism - Traditional Musicians			Orange			Cyan		Yellow	Orange
Traditional medicine		Green			Red			Yellow	
Transport (on bicycles and by cart)			Orange			Cyan		Yellow	Orange
Vipingo Community Market	Blue	Green				Cyan			Orange

Notes:

- (1) Includes baskets, mats and *makuti* thatch
- (2) Including mango, pineapple, coconut, lemon
- (3) Grocery includes eggs, vegetables, milk, fruit, nuts and pulses
- (4) Includes goats, cattle, chickens, ducks
- (5) Prepared food stuffs being sold include chapatti, beans, cassava, cake, *maandazi*, porridge, cooked meats
- (6) Includes items such as house ware and tools
- (7) Including potatoes, tomatoes, onions, greens

4 Assets Assessment

Discussions were held relating to assets. These are based on what could be information could be obtained by the community in the given time. It should be borne in mind that certain types of assets were not identified by respondents. Sometimes this is because they do not exist (such as financial assets) and other times because the value is not recognised (such as with social assets amongst male groups). The following tables indicate what community members themselves identifies to be their assets.

4.1 Vipingo

184 women took part in a CLA in the morning, and 80 men took part in a CLA in the afternoon.

Women

Table 4: Assets Identified by Vipingo Women

Natural	Human	Physical	Social	Financial
Fish	Small businesses	Mombasa-Malindi road	Self-help groups	Group savings projects
Livestock	Weaving skills	Primary & secondary schools	Community leadership	Group bank accounts
Sea	Animal husbandry	Clinic	Cooperatives	
Vegetables	Dressmaking	Vipingo trading centre		
Fruit	Farming skills	Undeveloped market area		
	Midwifery			
	Primary education			

Men

Table 5: Assets Identified by Vipingo Men

Natural	Human	Physical	Social	Financial
Fish	Teachers	Undeveloped market area		
Livestock	Businessmen	Mombasa-Malindi road		
Sea	Fishers	Primary & secondary schools		
Vegetables	Plumbers	Clinic		
Fruit	Tailors	Vipingo trading centre		
Rocks	Hawkers	Rented farm land		
	Builders			
	Farming			
	Primary education			

4.2 Kuruwitu

123 women took part in a CLA in the morning, followed by 87 men in the afternoon.

Women

Table 6: Assets Identified by Kuruwitu Women

Natural	Human	Physical	Social	Financial
Trees	Local business	Primary schools	Cooperatives	Group savings association
Livestock	Shopkeeping	Mombasa-Malindi road	Self-help groups	Group bank accounts
Fish	Farming			
Sea	Food preparation			
	Food selling			
	Tailoring			
	Hairdressing			
	Farming			
	Weaving			
	Animal husbandry			
	Primary education			

Men

Table 7: Assets Identified by Kuruwitu Men

Natural	Human	Physical	Social	Financial
Trees	Fishing	Primary schools	CBOs	Individual bank accounts
Sea	Farming	Secondary school	Self-help groups	Cooperative bank accounts
Fish	Sailing	Mombasa-Malindi road		
Crustaceans	Fish line making	Government offices		
Shells	Net making			
Sea weed	Building			
Turtles	Animal husbandry			
Rocks	Business			
Sisal	Tailoring			
Fruit	Shopkeeping			
Vegetables	Bicycle repair			
Livestock	Vehicle repair			
	Plumbing			

Natural	Human	Physical	Social	Financial
	Primary education			

5 *Limitations and Vulnerability Assessment*

The following key **limitations** to the development of livelihoods emerged as a consistent theme amongst all four groups assessed:

- **Lack of financial capital;** brought about through inconsistent, seasonal and low-level income generating activities and a consequent lack of a culture of savings culture, particularly amongst the men. In the whole, when income is made, it is spent on immediate household needs
- **Seasonality of activities.** Fishing activities as they stand have inconsistent yields, for two reasons. Firstly, because the majority of fishing activities are carried out at low tide, generally without the use of vessels, inshore of the reef, where catch is increasingly of low quality and quantity. Secondly, fishing activities are focused on the *kaskazi* season between October and April, a time of calm waters and higher yields. The *kusi* season is a time of rough, opaque seas and high winds when fishing is either difficult or impossible without sea-going vessels. Farming activities are also seasonal, in a large part because of lack of ownership to land. For many, land is only available to rent for only part of the year which precludes the possibility of growing perennial crops. Farming is also dependent on the seasons. If the short rains in October are minimal, only one harvest a year is possible, leaving land laying fallow for much of the year.
- **Land Tenure** is a major limitation. The community do not own land, all refer to themselves as squatters, therefore are unable to plan use of land for cultivation, or to develop the land without first seeking permission from Government or private land owners respectively. This has especially significant connotations on perennial agriculture and the allocation of grazing land for livestock. The lack of land also brings resource users, namely between the development crops and the rearing of livestock
- **Water** supply is also limited, again in part because of land tenure, and in part because of a lack of financial capital to bring piped water off the mains supply which runs alongside the Mombasa – Malindi road. This has obvious connotations for the development of agriculture and livestock as well as meeting basic household needs
- **Education** levels are low, the vast majority only have primary school education, and many of those did not complete their primary education. Secondary school demands fees which are hard to come by. This restricts the community as a whole by restricting their chances at developing the knowledge and gaining skilled employment in or outside the area, as well as reducing their capacity to develop their own enterprises and to have a fuller part in the political processes of the area.
- **Health** facilities are limited, and where available, medicines may be prescribed, but to buy them requires funds often not available to the household.
- **Markets** are only small scale; the community is not generally able to sell more than a very limited amount of goods on a local level. This is partly because of low yields, partly because of a lack of capital to invest in larger stock and benefit for the economies of scale, and partly because the market for goods is largely locally

driven and with little buying power, meaning the circulation of funds remains on a subsistence level

Consequently, the level of **vulnerability** of the community is high. The community is vulnerable to shocks that may come about from a number of ways.

Firstly, the community is highly vulnerable to seasonality. Their incomes vary considerably depending on the season of the monsoon for fishing, and on the short and long rainy seasons for cultivation. Where the primary resource-use activities of fishing and farming are affected, secondary activities are also affected in a knock-on affect. If a fisherman, does not catch fish, a fishmonger has nothing to buy and to sell. If the rains fail and a farmer yields little harvest, a vegetables seller has nothing in her kiosk to sell.

Secondly, the vulnerability of the community reduces the ability of the community to take risks. For example, a lack of capital precludes the investment by a community or individual into entrepreneurial activity. The inability to generate capital further restricts the development of physical or financial assets which may be used as collateral to procure loans for microfinance bodies.

Thirdly, this context of vulnerability places the community into a cycle of dependence, not only upon the seasons and the natural resources available to them (such as the sea) , but also on Government, private land owners and businesspeople, who are potentially able to take advantage of the community's position of vulnerability and to exploit them. In short, the community have no bargaining power to be able to deal with an investor, and no political weight to be able to force issues through Government, such as in resolving the areas land tenure issue.

The following detail particular aspects of limitations and vulnerability, by group discussion.

5.1 Vipingo

Women

- **Farming:** Women cite seasonal farming activities as being either one or two seasons per year depending on the occurrence short rains. The difficult season is from January to April. The easier season, with better yields, is from August to December.
- **Land:** They do not own land. They can only cultivate land they hire from Rea Vipingo Sisal Estate at a token rent. They can only grow seasonal crops. The area they are allowed to rent is too small. There is a lack of farming equipment.
- **Market.** There is an area allocated for a market, but it has not been built
- **Health.** Medicines are too expensive.
- **Capital.** There is no capital to invest into local businesses, therefore profits are for subsistence use only. There are self-help groups but there is difficulty finding the communal income to get them going; bank accounts cost money to maintain
- **Government.** Relief food is very little, and not enough during the difficult times. There is corruption in the Government, where officials look to supporting themselves not the community.
- **Education.** The majority of the community members have primary school education only. Only six of the 184 women surveyed had secondary schooling

Men

- **Fishing:** May to August is difficult to fish due to rough seas. The size of the catch has diminished. They are forced around by the ornamental fish buyers who pay them very small amounts. There are several factors limiting the reliability of fishing for sustaining a livelihood as it is currently practiced . These include: poor fishing gear (either none or small boats only, no flippers, poor nets), no alternative activity when unable to go out in the bad season, selling by the handful rather than wholesale, inability to go into deep sea, lack of cold storage facilities and a limited local market.
- **Farming.** The fruit business is also seasonal and storage is a problem.
- **Land:** They do not own land. They can only cultivate land they hire from Rea Vipingo Sisal Estate at a token rent. They can only grow seasonal crops. The area they are allowed to rent is too small. There is a lack of farming equipment.
- **Market.** There is an area allocated for a market, but it has not been built
- **Health.** Medicines are too expensive. There is no hospital and no maternity facility. The clinic is viewed as a research facility. The men reported that they had to attend Kilifi hospitable to obtain medicines.
- **Capital.** There is no capital to invest into local businesses, therefore profits are for subsistence use only. None of the men surveyed said they had bank accounts, this is because the capital generated is only for family use.
- **Education.** The majority of the community members have primary school education only. Only 11 out of the 80 men present were educated to secondary level.

5.2 Kuruwitu

Women

Kuruwitu women explained the seasonality of their farming activities

Table 8: Seasonal Farming Activities Kuruwitu Women

Month	Activity
Jan to March	Preparation of land
April	Maize planting
May to June	Weeding
June	Peas planting
August	Maize harvest
September	Peas harvest
October to December	No activity unless short rains heavy enough for second harvest

The women raised the following issues with regards to their limitations:

- **Fishing.** When they cannot get fish during the *kusi* season, they buy for Chinese buyers using funds saved from the *kaskazi* season. Their lifestyle is dominated by the tides; they buy fish at the landing sites from the fishermen, their housework and other activities fit in around this core activity.
- **Farming:** Livestock are more dependable than cultivation as the land is not theirs.
- **Land:** They do not own land. The land belongs to an absentee landlord, the Sultan.
- **Health.** Medicines are too expensive. The health centre is in Vipingo.
- **Capital.** They have no savings, only livestock. There are self-help groups but there is difficulty finding the communal income to get them going; bank accounts cost money to maintain. There is a problem with individuals taking more than their share from groups, or not paying their dues, which breaks up the trust and the group.
- **Government.** There are no institutions to assist them
- **Education.** The majority of the community members have primary school education only. The primary school has too few classrooms for the number of pupils.

Men

Kuruwitu men explained the seasonality of their fishing and farming activities

Table 9: Seasonal Fishing Activities Kuruwitu Men

Period	Activity
May to September	<i>Kusi</i> (bad fishing season)
October to April	<i>Kaskazi</i> (good fishing season)

Table 10: Seasonal Farming Activities Kuruwitu Men

Month	Activity
October to March	Field preparation
March to April	Planting
August	Harvesting

The men raised the following issues with regards to their limitations:

- **Fishing:** The size of the catch has diminished. They are forced around by the ornamental fish buyers who pay them very small amounts. There are several factors limiting the reliability of fishing for sustaining a livelihood as it is currently practiced . These include: poor fishing gear (either none or small boats only, poor nets), inability to go into deep sea, lack of cold storage facilities and a limited local market.
- **Farming.** The fruit business is also seasonal and storage is a problem.
- **Land:** They do not own land. They can only cultivate land they hire from Rea Vipingo Sisal Estate at a token rent. They can only grow seasonal crops. The area they are allowed to rent is too small. The area where they live is very rocky.
- **Health.** Medicines are too expensive. There is no hospital nearby
- **Capital.** There are no savings, only two people surveyed had bank accounts. There are self-help groups who assist the communities although there is difficulty in developing these. Bank accounts cost money to maintain.
- **Education.** The majority of the community members have primary school education only.

