



“The environmental impact of settling refugees in refugee hosting areas in Uganda”

**May 24th, 2018
Kampala, Uganda**

Study Objectives

- To assess the impact of settling refugees and their energy use on the environment with emphasis on forests and vegetation cover in the surrounding;
- To assess the impact of environmental changes and their energy use on the livelihoods and well-being of refugees and host communities (men, women & children);
- To prospectively examine existing and potential mitigation measures against the misuses of energy conservation and the continued deforestation and vegetation loss.



Overview of Study Area

Study Demographics

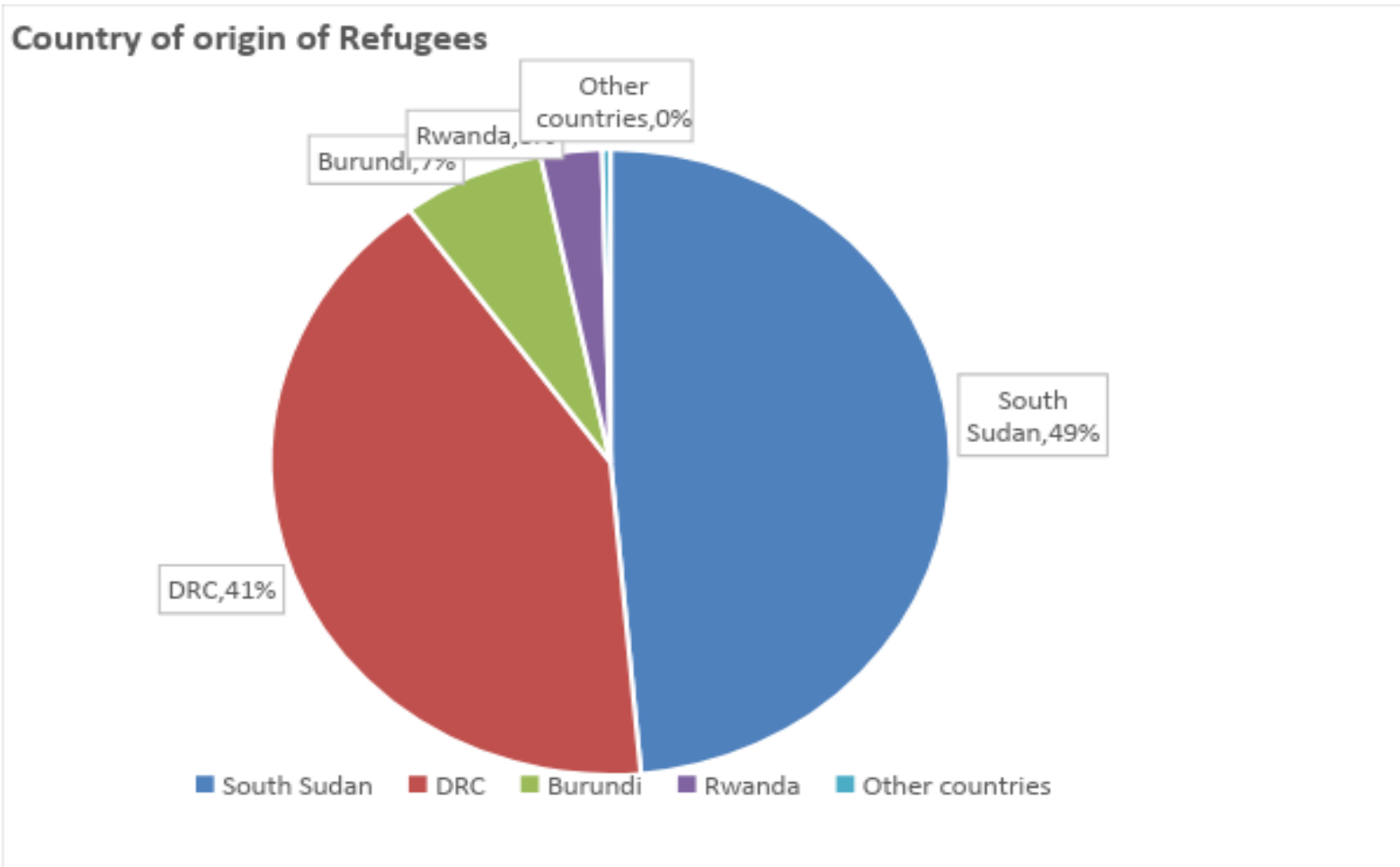
5,392 study respondents

13 settlements

67% refugees : 33% host

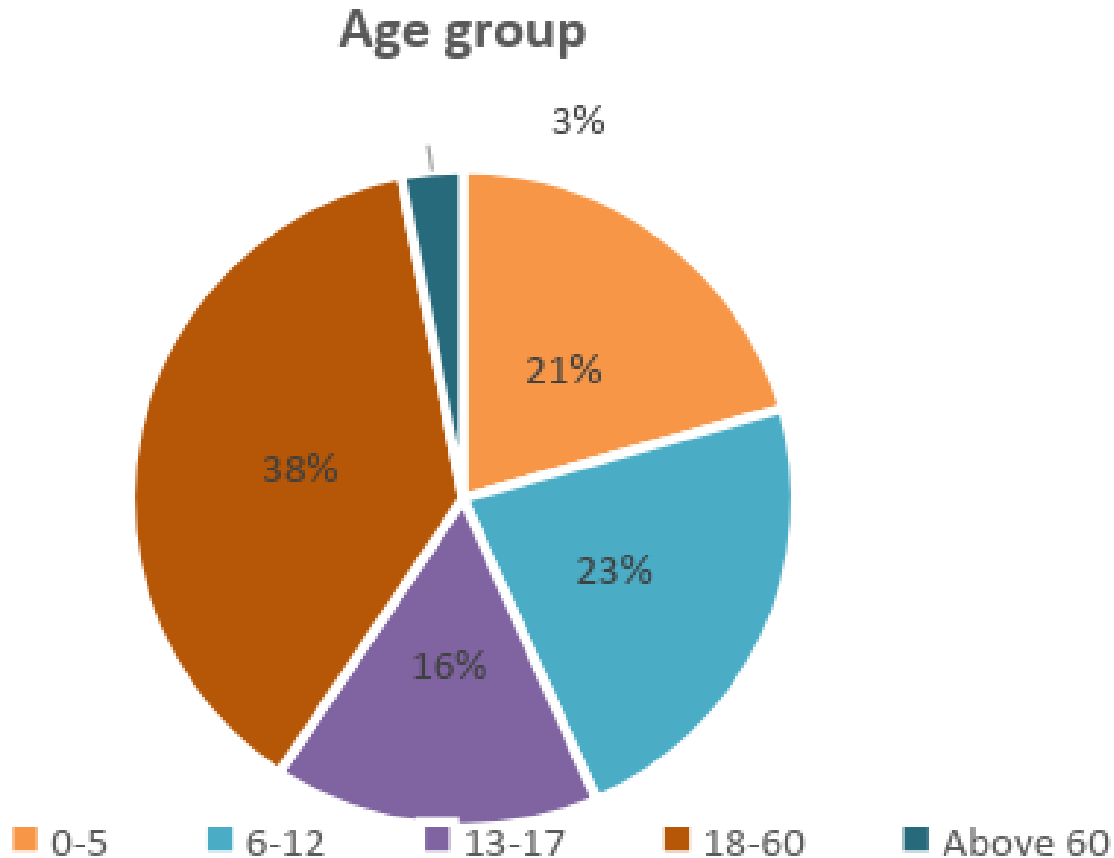
49% male : 51% female

Study Demographics



Majority, 46.9% female headed households