6 Aspirations Assessment

At each point where the discussion moved to the subject moved to aspirations, all of the future activities raised required the input of minor or significant external capital to solve the problems the community face in developing their livelihood. The view was overwhelming that microfinance was too high a risk unless their contribution is only a fraction of the investment required, and that grants of some form would be the main option. This illustrates not only the lack of financial capital in the community as a whole, but also the perceived or actual lack of ability and attitude in procuring the capital themselves as a community, and therefore the dependence on external parties, whether local businesses and landowners, or Government, or the donor community at large to source capital on their behalf.

A list of aspirations is given by group, of which a number will be discussed in more detail in the *Interventions* section below.

6.1 Vipingo

The Vipingo community, especially the women, believe that investment in certain key projects will be key to adding value to their income generating possibilities. In particular, they cite the development of a market area on land which has already been given to them by the Sisal Estate. They believe that the combination of this activity with the development of a project which will allow the men to go out deep sea fishing.

The following aspirations were given indicating which income generating activities, AIGs or otherwise, they would like to focus on in the future, should an enabling environment be found for any of these.

- **Women:** Support existing small business (including trading vegetables and fish), build a new market in Vipingo with a freezer, planting and harvesting mangroves, development of fruit and vegetable farming if land title can be given to them, mariculture fish pond farming, deep sea fishing vessels and gear for the men, develop a tourist lodge, dress making, inviting local investors
- **Men:** Acquire deep sea fishing vessels and gear, build a new market in Vipingo with a freezer, development of fruit and vegetable farming if land title can be given to them with better farming equipment, take over the ornamental fish

business from outsiders, conserve the inner reef to increase fish stocks, offer diving to tourists with a glass-bottomed boat, be trained to guide tourists, develop existing local businesses, legal palm wine trade

6.2 Kuruwitu

This community also believe that investment in certain key projects will be key to adding value to their income generating possibilities. The women were almost equally divided in their view of hoe to manage their future livelihoods. A little over half would like to develop their business activities on an individual basis, citing cooperatives as the cause of loss of income due to conflict over the allocation of finances, whilst the remainder believe that it is only through cooperatives that they will be able to access sufficient capital. Key potential activities were the raising of broiler and layer chickens, the development of a tailoring school and clothes-making facility, the development of existing businesses and the development of a deep sea fishing project with seafaring vessels and gear.

The following aspirations were given indicating which income generating activities, AIGs or otherwise, they would like to focus on in the future, should an enabling environment be found for any of these.

- **Women:** Support existing small business (including trading vegetables and fish), build a new market locally with a freezer and storage facilities, raise broiler and layer chickens, build housing facilities for school teachers to rent, build a tailoring college that will also allow the community to make and sell clothes
- **Men:** Acquire deep sea fishing vessels and gear, build a new market locally, development livestock business, particularly broiler hens and cattle, take over the ornamental fish business from outsiders by building an aquarium, develop existing local businesses, set up a local transport business, run a private academy school, increase participation in quarrying coral blocks

Stakeholder and Focus Group Analysis

Following the completion of the coastal livelihood assessments, a number of focus groups and group activities were carried with community members to assess particular aspects of the development of value-adding activities for the livelihood of the community of the whole and to develop ideas.

Further to these activities, a number of stakeholders were interviewed to give their perspective and aspirations for the community and to assess means in which some of these stakeholders may be able to support the community in developing alternative and value-adding livelihood activities in the future.

1 Focus Groups

Focus Groups allowed for a closer inspection of a current or potential livelihood activity, in the areas of cultural tourism, fishing, coral brick quarrying and traditional healers. Alongside the focus groups, a group prioritisation exercise was carried out with members of the KCWA committee to assess each of the activities, and others beside, that had been raised by the community. The focus groups involved either watching the activity, such as with the cultural tourism groups, or visiting and exploring and discussing the area and its activities, as in visits to the fish landing sites, quarry and potentially tourism areas.

1.1 Cultural Tourism

Representatives or a full team of four types of tourist entertainers were met. There are a number of other groups that were not met but this nonetheless gave a good picture of the activities carried out, and how they may gain value in the future. The group names are given in Appendix 2. A trip was made to the Baharini Breezing community cultural centre to witness the entertainers.

The cultural centre is the first example of a potential activity, although it has yet to make any income. The owner, Franklin Katana Tela would like to see it is a facility for cultural tourism activities like dancing and acrobatic shows for foreign and domestic tourists. However, its location in Shariani village away from the tourist sites may make it a difficult activity to make profits. It may be profitable as a restaurant for local people.

The dance, acrobatic and drumming groups all make a current income, usually extra to their usual activities of fishing, farming and small businesses, by appearing at tourist lodges further up and down the coast. They are paid between 4,000/= to 8,000/= Ksh per 30 minutes group show. The groups variously complement each other, such as the drummers add music to the dancers and the acrobats, or play separately.

The groups all have an issue with developing their reputations, and in gaining proper uniforms and equipment for the shows. Currently, the acrobats for example, borrow uniforms from more established performers for their shows. The capital to buy these is not available, and the activity remains a peripheral one for all groups interviewed. Otherwise, the group members face similar livelihood issues as the rest of the community as discussed above.

The groups have a potential advantage in this activity in that, with the exception of the community centre, are activities which are mobile. They can either visit coastal hotels and get bookings in those establishments or they would be able to perform locally if there were a cultural tourism AIG set up in the future.

1.2 Traditional Healers

Two healers were interviewed. They have inherited the tradition and knowledge through their families, although the healing capacity they have is only available to them intrinsically once they

become adults. They treat diseases using local herbs and esoteric knowledge for clients both of national and international origin. They have a certificate to practice this form of healing. It is not a livelihood activity available to many, and not one with particular value, as its values are focused on culture and healing.

1.3 Coral Mining

Coral mining for building blocks reputedly started in the area in 2004. The majority of labourers are from inland Kenya; very few local people take on the work. By their own admission, many of the local people find the level of labour required digging blocks out of the coral cliff under a hot sun physically punishing. Earning power is related directly to the strength applied and hours worked by the individual. However, others believe the activity has good potential for bringing income to the area. Women said they could make 150/= a day, while men could make between 200/= and 250/= Ksh a day. The group has not officially registered itself as an association, and levels of trust between them and potential buyers, such as the European beach plot owners, have yet to be established, partly because of this. Also due to this, and because of a lack of transport, the group do not have a steady market, and as pay is not given until a sale is made, there is usually a long wait before any income is made.

1.4 Fish Landing Sites

A visit was made to Kijangwani and then Mwanamia landing sites. Kijangwani is the largest and most established of the six landing sites. The outrigger canoes found there on the day of the visit belonged to outsiders from the south coasts of Mombasa, the community only had one canoe present there. Fishermen present were fishing on foot in the low tide. In both sites it was discussed that the fishermen often borrow gear, they generally do not own their own. They use small-meshed dragnets. Most of the fish caught are Taffi, and the average catch is 5-10, each fish weighing approximately ½ kg and sold by the handful or around 80/= Ksh per kg.

1.5 Research Centre & Ritual Sites Visit

Kijangwani was seen as the obvious location for the development of a potential research centre and tourist accommodation. It was agreed in the discussion that applying to the government for this proposed activity should lead to a successful transfer of the land to the community.

2 Stakeholders

Stakeholders consulted can be described as three types;

- Plot-owing residents, typically of European and Asian extraction who own the numerous residential beach plots in the area as well as some agricultural and forested land to the south and west of these plots
- Local business, notably the Rea Vipingo Sisal Estate which owns and manages most of the land immediately west of the Mombasa-Malindi road as well as some of the coastal plots.
- Local Government officials who were able to offer input on land ownership, livelihood development, and potential government funding issues

Given the time frame only a representative sample of stakeholders was taken. It is advised that further consultations be made with these and other stakeholders during the process of developing livelihood interventions to further assess to the degree of support in various forms that these stakeholders may be able to make to the community.

2.1 Beach plot residents

In general, the residential plot owners consulted have a positive view of engagement with the community, although others prefer to be isolated in their activities.

There is an issue between a new plot owner and the KCWA over a baobab on beach land in front of the owners plot which has been cut down without permission or consultation with the KCWA or the community as a whole. Baobabs have both a spiritual and a conservation value amongst the community. One plot owned by a physically disabled German couple did not wish to be consulted as part of this research, despite initially agreeing to do so. Another plot, owned by the Nyrisha Foundation, previously owned by an unsuccessful tourism operation known as Fourways, operates with little relationship with the community or other residents.

Aside from these examples, of which there may be others, according to residents the predominant view is that the residents need to work with the community, even if they are not supporting them directly. The majority of the European residents are away from the area, based in Nairobi or abroad for much of the year, only a handful live on the coast permanently. Other residents have not yet been persuaded to join the KCWA, which may hamper its development as a functioning association amongst this section of stakeholders.

By most accounts, the majority of residents believe strongly the conservation of the marine resources, which is unsurprising given their vested interests in the beach plot areas. The degree to which they are also committed to supporting the welfare of the community varies by individual. Those who are signed up members of the KCWA are more interested in supporting livelihood issues, but on a relatively low scale. It is important to note that these plots are generally used only for residential use, therefore there is little or no business activity on them. This has two implications. First, that capital produced by the residents is either produced elsewhere, or is generated by the residents own savings from earlier in their lives as many are now retired. Secondly, it means there is little direct employment opportunity on these plots for the community, except in household support roles, such as cooking, cleaning, building and decorating. In short, the residential areas do not, nor are they likely to offer any significant capital generation opportunities for the community.

However, where residents can and do show support beyond household employment is in the sourcing of local goods and services from the community, such as vegetables, fish and buying building materials such as coral blocks. They are also willing and able to support local initiatives on a small scale. One resident couple are funding the building of a dispensary in Shariani village along the roadside which they are intending to stock with subsidised medicines and employ a pharmacist. (Walker & Walker *pers comm.*) In this respect, the residents are able to make a positive and marked impact on livelihood development. Potentially, some of the residents may be able to part fund AIGs in the future if on a small scale. They are less keen on being involved in larger projects involving government or outsiders where they are concerned about accountability and transparency of funds, and losing control of the process of developing a community livelihood activity. They are also of the view that the development of an AIG should take into account the *laissez-faire* lifestyle approach of the community and low education levels and not be an activity which involves long working hours in a unfamiliar setting, nor one which encourages debt, but rather be an activity that can be carried out at the pace and interest level of the community (Drugan, *pers comm.*).

Where the residents may also be support the community is in providing links and contacts to both external funding opportunities and private investors. They may also be able to help in putting together proposals which capture the imagination of the international donor and investor community. One such area where this kind of support may work is in the development of tourism in the area. Residents may be able to offer support with contacting advertising partners, with marketing and with finding business partners. In particular, according to the KCWA Chairman, and beach plot resident, Des Bowden, a relationship may be built up with Alastair Cavanagh's proposed 27 hole golf course and residential area. Clients of this may be encouraged to spent part of their time at a potential community tourism establishment at Kijangwani. Residents, through the KCWA, may be able to enlist community members to offering services to maintain the areas roads and plumbing or to deliver fresh fruit,

vegetables and fish to their doors. The residents may also be able to help in providing strategic and financial planning for projects.

2.2 Local Business

The Estate Manager Frank Smith of Rea Vipingo Estate was consulted. The Estate employs 1,000 people of whom approximately one third are from the local community, and have been for several generations. The Estate's activities add a significant boost to the local area including a large proportion of the traffic to Vipingo trading centre, it is currently the hub of economic activity in the Kilifi District. The company offers the community fallow land for a token rent of 20/= for a 7m by 50m plot for one season a year providing the crops are seasonal. They also support the community by repairing roads and installing water points, and have handed out several large sections of land to the community of the years, particularly in 1995 when two plots totalling 1950 acres were give to the community via the government. However his land has not been officially passed from the government to the community and there is concern that the government may not relinquish it in full. Smith is concerned about the low level of education, the lack of technical knowledge, the inability to save and the laissez-faire culture of the community contributing to its own slow rate of livelihood development. The Estate are potential partners in supporting future activities, although not a large scale due to low margins from the sisal business.

2.3 Local Government

The Chief of Junju location is keen to see the development of community tourism in the Kijangwani area. He believes that community tourism has a niche over the mass tourism operated elsewhere along the coast. There are few examples of a community-run lodge. He pointed to the Constituency Development Fund as a potential source of funding for community AIGs.

The Assistant Chief, Vipingo sub location, assisted in the discussion over the Vipingo market area. The market had not yet taken shape because of two reasons, one to do with the current structures not adhering to Municipal public health directives, and two because of the lack of awareness amongst the community and outsiders of the existence of the market. He assisted in the development of a new market plan.

The Municipal Council put together a market plan and budget that will satisfy Government planning requirements, namely a permanent structure with flowing water and sanitary facilities.

Interventions

As the livelihoods activities table in the previous section shows, alongside the results of the livelihood assessments given thereafter, there are a broad number of livelihood activities available to the community given the right factors. It is necessary to identify both the activity and the enabling environment which will either allow a given AIG to develop or show it to be inappropriate. If an AIG is to be taken forward it will need to adhere to the core objectives of the KCWA.

If the AIG is seen to have potential as an alternative to current livelihood practices which degrade the marine environment (such as fishing in shallow waters only) whilst increasing the income and welfare of a substantial proportion of the community, then potential interventions are discussed. The discussions will show whether interventions into a specific AIG are feasible and recommend AIGs to be developed and suggest those which would not be worth addressing at present. Part of the recommendations for interventions into specific AIGs work on the principle that as far as possible, once AIGs take root, that communities will carry out at least one AIG in their week, if not several.

3 *Tools for Intervention*

What is clear from the assessments, alongside stakeholder consultations is that the lack of financial capital is the most prohibitive factor in developing AIGs, alongside lack of training or technical knowledge and a lack of the right equipment. Therefore before sector-specific interventions are discussed, an overview is given of the tools that could be used for intervention.

3.1 Microcredit

Microfinance entails offering financial services to the poor (savings, credit, transfers, insurance). Donor support tends to go towards lending (microcredit). Microcredit is one of many intervention strategies designed to alleviate poverty and generate income. It is most successful when implemented by a professional microfinance institution (MFI), where there is existing economic activity and where there is discipline in repayments. According to the FAO (1999), the demand for financial services exceeds the supply. Internationally, donor funds cannot match the need for financial services. Therefore there is a need for microcredit projects to be sustainable in that the lending institution have to cover their costs through the repayment of loans with interest in order to be able to lend again. True sustainability in this sense means donor funding becomes unnecessary as an MFI and the enterprises it supports grow beyond the need of external support, even if initially required. Key to this process functioning therefore is the required understanding that funds lent are in the form of credit, not grants, and have to be repaid.

Microcredit to rural areas is notoriously difficult (Staschen *pers comm.*) Key limitations in implementing microcredit in East Africa to date have been a lack of awareness and understanding of what credit is available by rural community members, high interest rates, a lack of collateral security available to communities, and an association of microcredit as being donor grants rather than loans and a consequent poor rate of repayment.

The Kuruwitu-Vipingo community have voiced real concerns about how microcredit may be able to support them. The men in both groups have little experience of using this as a tool for developing their livelihoods, preferring to look to donor funding and external support as the answer to capital acquisition. Women in both groups have greater knowledge of microcredit opportunities in the area, yet are of the view that, even on a small scale, they cannot make sufficient income from taking loans to either repay the loan itself, or in particular the interest.

Women in Kuruwitu talked about their experiences. There are two institutions they know of that offer microcredit for small business activities, Kenya Women's Finance in Kilifi and Jamii Bora in Mtwapa. An application form in itself costs 350/= Ksh. According to this group the highest loan is

only 10,000/=. Interest is then 4,000/=. making it a daunting prospect for return, knowing that failure to repay the loans will lead to a persons household property being confiscated as collateral.

Given the current conditions of lending, alongside the limitations described above, it is unlikely that microcredit will be a useful intervention tool for the development of community livelihoods at this stage. Perhaps when community businesses have begun to make sufficient financial returns in activities where profit is guaranteed, and less vulnerable to seasonal and political limitations, there will be an opportunity for pursuing loans. Currently, all groups have been influenced by the prevalence of the donor culture in the country and are of the view that capital is available in non-returnable grants, making microcredit a nonsensical risk.

3.2 Donor Support

There are two possible avenues for accessing donor funding. The first, through funds available directly from the government budget, supported by international donors. The second, through NGOs.

Of the Government funds, most cited by community leaders and local government is the Constituency Development Fund (CDF). Accessing these funds requires a process which begins at the Village Development Committee (VDC) who receive a proposal from the CBO (which must be registered with the Department of Social Services) that is requesting funds for a particular activity. Once the VDC has approved the project, it is referred to the Locational Committee. Winning proposals are then submitted for approval to the Constituency Development Fund. Successful projects are then fully funded. The Chairman of this fund is a Member of Parliament for the particular constituency. Government allocates at least 20 million Ksh a year to development projects in each constituency.

The Community Development Trust Fund (CDTF) is another option. This is supported by the European Union. The CDTF is for projects relating to the improvement of health, education and fresh water services as well as the provision of tools for improving public services such as roads, drainage and sanitary facilities. It also supports livestock improvement and environmental conservation projects. There are two levels of grants, 3.5 million Ksh for one year projects and 21 million Ksh for multiple community projects.

The problem, however, of accessing government funds lies in the duration of the process. The Kijangwani Fishing and Welfare Group submitted a project proposal to buy fishing vessels and gear over four years ago. To date, although this proposal is believed to have been successful, no funds have been provided. It is hoped that they will materialise this year (*Chai pers comm.*).

Developing a partnership with NGOs is possible where the objectives of the community or association meet those of the NGO, such as the development of a community marine park area (MPA). NGOs with a conservation agenda may be approached for direct support, technical support or as a channel to access donor funds. The current relationship between EAWLS and KCWA is an example of this process.

Key to the process of fundraising will be that the community should not lose ownership of the project. They should be encouraged to make both a token or substantial financial contribution or offer their services in kind, such as free labour, to the development of AIGs. If they are given a project without opportunity cost to themselves they are unlikely to be motivated to both develop the AIG, and to be sure it does not slip into debt.

3.3 Support by Current & Future Businesses

Local businesses, alongside land-owning residents may be approached for differing levels of support for the community, either in building technical support or in direct financial support.

As explained above, plot-owning residents may be approached for support on a small-scale if financially, or for technical support, or for developing contacts.

The development of a golf course and residential area may link well into the development of community tourism activities at Kijangwani.

Rea Vipingo Estate may be approached to see if they would be willing to support AIG development in kind or financially.

3.4 Technical Support and Advice

In all sectors discussed during the livelihood assessments, participants expressed limited or no knowledge of the development of certain AIGs, such as in tourism. Communities will require advice and training from research bodies, specialists and potential business partners before engaging in pilot projects and future AIGs. Knowledge of the laws relating to proposed activities such as which resources or species can be utilised within which areas will also be required as well. Further consultation with appropriate Kenya Government institutions and NGOs will be advisable in order not to repeat research or ignore established successful practices.

Core areas which will require technical support and capacity building include:

- Advice livestock rearing practices including rice and vegetable growing and irrigation and the rearing of disease resistant livestock (Naliendele have expressed interest as a partner in supporting these (Shomari *pers comm.*)
- Advice on Mariculture (KEMFRI are potential partners here)
- Advice on offshore/deep sea fishing practices, particularly finfish (buyers in Mombasa as well as KEMFRI are potential partners here)
- Advice on beekeeping and butterfly farming practices (EAWLS and the Arabuko Sokoke community are key partners here)

3.5 Gear Exchange

Gear exchange is an important yet politically sensitive intervention strategy which will need to take several carefully monitored stages in its implementation. In principle though it may be possible to exchange the poor quality, thin mesh drag nets and mosquito netting used to fish within the reef as part of a project enabling offshore fishing.

4 Sectors for Intervention

4.1 Agriculture

Agriculture is typically a useful starting point for development of livelihoods because it is widely practiced and understood and forms a mainstay for subsistence livelihoods. The community are by their own view 'all farmers' whether or not they also fishermen, or have small businesses or artisanal trades. The community use the land for cultivation of both fruit and vegetable crops, mostly for household use, but also for palm wine. However, developing capacity in agriculture is not recommended as an intervention for this area. Firstly, because of the subsistence nature of this activity, but more importantly, because of the land tenure issue. It would be difficult to develop an agricultural concern for the community as a whole when the land they are farming is either squatted upon government or private land or rented seasonally from private landowners. Until the land tenure issue is solved, it is hard to imagine that this activity will be able to develop further from the subsistence level.

4.2 Offshore Fishing

Core to the objectives of KCWA, intervention to take the pressure away from fish and marine stocks in the shallow and protected waters of the bay can be through the establishment of an AIG which will develop fishing in the deep waters away from the inshore environment, reducing fishing in the shallows. Currently a minority of community owned boats have the capacity to fish in deeper,

exposed waters, the majority do not. A further limitation is that the majority of fishers do not have the gear for deeper waters and larger catches.

The establishment of a successful offshore fishing project is likely to develop both a primary alternative activity for fishermen who currently fish within the reef, but also the important secondary activity of fishmongers and cooked food vendors. If the training could be provided alongside the start-up capital to buy the boat and equipment, or indeed boats, then fishermen could fish in the deep waters outside the reef, at any point in time as long as they could get through one of the passages through the reef on their return. They could go out for 24 hours a time, combining night and day fishing in one trip. A pilot project will need to monitor the impacts on boat owners carefully, gauge any political tensions that arise, and potentially look to buying smaller boats in the future.