Study Demographics



59% were children



Satellite mapping

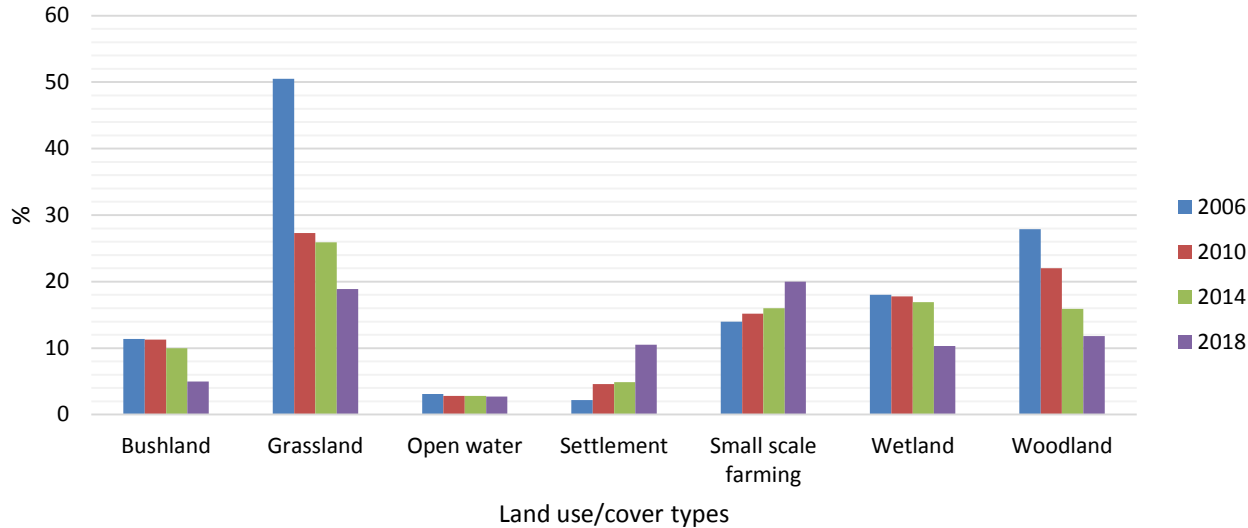
Title

Data sets

- **Satellite imagery**
 - Landsat imagery (2006, 2010, 2014, 2018)
 - Hybrid of supervised/unsupervised & NDVI
- **Socio-economic data**
 - Resource maps
 - FGDs
- **Reference datasets**
 - Ground truthing
 - National Landuse/cover map 2015
 - Google Earth
 - Digital Globe imagery (2017, 2016)
 - Land degradation map (MWE, 2016)
 - Reports

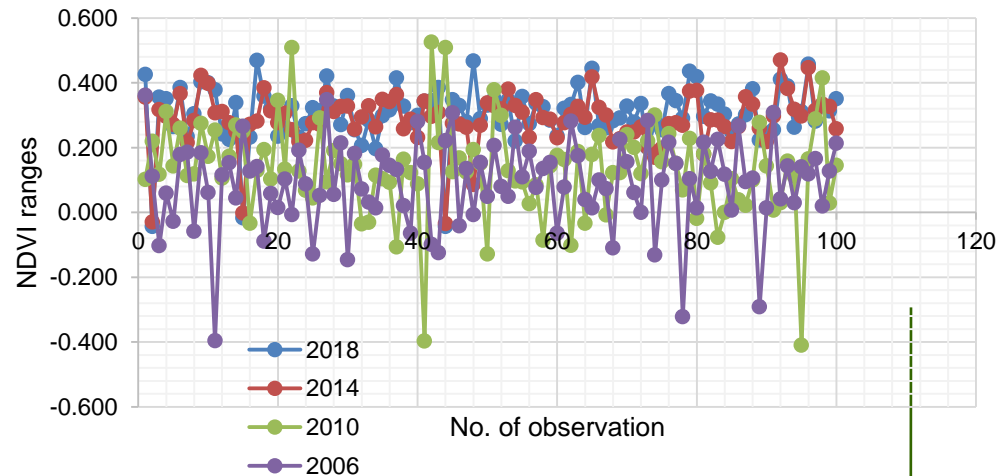
Findings

Nakivale and Oruchinga



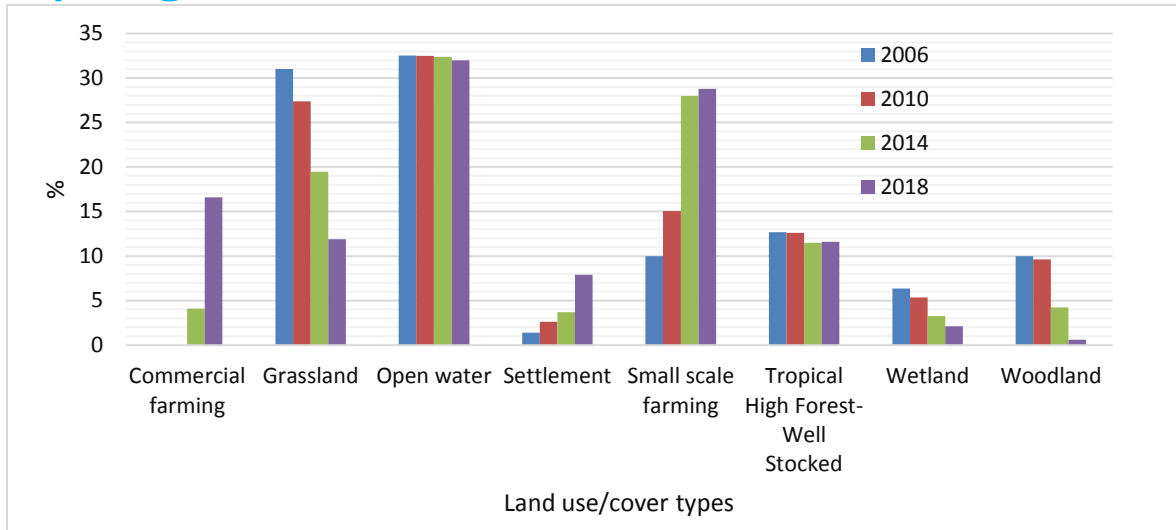
Key issues and implications

- Reductions in natural cover 2006, 2010
- Increase in land use activities (settlements, hunting and farming activities)
- Influx of refugees (Burundi, DRC)
- Increased pressure on land resources
- Loss and degradation of natural cover
- Increase on the districts food security