Interventions in current unsustainable fishing practices will need to be in the form of the introduction of larger vessels, equipped with both sails and engines. The vessels will need to be stable enough to cope with rough weather and high seas. Gear will need to be exchanged and long lines and gill nets upwards of 3 ½ inches introduced. Although the fishers have a broad depth of established knowledge, training should be provided to craft and use the new vessels, manage sails, maintain engines, deal with the currents and weather, and given an indication of the kind of fish they will get markets and how to access these markets. Cool boxes should be installed of significant capacity to be able hold a tonne of catch per trip. Ice for these may either be sourced from Mombasa or buyers or through the purchase of a electricity-powered refrigeration unit based in Vipingo. Keeping the stocks fresh until the market place will be paramount to increasing incomes. The argument for a larger motor-powered boat, despite the maintenance requirements or the risk of grinding it on the reef, is that with a motor, fishermen will be able to get far out to sea, without concern that will not be able to get back against the tides, and reduce the temptation to continue to fish in the region of the reef only. In addition, a larger boat will allow for the storage of cool boxes which will significantly raise the value of the stock once it is landed.

4.3 Small Business

Central to the livelihoods of the Kuruwitu-Vipingo community are small businesses, particularly amongst the women. These businesses are typically operated on an individual level which makes the potential of offering capital to develop businesses difficult. There is a risk of increasing conflict amongst business managers if some of their number are supported whilst others are not.

The development of a market place may offer the solution to adding value to these businesses without favouritism. A central market place could be built and managed in Vipingo as there is an existing plot of land set aside for this purpose. Although this would centralise commercial activities in Vipingo rather than Kuruwitu it would be ill-advised to build two market places in the same area. The reason being that not only is there a lack of land set aside for this in Kuruwitu, and an application would have to be made to government, the principle reason for focusing on one market only is that the marketability of goods has yet to be tested.

Concern has been raised that there is insufficient market for goods in the area (Smith *pers comm.*, Rottcher, *pers comm.*) and that market would have first have to establish a reputation and a steady clientele. Investment into a market that will satisfy Kenya Government planning requirements (Kahindi *pers comm.*, Ingutia *pers comm.*) and be a location where all small business activities can be carried out will offer legitimacy to trade in the area. Traders would pay a rent to the project which could be run as a going concern by the KCWA. Traders could be not only vegetable and fruit sellers, but also cooked foods and drinks, as well as fish sales from the offshore fishing activity (a freezer facility would be required). It would also form a market location for mat and basket weavers, for clothes selling if a tailoring business takes off, for chicken selling if a livestock AIG is developed, for honey if a beekeeping AIG is formed, and for tourist curios if tourism is further developed in the area. Local residents and businesses including existing tourist operations could be encouraged to buy their produce from this market rather than Mombasa or Mtwapa. The combination of these activities would give the market an attractive diversity of goods and produce.

4.4 Ornamental Fishing

Fishing for aquarium species, or ornamental fishing, has been offering small income opportunities to local fishermen. However, the income is small and the practice has brought both European residents and community members into conflict with the buyers because of overexploitation of both resources and local people. Developing the aquarium industry is not recommended as an AIG for a number of reasons. Firstly, that the activity, cannot be monitored effectively by neither government nor community, but that the agreement of the community in its involvement may facilitate the business operators to harvest as they wish. Secondly, that it is a business run by outsiders and would not offer potential for development to the community beyond a vary basic occasional wage. Third, because the conservation values of the association do not reflect this activity, reflected in discussions with the residents. Fourth, because the Ministry of Fisheries has suggested that they are looking to ban this activity by the end of 2006 (Tapata, *pers comm.*). Finally, because, as opposed to deep sea fishing, the harvest area, i.e. the reef, is a small area and stocks are seen to be in decline. Aquarium fishing may also damage the possibility of introducing tourism into the area by reducing coral-based marine life that would attract tourists.

4.5 Animal Husbandry

Participants would like to realise higher incomes from livestock. Generally, chickens were considered the most profitable, especially in short term gains, Goats and cattle rearing is practiced but requires grazing areas which, given the current land tenure issues, are on squatted land.

Raising chickens is likely be the most profitable activity with regards to livestock offering a quicker turnover than goats or cattle because demand is consistent and because of quick rates of reproduction, with a less than six month birth to birth cycle, providing adequate provision is given to developing dry, protected housing and the use of disease controls, as disease kills of a large number annually.

The introduction of livestock will reduce the financial need and time available for other activities although it is not as time consuming as agriculture or fishing. There is potential for two types of chicken rearing, broilers for meat and layers for eggs. According to the community and Smith, (*pers comm.*), the margin for eggs is smaller than for meat, therefore the latter may be more profitable as an AIG. Management of these, if plots can be rented for their upkeep, would require some training as it not a practice the community have experience of. Management would require the establishment of cooperatives or self-help groups, where there is the potential conflict of individuals seeking to dominate or not equally support the rest of the group and would require some initial monitoring.

4.6 Mariculture

According to findings in Mafia Island Marine Park, Tanzania,

Mariculture has the potential to appeal to former fishers because it offers a way for them to retain some cultural attributes of their traditional livelihoods, while working in a stable, profitable and productive industry. (Mgaya 2001)

However the community have no practice of mariculture; only the Vipingo women's CLA group mention creating ponds which fill with fish as the tides come in and then lose all the fish as the tides leave; they would like to be able to acquire technology which keeps marine life in ponds, brought in by the tide or by individuals. It is certainly an AIG for the future, but would require training on how to keep and manage the fish, and certainty of a market. If the offshore fishing AIG, in combination with the market project begin to show yields, mariculture may be a potential area to diversify income generating opportunities.

4.7 Community Tourism & Research Centre

There is little room for the establishment of another tourist operation within the tourist market unless the operation has a niche. The Kenya coast is full of tourism enterprises, and most of these are centred around Mombasa, Watamu, Malindi and Lamu. Occupancy rates are not always high particularly

during low season. Because of the dominance of these four locations in attracting tourists, areas like Kuruwitu-Vipingo do not take much customer mindshare; most tourists drive past the area. The former Fourways hotel is one of several example of tourist operations that failed to make an income because of the location and had to close. The areas beach is dominated by private landowners, leaving little area for development.

However, a niche may be found through community tourism. Community tourism is a type of ecotourism which is owned and managed by the community. There are few examples of community tourism, despite its popularity in the West. In Kenya, community tourism was pioneered in the development of Maasai-owned and managed lodges such as Il Ngwesi and Tassia on the Laikipia plateau (Harrison, 2001). The Laikipia example can offer some important lessons in the potential development of tourism in Kuruwitu –Vipingo. The first is that the Maasai were supported in their initial set up and marketing costs by donor funding supported by neighbouring European-run ranches with previous knowledge of tourism. The second, that the relationship between the European ranchers and the Maasai was a symbiotic one; the Europeans offered capacity, strategic guidance and access to financing, the Maasai gave the Europeans a political partner and alliance in the area in the face of opposition to ranching by other powerful Kenyan groups. The third, that community tourism is an attractive marketing tool because the benefits raised go directly to the community in the form of dividends for health, education and infrastructural development activities.

The establishment of a series of ‘bandas’ (beach huts) just back from the beach at Kijangwani is a potential opportunity. The land would have to be passed from the government to the community, although this is unlikely to be difficult if a realistic proposal is made (Nyinge, *pers comm.*) The community may be able value-add service to the community such as boat trips, diving and snorkelling, cultural tourism activities such as acrobatic and dancing performances and visits to caves where ritualistic prayers are carried out. There is potential for a glass-bottomed boat to take tourists out to the reef. It is important to note, however, that without training, the community are unlikely to be able to develop diving facilities because of technical and maintenance to their operation. Similarly, community members would need some instruction from specialists, such as graduates of Utalii college with tourism experiences, to understand how to work in the hospitality and leisure sector.

There is a potential to hire these bandas to those visiting the proposed golf course and residential facility for short periods. This idea would be developed with support from some of the European residents (Bowden, *pers comm.*) A clear idea of the desired market (bottom, middle or top end) would be required as well as communications with the Ecotourism Society of Kenya to develop a clear marketing and pricing strategy as well as a plan for the design and layout of the huts and for their maintenance.

Given the unpredictability of tourism, even with the niche market of community tourism, it may be worth diversifying the offer. For this reason, the bandas could be combined with a research centre. The research centre could be developed with one or several national or international universities. The site could become a centre for marine research. It is advised that consultation take place with Kenyan research bodies with KEMFRI and with donors and universities to assess what kind of facility there is a demand for.

4.8 Tailoring School and Operation

Within the community, initially suggested during the Kuruwitu women’s CLA exercise, there is a strong interest in setting up a tailoring college to teach girls who have dropped out of school and who would not be able to afford this training in the urban areas. The AIG would be centred around buying or renting an area and the building of a site with sufficient space for 20 sewing machines in one room and a classroom in the other. There is potentially room on the new KCWA offices plot in Shariani for this activity although this should be investigated. The operation would be based around teaching 20 students in the morning, and 20 in the afternoon, partly theory, partly practical machine work. The association would charge students a monthly fee. Whilst students are in the classroom, other association members would be able to use the machines for a fee and sell their clothes at the Vipingo market or other areas. If the skill level and attention to quality is of a sufficiently high level, the

market for clothes is not insignificant, The tailoring college could produce uniforms for all the schools in the area, as well for staff of plot-owning residents and local businesses. Whilst it is difficult to gauge at this stage what the turnover would be, and how the association would manage the operation, key to the success of this project is a consistent flow of students to near capacity, a market for clothes and uniforms, and the attitude of community members towards spending long periods of time at a sewing machine.

4.9 Mat and Basket Weaving

Mat and basket weaving is an established livelihood activity with Kuruwitu -Vipingo communities, notably women, who are skilled in weaving and design. It is, on a small scale, an ecologically sustainable activity, using minimal natural resources including dyes found locally. It is an important economic activity for women with potential development, because in line with Ireland *et al.*'s (2004) findings from the Philippines, it would be most likely to flourish once tourism has been introduced to the area. It is therefore an AIG for the future, but not recommended until tourism is introduced.

4.10 Beekeeping

There is currently no practice of beekeeping in the area. Although it was not raised to any degree during the livelihood assessments it has potential as an AIG. There are potential markets for honey in large towns, hotels, airlines and tourist centres as well as the proposed market area if the honey is well produced. There is also a demand for beeswax for export. However, quality, taste, packaging and marketing are essential factors in the success of this enterprise.

There are some limitations, especially because a proposed beekeeping activity would need to be based in quiet, forested areas. Given that the area is heavily deforested and that mangroves do not grow in the area, further research would be required as to where to site the hives. Training would be required in beekeeping skills, production, quality control and marketing. EAWLS and the community of Arabuko Sokoke are potential partners in this enterprise. It is not recommended as an AIG until feasibility studies have been carried out.

4.11 Butterfly Farming

As with beekeeping, there is currently no practice of butterfly farming in the area. Although it was not raised to any degree during the livelihood assessments it has potential as an AIG. There may be a potential market through partners in the Gede Forest and Arabuko Sokoke.

There are some limitations, especially into the habitat required to encourage butterfly breeding and the lack of knowledge of this enterprise. Training would be required. EAWLS and the community of Arabuko Sokoke are potential partners in this enterprise. It is not recommended as an AIG until feasibility studies have been carried out.

4.12 Coral Mining

Coral mining is a developing enterprise in Kuruwitu. As described above, it is a labour-driven activity based on cutting blocks for building from white fossil coral on the cliffs above the beach in Timboni area near the Mwanamia landing site. Although it offers piecemeal work for individuals from the area, it is not recommended as an AIG because its practice does not sufficiently meet the objectives of the KCWA; it degrades the landscape rather than conserving it and offers intermittent income to only a fraction of the community.

Proposals

On the basis of the information and issues raised in the *livelihoods assessment* and *interventions* sections above, and the recommendations given in the previous section, the following five income generating activities are proposed for implementation as pilot projects by the KCWA with support from EAWLS and other partners.

- Community Tourism & Research Centre
- Livestock: Rearing broiler chickens
- Offshore Fishing: Introducing seafaring boat and new gear
- Small Businesses: Vipingo Market Development
- Tailoring School and Operation

1 Organisation & Financing

The following specific recommendations are suggested when developing AIGs:

- **Financing.** Financing should come in most part from donor or government funds made available to the KCWA, especially when a proposed AIG is new (tourism, tailoring college,) and therefore implies higher risks and lower levels of experience. However, AIG funds should not be not the only source of investment capital in AIGs where the community has an established level of experience and where the risks of failure are presumed to be lower (Fishing, Livestock, Market). Participant groups in an AIG of this nature should also expect to invest their own money directly or in kind. The rationale for this approach is straightforward: in order for the communities involved to take an involved and long-term stake in the pilot project they should have part ownership leading to total ownership.
- **Registered Groups.** There has to be equitable ownership, transparency and accountability within the management of the projects, therefore AIG-specific CBOs should set up by relatively homogenous groups within the community to manage their new enterprises to avoid potential financial and power struggles and resultant conflict, or in the case of the project being fully or partly managed by KCWA, clear rules of practice, transparency and long term strategy.

Proposals for the AIGs stated above follow in tables. Note that these proposals are a guide to how AIGs may be developed that will require further research and planning to develop the specifics of each AIG. For example, budgets where supplied are meant only as a guide and partners mentioned are only a few of the potential partners that could be consulted or involved. All figures are in KSh. and based on per calendar month (pcm) and are drawn from livelihood assessments and stakeholder consultations.

Projects have been allocated different areas within the community locality in order to try and balance the benefits, but is clear that development of these projects should be seen to benefit the Kuruwitu-Vipingo community as a whole.

2 *Community Tourism & Research Centre*

Table 11: Community Tourism AIG

Factors	Description
Proposed Pilot Project	Community Tourism Beach Enterprise. Build a research centre near the beach surrounded by 5 - 10 'banda' huts for accommodation for researchers as well as tourists. Offer additional activities including boat trips, snorkelling and cultural tourism. After success of initial business, look at options of setting up diving facilities for both researchers and tourists. Focus on the 'community' aspects; profits should be returned to the community as dividends for health, education and public services.
Location of Pilot Project	Kijangwani Landing Site
Rationale	Community tourism has an attractive market, as long as it is well managed and the returns go directly and equitably to the community. The business may be diversified as a research centre to balance the dips in the tourist trade.
Challenges to Success	Research centre will need gain a reputation as a centre for marine research and maintain strong working relationships with universities and marine institutes. Tourism aspect will need careful management and marketing to develop a reputation. Existing fishing activities in the shallows and reef area, particularly aquarium fishing, will have to be curtailed. Security will need to be installed.
Potential Technical Partners	KEMFRI, IUCN, EAWLS, Universities, Ecotourism Society of Kenya, Kenya Association of Tour Operators, Local Residents, New Golf course
Potential Trading Partners	New Golf course, Universities, KEMFRI, Tour Operators
Implementation Mechanisms (in order)	Put in application and planning process for land required, assess funding options e.g. public-private, attract donor and investor funding, set up management organisation develop research centre and bandas, develop partnerships and engage into contractual agreements, develop tailored advertising and marketing programme, begin trading; allocate profits into a dividend
Timeframe (in order)	6 months to a year to acquire land, up to one year to find funding; 3 months to build. Start trading Target two years from start before returns are made.
Impact Indicators of Success	Profitability; equality in dividends; sustainability, reputation
Budget	To be assessed. Estimated at upwards of 3.5 million Ksh

3 *Livestock: Rearing broiler chickens*

Table 12: Chicken rearing AIG

Factors	Description
Proposed Pilot Project	Introduce total 2000 broiler chicks to be raised, split into four CBOs (500 each), two women's group, two men's group per sub-location. Develop dry and protected housing at an agreed site for each. Finance with loan-in-kind (chicks) and start up capital. Investment capital may be returned to KCWA or donor after third successful month. Chickens be those that can be reared to full size within a one month period.
Location of Pilot Project	Kuruwitu and Vipingo sub-locations

Factors	Description
Rationale	Community have experience of chicken rearing therefore are likely to adapt, although would need advice. Local and national markets are available, current demand exceeds supply. Markets are available locally and in urban centres.
Challenges to Success	Ability of community to manage livestock and administer feed and medicines to a required standard to maintain quality. Ability to access markets; activity will need to show profits to offer incentives to other groups; a potential difficulty is the ability of the group to set aside funds for feeding and maintenance and renewing stock; the group will need to be legally bound together to share costs and profits.
Potential Technical Partners	Specialists, buyers
Potential Trading Partners	Local buyers, Buyers in Kilifi, Mtwapa, Malindi, Mombasa
Implementation Mechanisms (in order)	Groups register as CBOs. Set up loan-in-kind or repayment agreement with KCWA or donor and CBO to support repayments KCWA and partners source supply training and site visits to encourage best practices, business and finance management, and how to manage and transport catch without large losses. Trading partners are involved. Profit and loss accounts produced each month. Project is regularly reviewed and developed to rectify inevitable start up difficulties.
Timeframe (in order)	Set up period of one month (setting up loan agreements, housing building, training). Chickens are introduced.
Impact Indicators of Success	CBO members make profits, they pay back their start up capital in full, which are transferred to new groups. The more chickens that are reared successfully, the more that can be bought and therefore profits could feasibly rise exponentially in a controlled environment, providing housing is of an adequate size. The communities get a good reputation for the supply of high quality chickens, increasing market demand and therefore encouraging other communities members to follow suit, Long term, as other CBOs take up this AIG, fish and other marine species stocks in the shallow waters begin to recover as shallow water fishing and unsustainable harvesting activities decline.
Budget	Exact figures are difficult to assess until the trial begins although an estimated profit and loss scenario is given below

The following profit and loss scenarios incorporate the potential costs.

Table 13: Profit and loss scenarios for chicken rearing

Est. Profit/Loss	Month 1 (500 chicks)	Month 2 (750 chicks)	Month 3 (1000 chicks)
Revenue			
Revenue (90% stock @ 200/- per chicken)	90,000	135,000	180,000
Total Revenue	90,000	135,000	180,000
Start-up & Revolving Capital			
500 Chicks @ 45 each	22,500		
750 Chicks @ 45 each		33,750	
1000 Chicks @ 45 each			45,000
Running Costs			
Land Rental	2,000	2,000	2,000
Housing Structure	9,000	0	0
Medicines	2,500	5,000	7,500
Water	500	750	1,000
Starter Feed	4,500	6,750	9,000
Finisher Feed	1,300	1,950	2,600

Est. Profit/Loss	Month 1 (500 chicks)	Month 2 (750 chicks)	Month 3 (1000 chicks)
Sawdust	300	450	600
Transport	500	750	1,000
Maintenance	500	1,000	1,000
Total Running Costs	43,600	52,400	69,700
Summary			
Total Revenue (gross)	90,000	135,000	180,000
Total Expenditure	43,600	52,400	69,700
Total Profit/Loss (net)	46,400	82,600	110,300

4 Offshore Fishing: Introducing seafaring boat and new gear

Table 14: Offshore fishing AIG

Factors	Description
Proposed Pilot Project	Introduce a 4 tonne <i>mashua</i> boat with sail and outboard engine, equipped with gill nets and long lines and 2x500kg cool boxes, with capacity for 16 people and a maximum yield of 1000kg of fish per trip. Finance with community, KCWA and donor support. Estimate 15 trips per month. Fresh fish are caught in deeper waters and put on ice in cool boxes and delivered to the buyer in either Vipingo or Mombasa, or sold in Vipingo market. Two cool boxes on the boat, one at the market for transport
Location of Pilot Project	Kuruwitu-Vipingo Landing Sites, which in particular to be assessed
Rationale	Current fishing practices in shallow waters are ecologically unsustainable. There is a need to develop fishing in deeper waters as an alternative, especially for men, of all age groups. The community have experience of fishing and therefore are likely to adapt. Local and national markets are deemed available, but more research required
Challenges to Success	Ability of community to adapt; need to show profits early on to offer incentives to other groups and reduce chance of reverting to former activities; ability to maintain engines and equipment; ability to harvest and store fish to the standards and requirements of the buyer; ability to harvest a profitable yield; ability to maintain and develop markets; transport of catch on land
Potential Technical Partners	KCWA, KEMFRI, local and Mombasa based buyers, international buyers
Potential Trading Partners	Local and Mombasa based buyers, including residents, tourist enterprises, international buyers
Implementation Mechanisms (in order)	KCWA develop market research including potential to introduce joint ventures with partners and a detailed analysis of costs ahead. Check that no legal restrictions apply to any aspect of activity. KCWA advertise proposal for pilot project showing details, criteria and obligations to Msimbati fishers. Proposals offered to KCWA by interested community groups. KCWA choose group. Group registers as CBO under a management agreement with the KCWA. Set up a payment agreement and agree a form of gear exchange. Develop specifications (see box) and put in order to Mombasa boat builders, and to equipment suppliers. KCWA find partners to supply training on boat and gear use, business and finance management, and how to manage and transport catch without damage or decay. New vessel put to water and activity monitored. Trading partners are involved. Profit and loss accounts produced each month. Project is regularly reviewed and developed to rectify inevitable start up difficulties.
Timeframe (in order)	Set up period of three months (setting up financial agreements, boat buying, acquiring equipment, training). Fishing activity starts, with 15x24hour trips a month.

Factors	Description
Impact Indicators of Success	CBO and KCWA members make profits. Kuruwitu - Vipingo gets a name for the supply of high quality fresh fish, increasing market demand and therefore encouraging other communities members to follow suit. Long term, as other CBOs take up this AIG, fish and other marine species stocks in the shores and reef begin to recover as shallow water fishing and aquarium harvesting activities decline.
Budget	See below

It may be useful to get a sense of the specifications and an estimated cost of the main equipment required to set up this AIG.