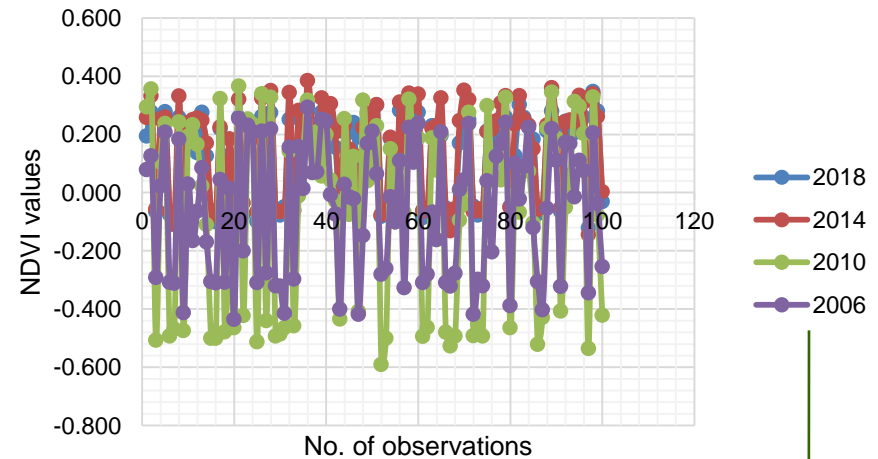
Findings

Kyangwali



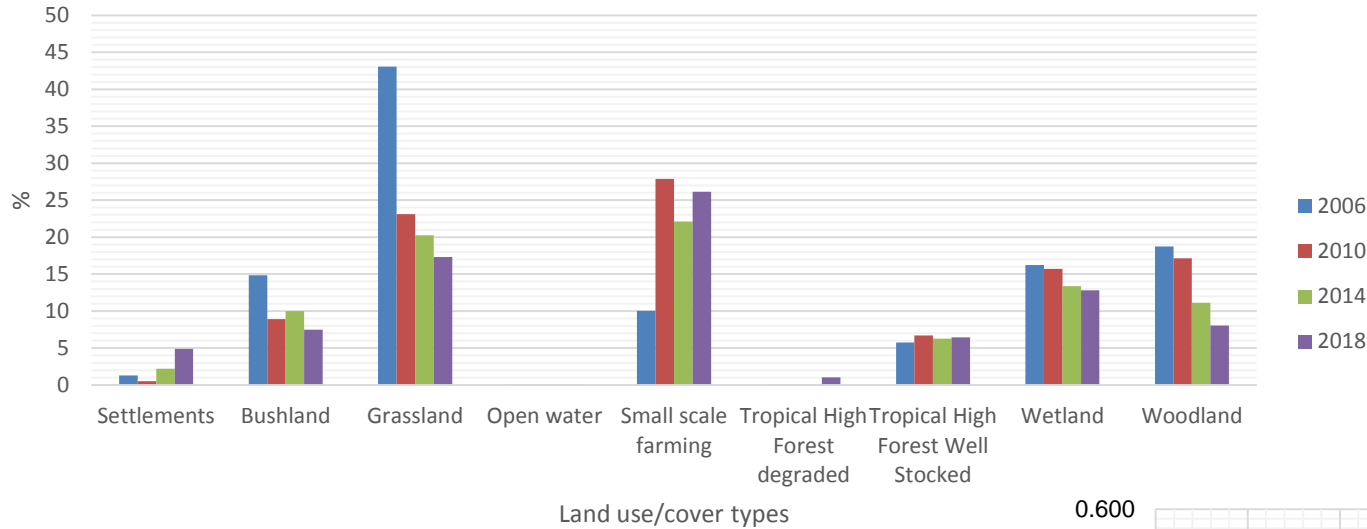
Key issues and implications

- Reductions in natural cover 2006, 2010, 2014
- Increase in land use activities (settlements, hunting and farming activities)
- Influx of refugees (Burundi, DRC, Rwanda etc)
- Increased pressure on land resources
- Loss and degradation of natural cover
- Increase on the districts food security
- Development (social, economic) – Win-win situation



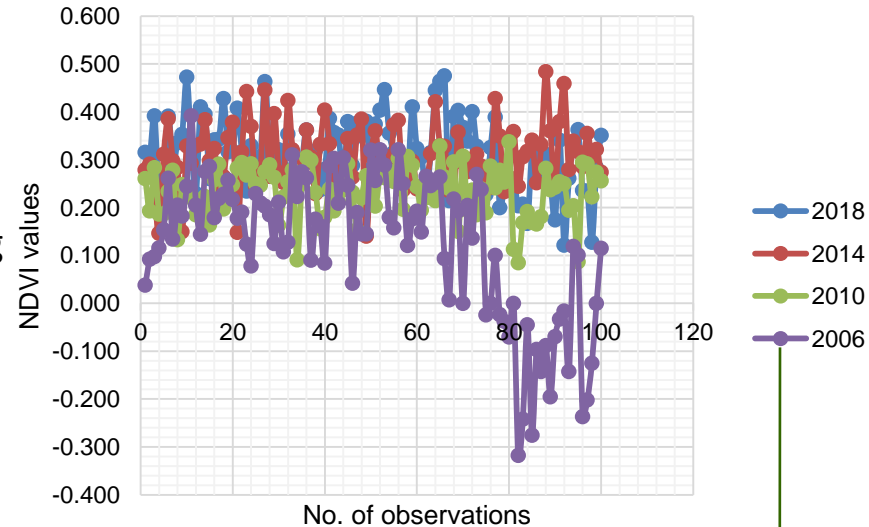
Findings

Rwamwanja and Kyaka II



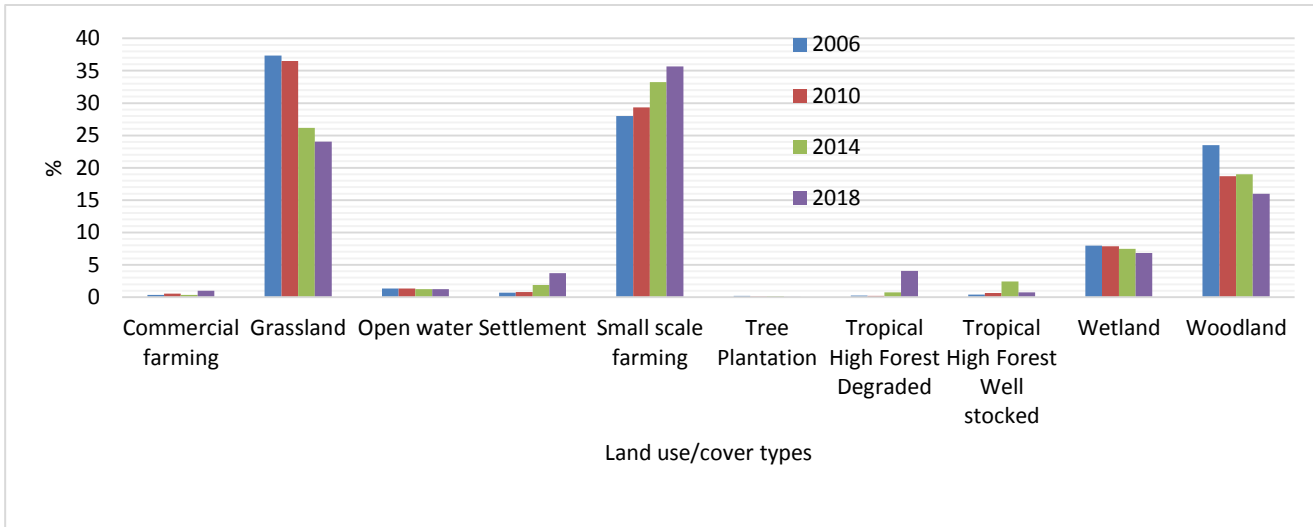
Key issues and implications

- Reductions in natural cover (bushlands, wetland, grasslands)
- Increase in land use activities (settlements, farming activities)
- Influx of refugees, demand for firewood, land
- Increased pressure on land resources
- Loss and degradation of natural cover
- Development (social, economic) – Win-win situation