Table 15: Equipment budget for fishing AIG

Specification	Est. Unit Cost	Est. Total Cost
Anchor	2 @ 1,500	3,000
Cool Box 500kg	3 @ 25,000	75,000
Gill nets	8 @ 30,000	240,000
Hooks	100 @ 20	1,000
Large net buoys	16 @ 100	1,600
Long lines		100,000
Mashua boat 4 tonne & Fitted Sail and Mast	1 @ 1,000,000	1,000,000
Miscellaneous equipment		100,000
Mooring buoys	10 @ 1,000	10,000
Mooring ropes	2 *20m @ 1200	2,400
Outboard Engine 40bhp	1 @ 500,000	500,000
Small net buoys	320 @30	9,600
Estimated Total		2,042,600

Further, the following table explains how the expenses of this project may be divided, for example with a contribution from the community.

Table 16: Division of costs for fishing AIG

Expense	Cost	Bearer
CBO/KCWA Members Contribution	242,600	CBO
Donor or Government Funding	1,800,000	Donor
Estimated Total	2,042,600	

Estimated profit and loss figures are given below, giving three scenarios relating to the amount of catch that would be sold in the market place. Scenarios based on a full capacity catch of 1000kg sold @ 50/= per kg per 24 hr trip. Note that 50/=.- per kg is the low end of the potential catch market price, which can range from 40/=to 80/= per kg depending on the species and quality.

Table 17: Profit and loss scenarios for fishing AIG

Profit/Loss PCM	Trip Scenario 1 100kg catch saleable	Trip Scenario 1 250kg catch saleable	Trip Scenario 2 750kg catch saleable
Revenue			
Revenue (15 trips @ 50/- per kg)	75,000	187,500	562,500
Total Revenue	75,000	187,500	562,500
Running Costs			
Petrol	7,500	7,500	7,500
Oil	500	500	500
Food on board (max 16 people)	1,000	1,000	1,000
Ice	1,000	1,000	1,000
Maintenance	5,000	5,000	5,000

Profit/Loss PCM	Trip Scenario 1 100kg catch saleable	Trip Scenario 1 250kg catch saleable	Trip Scenario 2 750kg catch saleable
Payment to KCWA	10,000	10,000	10,000
Transport to Buyer	3,000	3,000	3,000
Total Running Costs	28,000	28,000	28,000
Summary			
Total Revenue (gross)	75,000	187,500	562,500
Total Expenditure	28,000	28,000	28,000
Total Profit/Loss (net)	47,000	159,500	534,500

5 *Small Businesses: Vipingo Market Development*

Table 18: Market Area AIG

Factors	Description
Proposed Pilot Project	To build a permanent market structure in Vipingo on land already allocated. The market will be 100' by 60'. The KCWA and partners will manage the market and vendors will pay registration and monthly stall hire/maintenance fees. The market will sell fresh fish, fresh fruit and vegetables, clothing, baskets, mats and cooked foods amongst other things. It will include a deep freezer and storage facilities
Location of Pilot Project	Vipingo sub-location on land allocated for this purpose
Rationale	Despite the high number of community members having small businesses there is no central point for buyers to come. Creating a market will legitimise their trade and increase awareness of the produce sold in the area. The project is designed to support other pilot projects including deep sea fishing, livestock rearing, tourism and tailoring activities by being a focal point for trading their goods
Challenges to Success	Finding the funds to build the market; finding sufficient traders to cover maintenance costs including electricity; ensuring proper management of the project; ensuring the market is operated to a high health standard; ensuring the market gains sufficient reputation to become a focal selling point for the area
Potential Technical Partners	Community Project
Potential Trading Partners	Mombasa Fish buyers; tourist operations, Rea Vipingo Sisal Estate; Residents
Implementation Mechanisms (in order)	Clarify legal status of land and planning permission; find funding, potentially part KCWA/community, part donor support; set up management structure; build market; develop local awareness; begin trading
Timeframe (in order)	Dependent on ability to find capital funds; building within three months; trading
Impact Indicators of Success	Profitability and diversification of produce; increased reputation of community as quality producers; sustainability of market as a business entity in its own right; increased value to other community activities due to the markets existence.
Budget	See below

With regards to the budget, it should be noted that a 30% additional labour cost has been added. This may be one area where the community can contribute, either through their own labour, or by finding the funds to pay local labourers.

Table 19: Market Building Budget

Item Description	Quantity	Unit Cost	Total
Foundation Trench	200m @ 50	10,000	10,000

Item Description	Quantity	Unit Cost	Total
Coral Stones (Mapande)	10 trips	3,500	35,000
Coral Blocks	10,000 pcs	15	150,000
Galsheet (wide groove: 3m * 30g)	300 pcs	780	234,000
Steel beams (2" & 3" for roofing)	700m	100	70,000
J Bolts	100kgs	350	35,000
Chicken Link	160m	350	31,500
Binding Wire	10kgs	100	1,000
Loop iron	10kgs	100	1,000
Sand (Gongoni)	40 tonnes	1,000	40,000
Galana Slabs	10 tonnes	1,000	10,000
Cement (ordinary)	100 bags	550	55,000
Steel Gates (8' * 12' 6")	4 pcs	12,000	48,000
Murram (fine dust)	30 tonnes	500	15,000
Plastic Water Pipes 2"	60 pcs	900	54,000
Reservoir tank (5000 ltrs)	1 pc	36,000	36,000
Electrical Wiring	Various	10,000	10,000
Deep freezer	1 pc	30,000	30,000
Total Cost Supplies			865,500
Labour @ 30% Total Cost			259,650
Total Cost			1,125,150

6 Tailoring School & Operation

Table 20: Tailoring AIG

Factors	Description
Proposed Pilot Project	To build a tailoring college for up to 40 students at a time with one classroom for theory lessons and another, with 20 sewing machines, for practical studies. Up to 20 students will take lessons in the morning, and up to 20 in the afternoon. Students will pay a monthly fee. The sewing machines will also be used by local men and women to make clothes including uniforms for local businesses and schools whilst the theory lessons take place
Location of Pilot Project	Shariani village, Kuruwitu sub-location, alongside proposed KCWA offices
Rationale	There is a strong community interest in making and selling clothes. There are also a high level of school drop outs, particularly girls who would benefit from this alternative livelihood and the skills they would gain. There is a market for clothes amongst the local businesses, residents and schools. It is a relatively low expense to set-up
Challenges to Success	Whether initial set up costs can be met, whether a plot can be secured and the costs of that plot, whether there are sufficient numbers of students to meet the target 40, whether those using the machines to make clothes can do so to an appropriate level of quality to make them saleable; whether there is a sufficient market
Potential Technical Partners	Local tailors, who may act as teachers and trainers
Potential Trading Partners	Schools, Businesses, Residents, Tourist operations, Vipingo market place

Factors	Description
Implementation Mechanisms (in order)	Investigate availability of land, procure land use agreement, Assess funding opportunities, find funding, build and trial a first group of students
Timeframe (in order)	Initially dependent on guaranteeing land and funding and finding qualified teachers, build within a month, start college and trading within three months of building.
Impact Indicators of Success	Sufficient numbers of students and clothes makers paying dues to make operation profitable; quality of clothes sold be of high enough quality to develop reputation and build market; market is sustainable
Budget	Budget will require investigation. Students could pay 300/= each per month, clothes makers could either be paid piecemeal by the organisation or pay a user fee for the sewing machine and facilities. An estimate of initial set-up costs is given below.

Table 21: Tailoring AIG Estimated Set-up costs

Item	Unit Cost	Cost
Building (2 rooms)	1 room @ 150,000	300,000
Sewing Machines	20 @4500	90,000
Initial Material		6,000
Total Cost		396,000

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Appendix 1. Methodology

In carrying out field research that is objective, thorough and representative, it is important to keep in mind a range of factors which will influence results and limit the accuracy of the data gathered. Careful consideration was therefore taken in assuring that the viewpoints gathered were representative of different groups within the study area, particularly given the likelihood that certain groups and individuals may be less influential than others, such as women and younger men with potentially diverse and conflicting resource priorities, values and beliefs.

1 Criteria

It was agreed that livelihood assessments should be carried out in three villages to satisfy a balance of the following criteria.

- Relative locations, i.e. north and south of the project area
- Community being reliant on marine resources
- Population using the six fishing landing sites

Two sub-locations were chosen that fitted the criteria: Vipingo and Kuruwitu, and discussions were planned for each in that order. These villages were asked to prepare two groups of community members for RRA discussions over one day of assessments per sub-location, as well as a number of focus groups, discussion and prioritisation activities and semi-structured interviews :

- Women
- Men

It would have been preferable to have taken two or three days per group to carry out the livelihood assessments, and to have split the groups into younger and older participants per gender, however this was not possible due to time constraints and the methodology was adapted to take these factors into account.

2 Coastal Livelihood Assessments

The methodology used was based on the field guide developed by Ireland et al (2004) for *Coastal Livelihood Assessments*, and further developed in practice by Harrison (2005). The approach behind the livelihoods assessment is to have a broad understanding of assets available to community members as well as to understand how these assets are utilised, what limitations and externalities the communities face and what their aspirations are. This information informs the researcher of the context and capacity of communities to both maintain current livelihood activities and to develop AIGs.

Notably it was neither necessary nor appropriate in this case to carry out coastal livelihood assessments directly according to the field guide. Certain adaptations would be made. These were due to:

- Time constraints (one day available per Sub-location as opposed to three allocated in the field guide)
- The existence of a previous study (Maitha & Tapata, 2005) which had already covered much of the ground required by the assessment
- The need to gather specific information and perspectives relating to the development of AIGs (targeted questions and discussion points were added)
- The need to allocate substantial proportion of the time available to stakeholder consultations

Consequently, certain aspects, including assets, limitations and aspirations, were developed while others were minimised or excluded, including the vulnerability context and the political influence institutions have, which had been covered during the socio-economic baseline study.

The key approach with in the coastal livelihoods assessment, however, namely the use of Rapid Rural Appraisal techniques, was maintained, as is discussed below. Further information can be gathered from Ireland et al (2004), published by IUCN. All assessments were carried out in Kiswahili.

3 Rapid Rural Appraisal

It was with the understanding that different groups would have a variety of perspectives on the research topics, that following the work of Chambers (1983,1992), Rapid Rural Appraisal (RRA) techniques were chosen as the most appropriate, practical and equitable form of gathering representative qualitative data of the kind intended for this research given the context and time scale available.

RRA was chosen as opposed to Participatory Rural Appraisal (PRA) and other qualitative survey techniques because it allows for a quick, flexible and sensitive approach. Its strengths are reported to be greater evidential value, but its weaknesses that it is of less precision and fine detail than the longer and more participant-centred process of PRA (ibid., 1992). RRA is essentially an extractive process and the agenda remains largely with the researcher, an effective and appropriate tool for inclusive information gathering. The emphasis is on the importance and relevance of situational local knowledge, regarding the subjects that affect the livelihoods of the participants.

A total of 8 focus groups were carried out in order to gain specific experience, insights and aspirations from community members involved in a specific livelihood. These either took the form of a discussion or as part of a group activity. Members of the KCWA committee were consulted as part of a livelihoods prioritisation exercise.

A total of 11 semi-structured interviews (SSIs) were carried out for the research. These were aimed at giving more specific and individual experiences of the issues surrounding the research. The interviews were to ascertain personal opinions and specific experience, usually on a deeper level than in discussions, and reduce the likelihood of responses being coloured by other people's views. SSIs tended to be focussed at experienced individuals interested in expressing personal views on their or community livelihoods.

4 Stakeholder Consultations

Stakeholders consulted were met face to face for SSIs. Interviews were either in Kiswahili or English. Due to time constraints other stakeholders or specialists who may have has an important input were unavailable to give input or there was insufficient opportunity to approach them.

Appendix 2. Participants

1 Community Members

Group	Date	Name	Stated Occupation
Vipingo Sub-location Women	03/10/2005	Agnes Matano	Grocer
		Agnes Mpita	Housewife
		Alice Sanga	Vegetable seller
		Amina Hamisi	Cassava seller
		Amina Jumaa	Fishmonger
		Amina Mohamed	Maandazi seller
		Amina Ngala	Samosa & Maandazi seller
		Anna Mryaza Dzombo	Housewife
		Anna Sanga	Landlady
		Asha Ali	Housewife
		Asha Salim Seif	Food vendor
		Asha Sudi	Paraffin Seller
		Bahati Juma	Housewife
		Beatrice Ibrahim	Firewood Seller
		Beatrice Mwachiru	Beans Seller
		Beatrice Ochieng	Housewife
		Beatrice Safari	Fishmonger
		Bendera Karisa	Palm wine seller
		Carol Munga	Saloon Business
		Carolyn Nyokabi	Palm wine seller
		Celestin Ngumbao	Chapati seller
		Christian Kazungu	Coconut seller
		Christine Alex	Fishmonger
		Claris Mwangata	Water seller
		Claudia Kaingu	Tailor
		Cocky Rimba	Chapati seller
		Consolata Nyamwanga	Housewife
		Dama Baya	Housewife
		Dama Baya	Farmer
		Dama Karisa	Kiosk Owner
		Dama Katana	Junju Social Development Committee
		Elizabeth Katana	Housewife
		Elizabeth Shida	Maandazi seller
		Esther Kiti	Kiosk Owner
		Esther Tsuma	Food vendor
		Eunice Katana	Vegetable seller
		Eunice Shume	Cake Maker
		Fatuma Hussein	Fishmonger
		Fatuma Jira	Maandazi seller
		Fatuma Said	Maandazi seller
Florence Charo	Housewife		
Florence Hatamu	Home Affairs Councillor		
Florence Mweni	Thatching material seller		
Frida Kitsao	Chapati seller		
Furaha Katana	Maandazi seller		
Grace Kalama	Housewife		
Grace Liwali	Tailor		
Grace Madzayo	Grocer		

Group	Date	Name	Stated Occupation
Vipingo Sub-location Women		Grace Nyadzua David	Bar attendant
		Hadija Abdalla	Soup seller
		Hadija Doi	Chapati seller
		Hadija Jaffet	Wheat cake seller
		Hadija Mwijaa	Wheat cake and chapati seller
		Hadija Nasiri	Rice bread seller
		Hafsa Hamisi	Poultry Farmer
		Halima Katana	Kiosk Owner
		Halima Rimba	Fishmonger
		Hawa Hussein	Swahili cosmetics seller
		Hilda Munga	Kiosk Owner
		Jackline Kaskadi	Chapati seller
		Jane Charo	Maandazi seller
		Jane Uhuru	Tomoto seller
		Janet Karisa	Fishmonger
		Janet Samuel	Housewife
		Josephine Kitsao	Vegetable seller
		Joyce M Shagi	Coconut seller
		Joyce Nassir	Vegetable seller
		Juliana Antony	Food vendor
		Juliet Kahindi	Tailor
		Jumwa Hinzano	Coconut seller
		Jumwa Keya	Housewife
		Jumwa Thoya	Tobacco Seller
		Jumwa Yawa	Firewood Seller
		Kabibi Andrea	Charcoal and Coconut seller
		Kadszo Charo	Farmer
		Kadzo Kahaso Charo	Fishmonger
		Kadzo Kaingu	Chapati seller
		Kadzo Mramba	Fishmonger
		Kadzo Mwarome	Housewife
		Kadzo Shida	Housewife
		Kadzo Tsolwa	Fishmonger
		Kahuru Karisa	Cooked meat seller
		Kanze Charo	Palm wine seller
		Kanze Dzombo	Housewife
		Karemba Baya	Housewife
		Kasichana Mashindo	Broom seller
		Katherine Mwasho	Restaurant Keeper
		Kaula Karisa	Fishmonger
		Kibibi Jongoo	Cooked meat seller
		Kononga Mramba	Tobacco Seller
		Lawia Mohammed	Charcoal seller
		Lilian Mbotya	Housewife
		Lois Changala	Peas seller
		Lucy Kadii	Kiosk Owner
		Maimuna Mohamed	Chapati seller
	Mapenzi Charo	Kiosk Owner	
	Margaret Samuel	Palm wine seller	
	Maria Achore	Farmer	
	Mariam Abdalla	Vegetable seller	
	Mariam Joseph	Porridge Seller	
	Mariam Nela	Vegetable seller	
	Mariam Omar	Housewife	
	Mary Abdalla	Fishmonger	

Group	Date	Name	Stated Occupation
Vipingo Sub-location Women		Mary Chilo	Fishmonger
		Mary Mumbo	Goat rearing
		Mary Mwangala Kakinda	Chairlady Mawazo Womens Group
		Mary Nyale	Maandazi seller
		Mary Tembo	Housewife
		Masii Kazungu	Fishmonger
		Matilda Jiliani	Kiosk Owner
		Matilda Katama	Housewife
		Mbeyu Lewa	Palm wine seller
		Mbodze Mumbo	Fishmonger
		Melicent Akinyi	Tailor
		Mgeni Rajabu	Housewife
		Mnyasi Dzeha	Fishmonger
		Mwaka Changawa	Maandazi seller
		Mwaka Masangu	Chapati seller
		Mwanakombo Salim	Vegetable seller
		Mwenda Menza	Maandazi seller
		Nambani Kingi	Potato Seller
		Nancy Mavuno	Food vendor
		Nasara Omar	Maandazi seller
		Ndokolani Kazungu	Coconut seller
		Nelly Jira	Food vendor
		Nelly Mumbo	Clothes seller
		Nema Katana	Chapati seller
		Nyevu Hinzano	Coconut seller
		Nyevu Jaji	Potato Seller
		Nzingo Mwarome	Housewife
		Patience Kahindi	Beans & Chapati seller
		Patience Kwekwe	Food vendor
		Paulin Chizi	Tailor
		Pola Mohamed	Housewife
		Pricilla Jitwa	Dress Maker
		Pricilla Yaa Dixon	Peanut seller
		Rachol Karisa	Fishmonger
		Rehema Foleni	Chapati seller
		Rehema Hamisi	Fishmonger
		Rehema Washe	Coconut seller
		Rispa Chipanga	Bone seller
		Riziki Majimbo	Fishmonger
		Riziki Mazia	Chapati seller
		Riziki Mwinyi	Coconut and maandazi seller
		Riziki Ngua	Fishmonger
	Roselyn Osaro	Vegetable seller	
	Rukia Denir	Vegetable seller	
	Sadaka Karisa	Housewife	
	Saida Rashid	Beans & Chapati seller	
	Salima Ali	Chapati seller	
	Sara Nicholas	Potato Seller	
	Saumu Saidi	Fishmonger	
	Selina Jumwa Karisa	Fishmonger	
	Selina Karisa	Fishmonger	
	Selina Ngolo	Vegetable seller	
	Sera Kaingu	Farmer	
	Shida Shoka	Fishmonger	
	Shuli Suleman	Tailor	

Group	Date	Name	Stated Occupation
Vipingo Sub-location Women		Sidi Charo Sidi Kenga Sauti Sidi Kitsau Sidi Ngala Somoe Juma Susan Jacob Taabu Bakari Taabu Charo Taabu Katana Taabu Mwarome Tabitha Ben Tatu David Tatu Nicholas Theresa Sammy Tima Hamisi Umi Mohamed Violet Kaveti Wanza Wambua Zahara Hussein Zainabu Jumaa Zainabu Kenga Zainabu Omar Zainabu Rashid Zawadi Chula Zawadi Garama Zuhura Saidi	Chapati seller Soup seller Beans Seller Sisal worker Chapati seller Housewife Fishmonger Coconut seller Palm wine seller Coconut seller Palm wine seller Fishmonger Housewife Firewood Seller Potato Seller Chapati seller Restaurant Keeper Firewood Seller Clothes seller Maandazi seller Palm wine seller Potato Seller Maandazi seller Cook Fishmonger Housewife
Vipingo Sub-location Men	03/10/2005	Abdallah Rashidi Abdu Charo Athman Kazungu Charo Konde Chilango Mwandondo Chiro Nyingeh Cosmas Gona Daniel Mahendo David Katua David Mzungu Dzengo Chai Edward Ngome Franklin Mwarome George Omondi George Robert Hamisi Ali Hamza Bakari Hassan Omar Hussein Hamisi Jaji Jongoo James Charo Tsofwa Jerimiah Nyagah Jilani Mwamoye John Ziro Johnson Kakinda Joseph Chamanga Joseph Mangale Joseph Mwadondo Josephat Ngala	Businessman Fisherman Farmer Fisherman Businessman Fisherman Fisherman Student Businessman Fisherman Businessman Fisherman Businessman Businessman Businessman Businessman Fisherman Businessman Businessman Fisherman Farmer Fisherman Businessman Fisherman Businessman Politician Businessman Businessman Fisherman Businessman

Group	Date	Name	Stated Occupation
Vipingo Sub-location Men		Julius Mwabonje	Farmer
		Juma Hamisi	Fisherman
		Juma Karisa	Fisherman
		Juma Kazungu	Fisherman
		Juma Mramba	Fisherman
		Kadenge Mramba	Fisherman
		Kahindi Kwesha	Businessman
		Kahindi Mumbo	Farmer
		Kahindi Toya	Employee -white residents
		Kaingu Mwakamsha	Fisherman
		Kariba Kitsao	Fisherman
		Karisa Kitsao	Fisherman
		Katana Charo	Fisherman
		Kazungu Charo	Fisherman
		Kea Hinzano	Village Elder
		Khalifa Mohammed	Fisherman
		Kingi Kahindi	Employee -white residents
		Kitsao Kahindi	Businessman
		Kitsao Rama	Fisherman
		Majimbo Gambo	Employee -white residents
		Majimbo Shume	Fishmonger
		Maruhuni Salim	Businessman
		Matano Hamisi	Fisherman
		Mone Mwakamsha	Fisherman
		Mramba Kaingu	Fisherman
		Mweni Mramba	Fisherman
		Omar Nasuro	Farmer
		Omondo Okumu	Businessman
		Patrick Jilani	Farmer
		Paul Kuze	Businessman
		Paulo Mwamuye	Farmer
		Peter Juma	Businessman
		Peter Kaingu	Carpenter
		Pilisi Rafiki	Businessman
		Rajab Hussein	Fisherman
Rajab Omari	Businessman		
Rashid Mohamed	Businessman		
Rojas Jaffet	Fisherman		
Rungua Malo	Farmer		
Safari Kazungu	Businessman		
Safari Konde	Fisherman		
Said Juma	Driver		
Samuel Chai	Businessman		
Samuel Mdzomba	Teacher		
Sanga Mazia	Farmer		
Shida Charo	Fisherman		
Shida Mwarome	Fisherman		
Shida Ngumbao	Fisherman		
Simon Mwangudza	Businessman		
Wasi Mwakamsha	Fisherman		
Wilson Nyinge	Farmer		
Kuruwitu Sub-location Women	04/10/2005	Amina Shally	Clothes Seller
		Amina Shauri	Kiosk Owner
		Anna Karisa	Fishmonger
		Anna Mlanda	Kiosk Owner