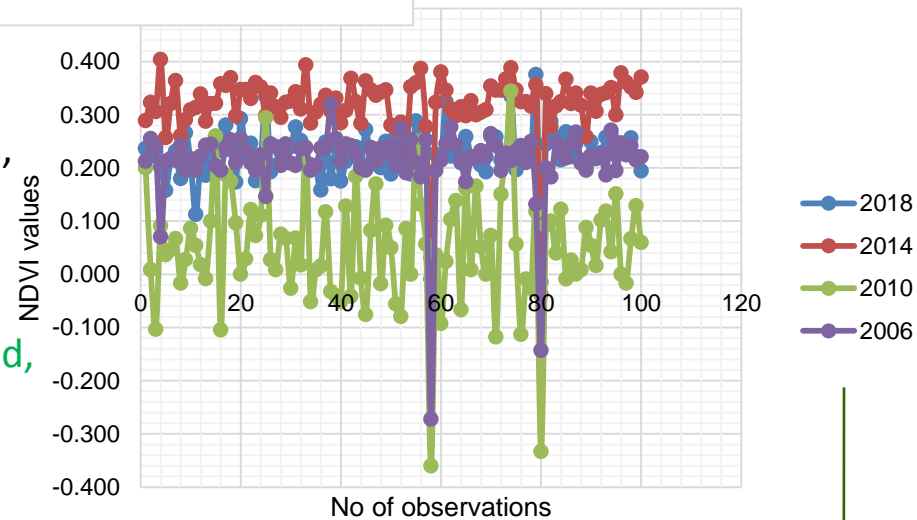
Findings

Kiryandongo



Key issues and implications

- Reductions in natural cover (bushlands, wetland, grasslands)
- Increase in land use activities (settlements, farming activities)
- Influx of refugees 2014-2016, demand for firewood, land
- Increased pressure on land resources
- High crop production



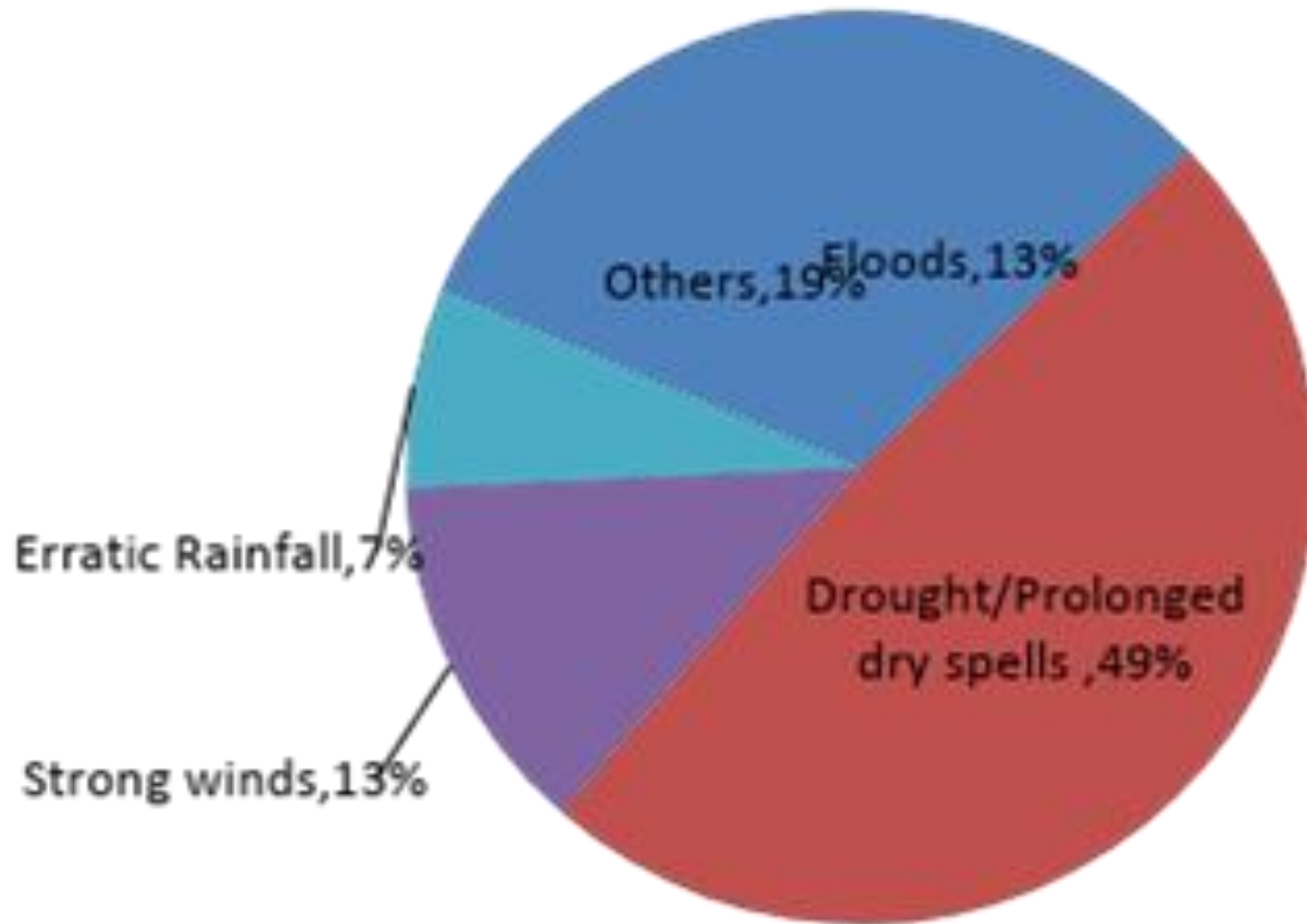
Perceptions to Climate Change

Questions	Kyangwali
What are main food crops grown	Matooke, Sweet potatoes, maize, cassava, millet
Experience with Climate Change	Yes
What is your experience Climate Change?	Strong winds blow, long droughts, hail stones
Main sources of fire wood	Nearby vegetation, buying , Forest
Ways scarcity of firewood is experienced	Firewood is scarce, firewood sold at prices high,
Causes of firewood scarcity	Degradation, limited planting of trees, many people, Trees cut down, Forests cut down
Types of firewood gathered	Deadwood, cut tree branches, cut full trees
Distance to firewood source	Current 3km, 5 years 0.4-4km, 10 years 0.05-2Km
Do you plant Trees	NO/Yes Fruits only
If Yes which trees	Eucalyptus
If No Why	No land, no money to buy seedlings
Suggestions	Encourage tree planting, reduce electricity price, restore forests, provide alternative energy saving technology, and introduce efficient technologies.

Perceptions to Climate Change N

Questions	Arua (Pekelle, Dzaipi, Rhino Camp)
What are main food crops grown	Cassava, Ground Nuts, Sorghum, Beans, Maize, sweet potatoes, Ground nuts, vegetables, green gram, Pigeon peas, Yams millet
Ways Climate Change is experienced	Prolonged droughts, High temperatures, dry streams, Change in rainfall pattern, Long dry spell in March and June, unreliable rainfall
Main sources of fire wood	Firewood, Charcoal, Natural Trees, Wild Bush
Ways scarcity of firewood is experienced	Few Trees to cut, Walking long distances to gather firewood, inadequate of big trees, Lack of dead wood, Nearby trees destroyed
Causes of firewood scarcity	Charcoal burning, Cutting trees for building houses, High population, high population, less people planting tree, negligence, brick burning, Animal destruction
Types of firewood gathered	Dead wood, Cut tree branches, Cut full trees, remains of charcoal burning
Distance to firewood source	Current 2-13Km, 5years ago 1-3km, 10years ago 0.5-1
If Yes which trees	N/A, various
If No Why	Bad season, lack of seedlings, provided by partners, Majority planted by host communities,
Suggestions	Give seedlings for planting, Introduce energy saving stoves, Plant more trees, Managing trees, Refugees educated to plant trees

Climate Change Shocks in last 5 years



Conclusion on Perceptions

The dwellers of the refugee Settlement areas do confirm experiencing climate change

They experience climate changes in various ways among which include, prolonged dry spells, droughts, erratic rains, strong winds, increased air temperatures

The dwellers experience scarcity of wood fuel

There are various ways they experience the scarcity of wood fuel. These include walking longer distance to gather firewood, skipping cooking meals, using other resources to cook.