Group	Date	Name	Stated Occupation
Kuruwitu Sub-location Women		Asha Rajabu	Cassava Seller
		Asha Salim	Housewife
		Bahati Nguya	Kiosk Owner
		Barika Omar	Chapati Seller
		Bendera Katana	Paraffin Seller and Fishmonger
		Bibi Charo	Housewife
		Dama Chengo	Palm Wine seller
		Dama Karisa	Palm Wine seller
		Dama Kazungu	Coconut and lemon seller
		Doris Jaffet	Kiosk Owner
		Dzame Charo	Kiosk Owner
		Dzendere Kitsao	Farmer
		Dzendere Kombe	Potato Seller
		Esha Alex	Fishmonger
		Eunice Luka	Kiosk Owner
		Fatuma Bakari	Kiosk Owner
		Fatuma Charo	Kiosk Owner
		Fatuma Jumaa	Greengrocer
		Fatuma Maulidi	Housewife
		Fatuma Mwadondo	Makuti thatch seller
		Fatuma Mweni	Potato seller
		Florence M Pande	Housewife
		Furaha Roho	Housewife
		Hadija Bakari	Kiosk Owner
		Hadija Charo	Palm Wine seller
		Hadija Kibwana	Chapati and Kaimati Seller
		Janet Ngumbao	Kiosk Owner
		Janet Tembo	Palm Wine seller
		Josphine Jumwa	Kiosk Owner
		Joyce Karisa	Palm Wine seller
		Joyce R Toya	Fishmonger
		Jumwa Kalume	Palm Wine seller
		Jumwa Katana	Makuti thatch seller
		Jumwa Lewa	Palm Wine seller
		Jumwa Mwachiro	Housewife
		Jumwa Toya	Housewife
		Kabibi Roho	Housewife
		Kadii Chanzera	Maandazi Seller
		Kadzo James	Palm Wine seller
		Kadzo Johanna	Kiosk Owner
		Kadzo Kalume	Makuti thatch seller
		Kadzo Kalume	Palm Wine seller
	Kadzo Tsolwa	Fishmonger	
	Karembo Karisa	Palm Wine seller	
	Karichwa Ngonyo	Makuti thatch seller	
	Kononga Mramba	Tobacco Seller	
	Kwekwe Raymond	Fishmonger	
	Laila Alex	Fishmonger	
	Lauzi Karisa	Housewife	
	Lucy Mwamuye	Kiosk Owner	
	Mapenzi Martin	Kiosk Owner	
	Margaret Chai	Greengrocer	
	Mariam Harrison	Makuti thatch seller	
	Mariam Omar	Potato and Chapati Seller	
	Mariam Rashid	Potato and Cassava Seller	

Group	Date	Name	Stated Occupation
Kuruwitu Sub-location Women		Mariam Mramba	Paraffin, Cooked Meat and Palm Wine
		Mariam Sammy	Palm Wine seller
		Mary Mwarabu	Kiosk Owner
		Masiku Mwamumba	Makuti thatch seller
		Mbeyu Hamis	Palm Wine seller
		Mbuche Dzengo Chai	Computer trainee
		Mbuze Soloman	Fishmonger
		Medza Tembo	Makuti thatch seller
		Mefundi Hamisi	Beans and Chapati Seller
		Mnanatumu Abdallah	Hairdresser
		Mose Tembo	Tobacco Seller
		Mwanaisha M Chai	Tailor
		Mwanajuma Christopher	Kiosk Owner
		Mwanjuma Masudi	Potato Seller
		Mwena Karisa	Housewife
		Mwenda Kombe	Makuti thatch seller
		Mwenda Menza	Maandazi Seller
		Mwenda Shariff	Fishmonger
		Najua Kitsao	Palm Wine seller
		Nazi Karisa	Palm Wine seller
		Nyajua Karisa	Beans seller
		Nyevu Bahati	Makuti thatch seller
		Nyevu Charo	Palm Wine seller
		Nyevu Kalume	Palm Wine seller
		Nyevu Mwamimba	Housewife
		Nyevu Ngala	Fishmonger
		Nzingo Deche	Palm Wine seller
		Nzingo Kimbenze	Palm Wine seller
		Nzingo Kitsao	Tobacco Seller
		Nzingo Nyoka	Farmer
		Nzingo Soloman	Makuti thatch seller
		Pola Katana	Palm Wine seller
		Rehema Athmani	Fishmonger
		Riadha Mwalimu	Potato seller
		Riziki Salim	Maandazi Seller
		Riziki Tune	Palm Wine seller
		Rukia Yusuf	Cassava Seller
		Sabina Ibrahim	Fishmonger
		Safari Kazungu	Makuti thatch seller
		Salama Kodi	Fishmonger
		Saumu Ali	Kiosk Owner
		Saumu Nasiri	Chapati Seller
		Saumu Salim	Cassava and Tobacco Seller
	Sera Lewa	Kiosk Owner	
	Shamba Bakari	Housewife	
	Shauri Ngumbao	Fishmonger	
	Sidi Jumaa	Fishmonger	
	Sidi Kanyoe	Palm Wine seller	
	Sidi Karabu	Palm Wine seller	
	Sidi Ngala	Palm Wine seller	
	Sidi Tsofwa	Palm Wine seller	
	Sofia Kahindi	Kiosk Owner	
	Sofia Saidi	Cassava Seller	
	Swalha Athman	Fishmonger and kiosk owner	
	Taabu Charo	Palm Wine seller	

Group	Date	Name	Stated Occupation
		Taabu Jabu Taabu Mwarandu Tatu Tembo Uchi Charo Uchi Karisa Umazi Fondo Zawadi Charo Zawadi Katana Zawadi Ngumbao	Coconut Seller Kiosk Owner Palm Wine seller Fishmonger Housewife Fishmonger and tomato seller Palm Wine seller Eggs Seller Kiosk Owner
Kuruwitu Sub-location Men	04/10/2005	Abdallah Omari Ali Kiriba Amini Ali Anderson M Chiko Bahati Safari Bakari Pande Baraka Mwangome Beka Muranga Benson Okiring Changawa Kitsao Charo Kabwere Chembe Shikari Daktari Chiriba Daktari Yeri Dickson Juma Dickson Pande Dzenge Chai Dzinyao Mwangata Dzombo Jaabu Dzura Mkiki Emmanuel Kazungu Francis Otieno Garama Karisa George Katana Hamis Ali Harrison Kiti Hassani Kambi Jaffet Sofwa John T Toya Joseph Charo Juma Charo Juma Katana Juma Magunda Juma Masumbuko Juma Mwangome Juma Shikari Jumaa Bingwa Jumaa Kitsau Kadenge Katana Kahindi Jumaa Kahindi Karengi Kahindi Mzungu Kahindi Tela Kaingu Ngumbao Kalama Mranga Kalame Kazungu	Fisherman Kiosk Owner Farmer Fisherman Fisherman Kiosk Owner Fisherman Fisherman Quarry labourer Fisherman Fisherman Fisherman Fisherman Teacher at Academy Fisherman Restaurant Fishmonger Fisherman Fisherman Tailor Mason Quarry labourer Fisherman Fisherman Fisherman Fisherman Fisherman Fisherman Fisherman Kiosk Owner Carpenter Mason Fisherman Fisherman Fisherman Fisherman Fisherman Kiosk Owner Photographer Fisherman Kiosk Owner Fisherman Farmer Fisherman Fisherman Farmer

Group	Date	Name	Stated Occupation
Kuruwitu Sub-location Men		Kamutu Jeffa	Fisherman
		Kamutu Kombe	Farmer
		Karabu Kombe	Fisherman
		Karisa Kadenge	Fisherman
		Karisa Katana	Fisherman
		Karisa Yeri	Farmer
		Karume Karisa	Fisherman
		Katana K Fondo	Kiosk Owner
		Katana Ngala	Fisherman
		Katana Tetha	Fisherman
		Kitsao Mwachinga	Farmer
		Makari Juma	Kiosk Owner
		Martin Kalama	Fishmonger
		Mohammed Abdallah	Farmer
		Mohammed Bakari	Tea Kiosk
		Mubarak K Chai	Plumber
		Mubarak S Suleman	Juice Seller
		Munga Kalama	Fisherman
		Munga Ngole	Fisherman
		Mwachonje Chiriba	Fisherman
		Nasoro Abdallah	Fisherman
		Ngala Hinzano	Fisherman
		Nikodemus Toya	Farmer
		Nyale Mwakuni	Greengrocer
		Omar Kiriba	Fisherman
		Patrick Kalume	Fisherman
		Rajabu Abdallah	Farmer
		Rajabu Bakari	Tea Kiosk
		Rashid Abdallah	Fisherman
		Riziki Hinzano	Farmer
		Rofus Chiro	Shop keeper
		Salim Mweni	Fisherman
		Salim Nyanje	Bicycle repair
		Samson Liwali	Kiosk Owner
		Shabani Kalume	Carpenter
		Steven Mramba	Fisherman
		Suleman Hassan	Kiosk Owner
		Surubu Toya	Fisherman
		Timothy Kitsau	Fisherman
		Uba Mohammed	Kiosk Owner
	Yusuf Mubarak	Fisherman	

2 *Focus Groups*

Group Name	Activity	Number in Group	Gender
Baharini Breezing	Community Cultural Centre	1	Male
Coral quarrying group	Coral Brick Labour	17+	Mixed
Giriama Dance Troupe	Drumming, Dancing & Tourist Entertainment	16	Mixed
Kahaso Muramba & Sidi Bahati	Traditional Healers	2	Female
Kijangwani Landing Site	Fishing	36	Male
Mwanamia Landing Site	Fishing	26	Male
The Flying Wizards	Acrobats & Tourist Entertainment	6	Male
Umoja ni Nguvu Women Group	Dancers & Tourist Entertainment	62	Female

3 *Stakeholders Consulted*

Name	Position/Activity
A. Ngutia	Jangutia Designers & Municipal Council Officer
Alex Nyinge	Chief, Junju Location
David Kahindi	Assistant Chief, Vipingo Sub-location
Des Bowden	Chairman, KCWA, Plot owner & resident, Kuruwitu
Dzengo Chai	Vice Chairman, KCWA, Community Member
Eunice Masindi	Seminar Director, Nyrisha Foundation, Kuruwitu Plot
Frank Smith	Estate Manager, Rea Vipingo Sisal Estate
Mary Drugan	Plot owner & resident, Kuruwitu
Maureen Walker	Plot owner & resident, Kuruwitu
Norbett Rottcher	Plot resident, Kuruwitu
Peter Walker	Plot owner & resident, Kuruwitu