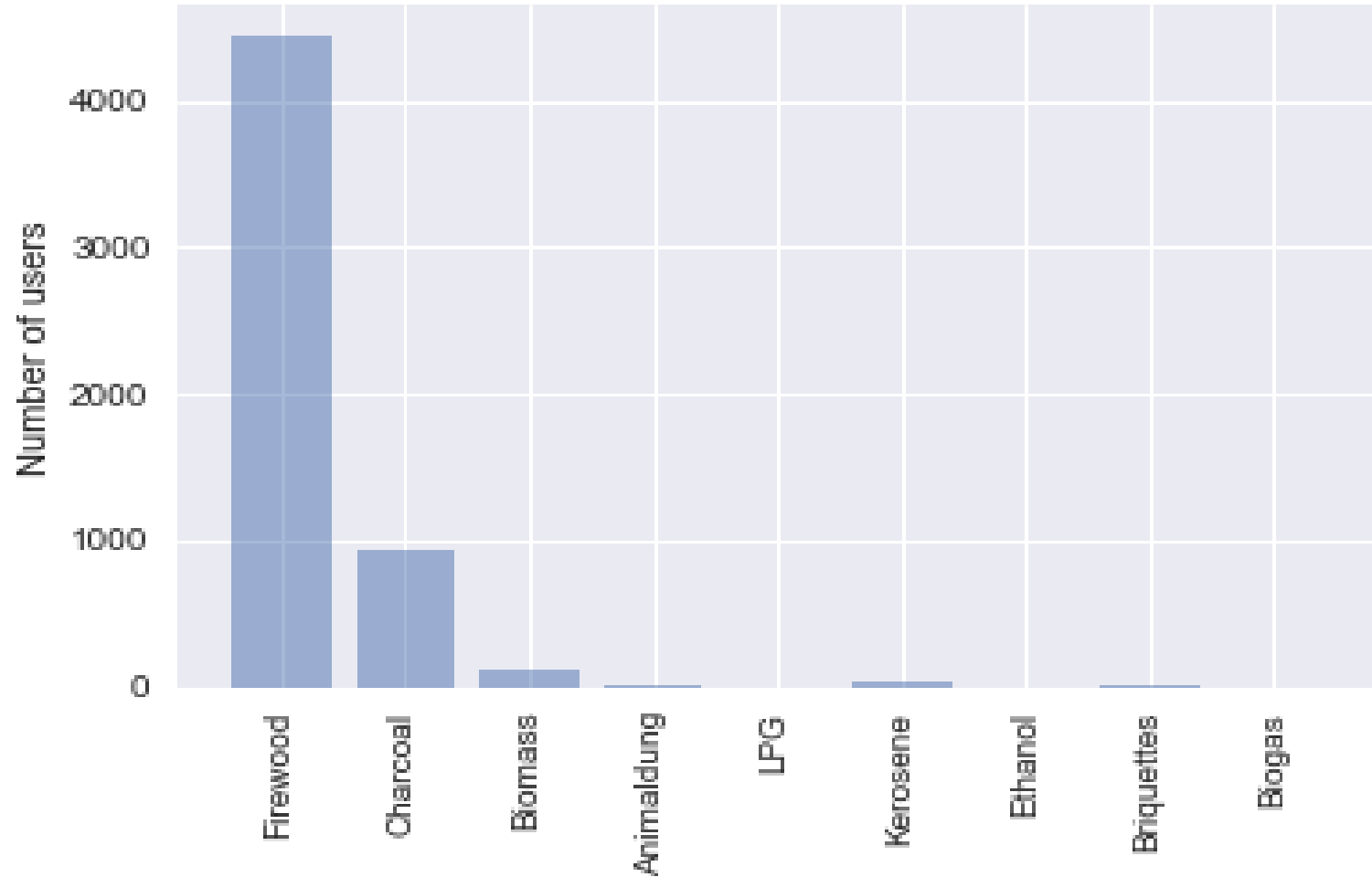


Energy Use

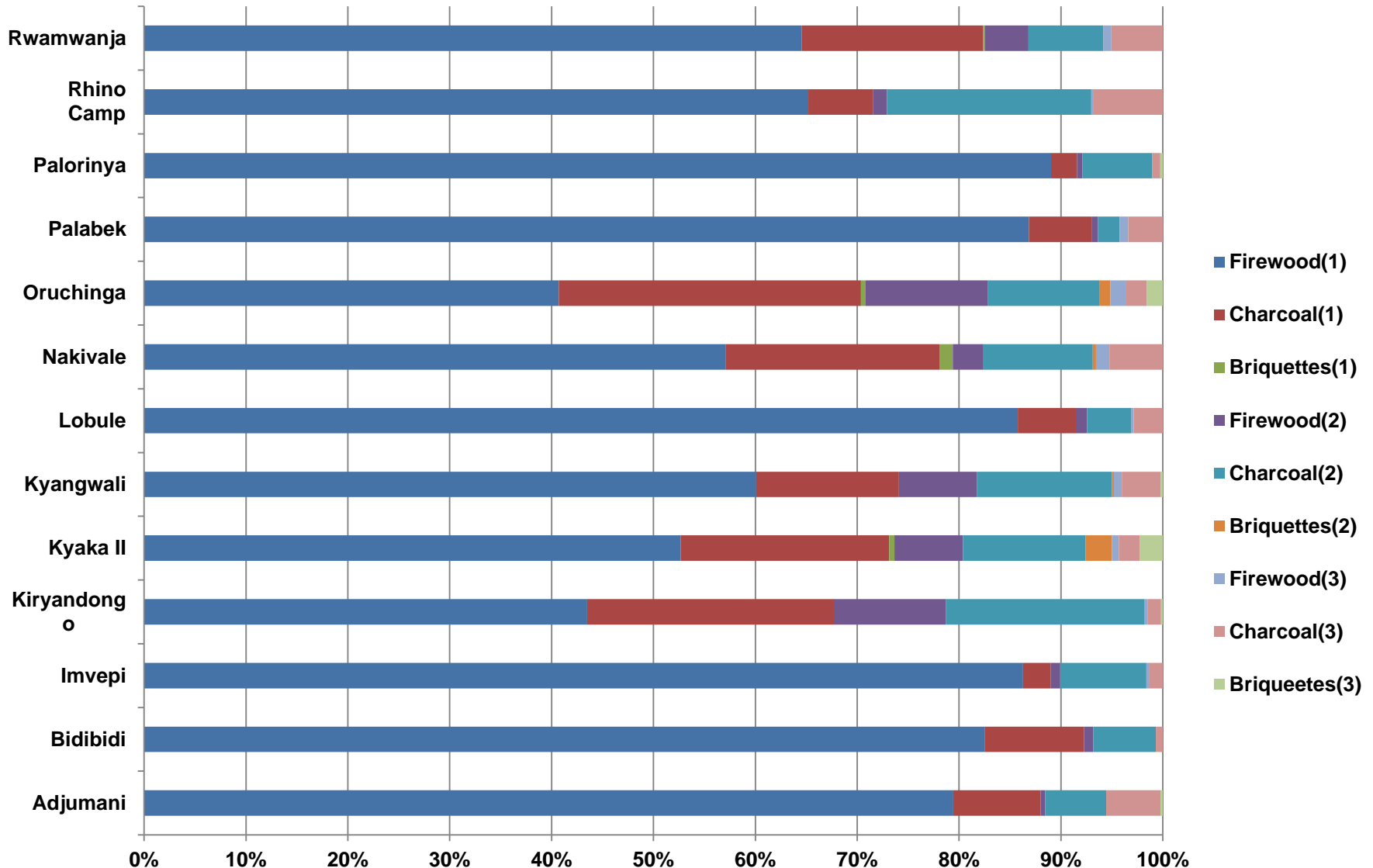
Livelihoods

Fuel

Fuel Usage - Refugees and Hosts

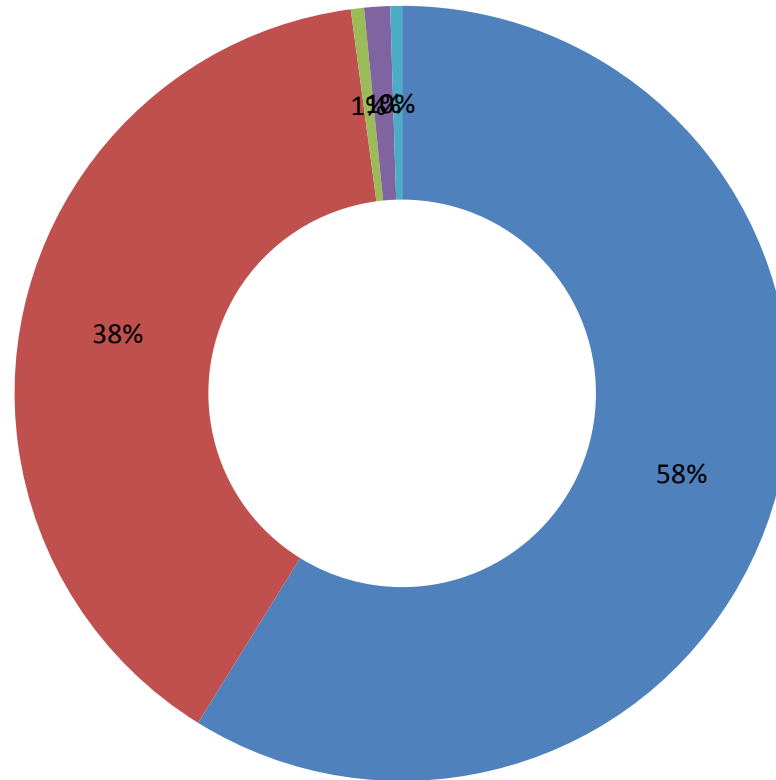


Fuel consumption per settlement



Fuel Use

Preferred fuel for cooking



■ Firewood ■ Charcoal ■ Other biomass ■ Briquettes ■ Biogas

Fuel Use

A random one day survey of about 82 households in the settlements of Bidi Bidi & Adjumani revealed the following:

- Estimated average firewood consumption: **2kgs/person/day**
- Firewood consumption ranged from **0.8 – 4 kgs/person/day**
- A bundle of wood (6-7 pieces) costs Ugx 500

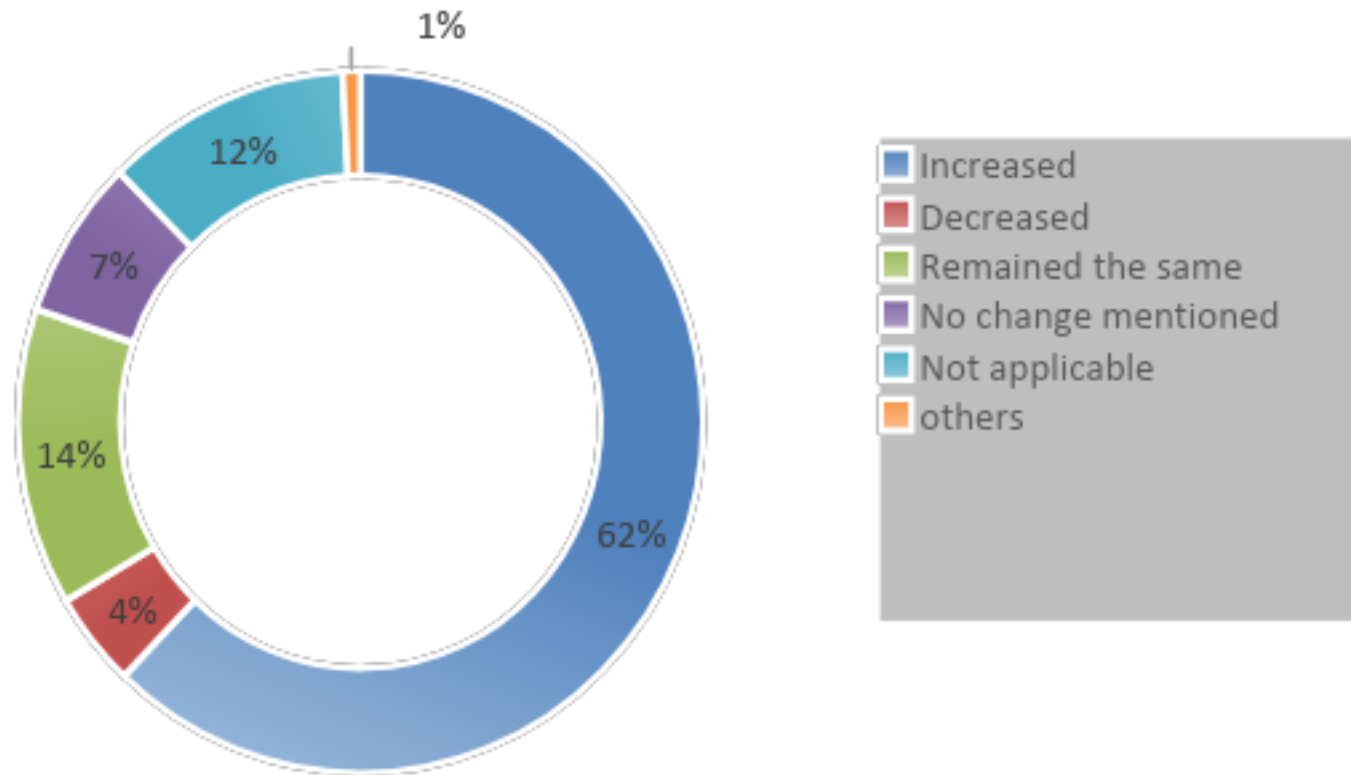


- Estimated average charcoal consumption: **0.2kgs/person/day**
- In most households, charcoal is used as an alternate fuel

Change in distance

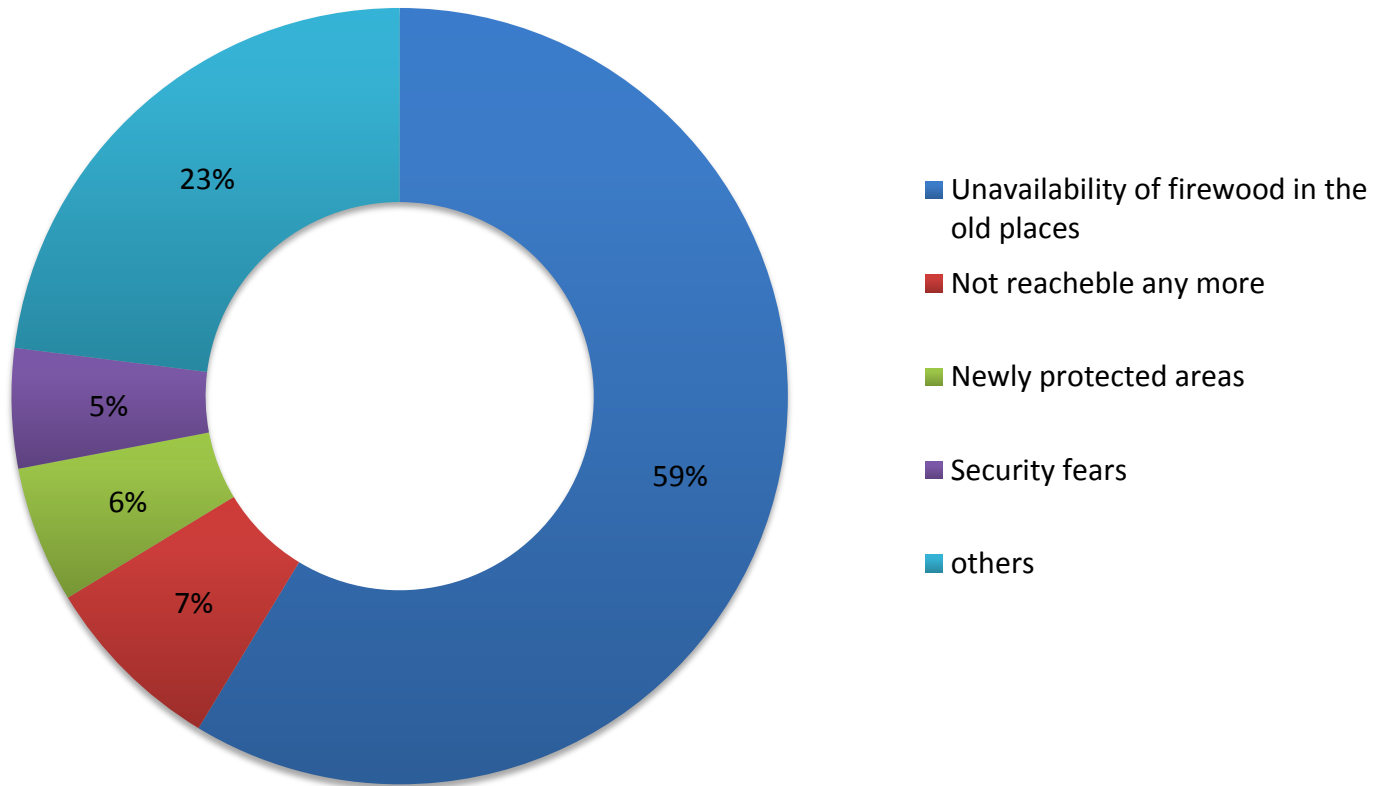
62% reported that the distance walked to collect firewood had increased over the last one year .

Change in distance to collect firewood in last 1 year



Why the change?

The scarcity of fuel wood was reported by **59%** of the respondents as the main reason for change in distance



Protection issues related to fuel

- 50.3 % of the respondents had not experienced any **protection / safety challenges** when accessing fuel
- **49.2%** reported having **protection / safety challenges** whilst accessing fuel
 - **72%** of these were refugees

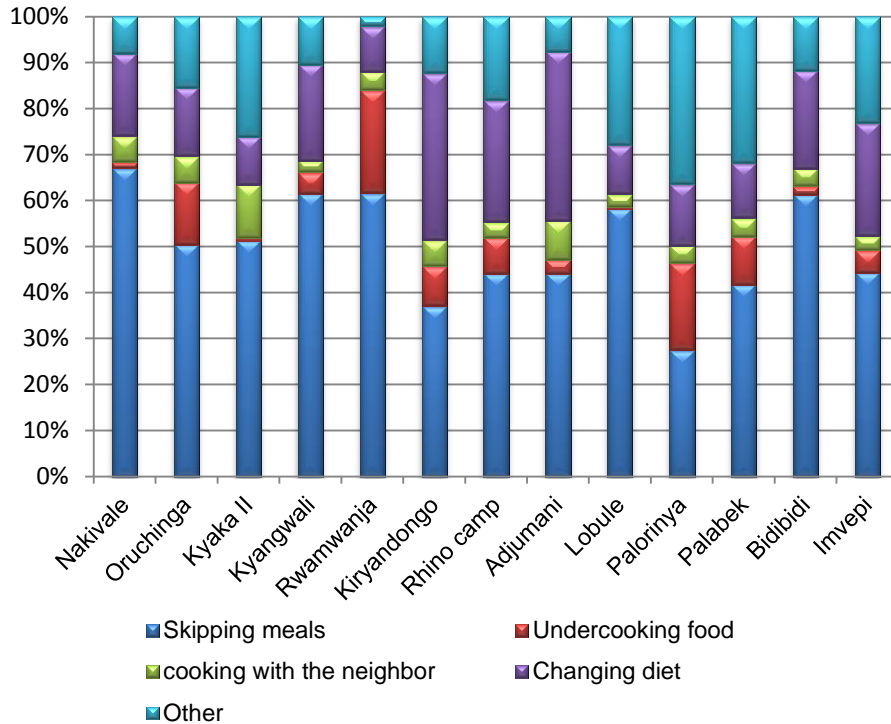
Fuel coping mechanisms

Due to the scarcity of fuel for cooking many of the respondents resort to various mechanisms

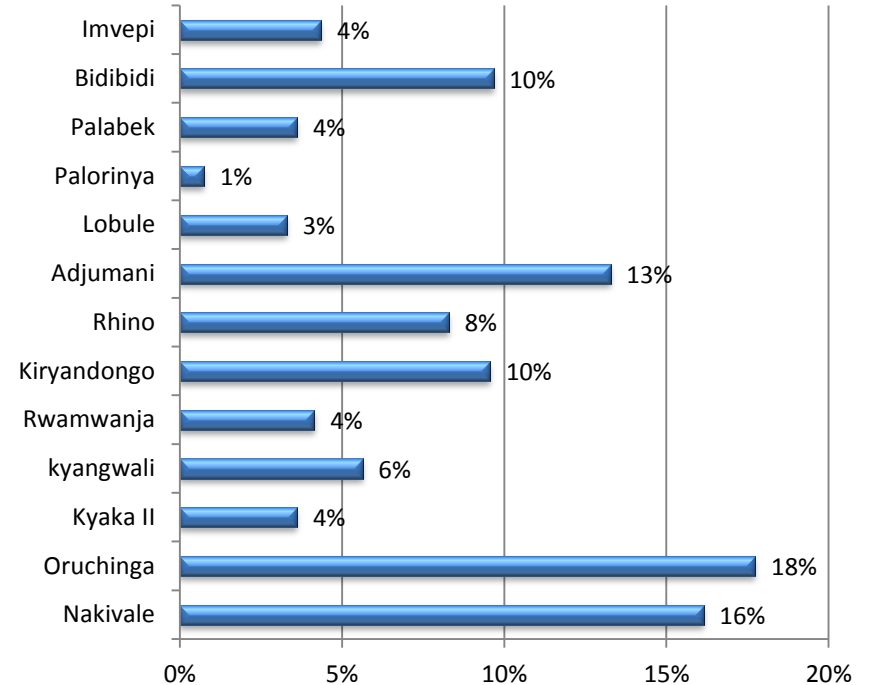
- **51%** skip meals,
- **19%** change the diet to greens, porridge
- **18%** find other means of survival either by looking for it from far places selling food or another item to begging from the neighbours
- **8%** undercooking the food
- **5%** cooked with their neighbours

Fuel coping mechanisms

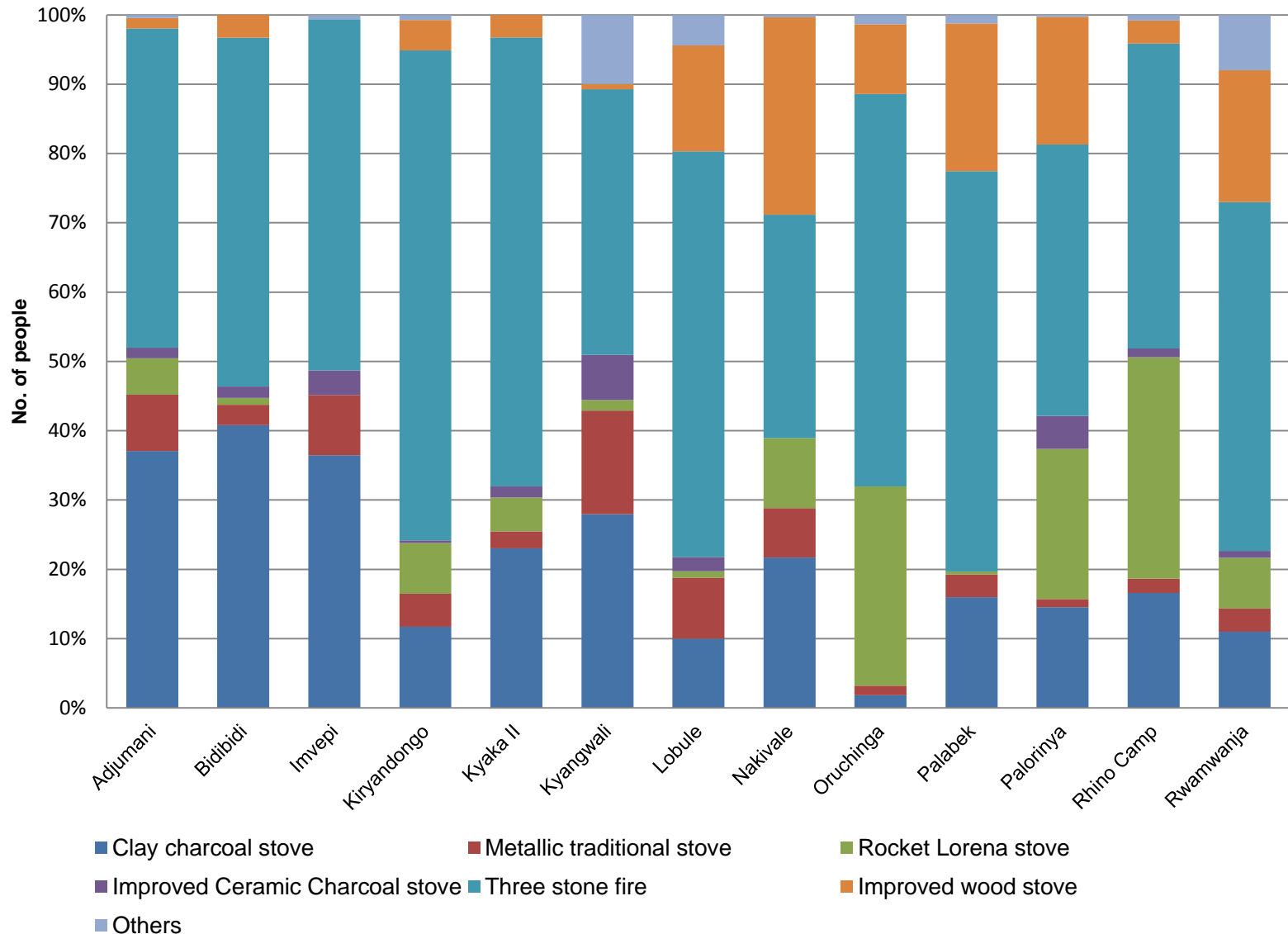
Coping mechanisms per settlement



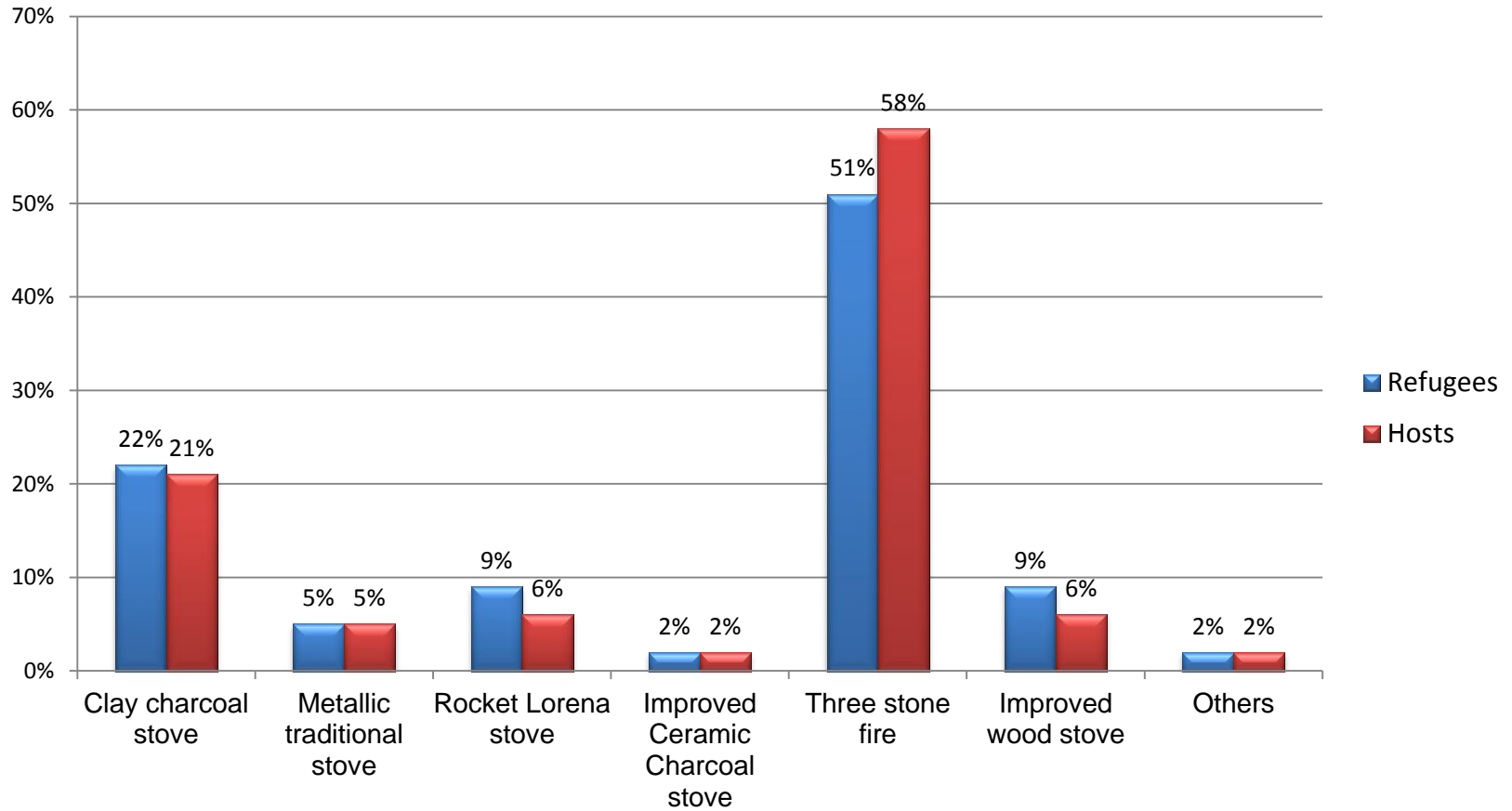
Percentage bartering items per settlement



Stove Technologies Used



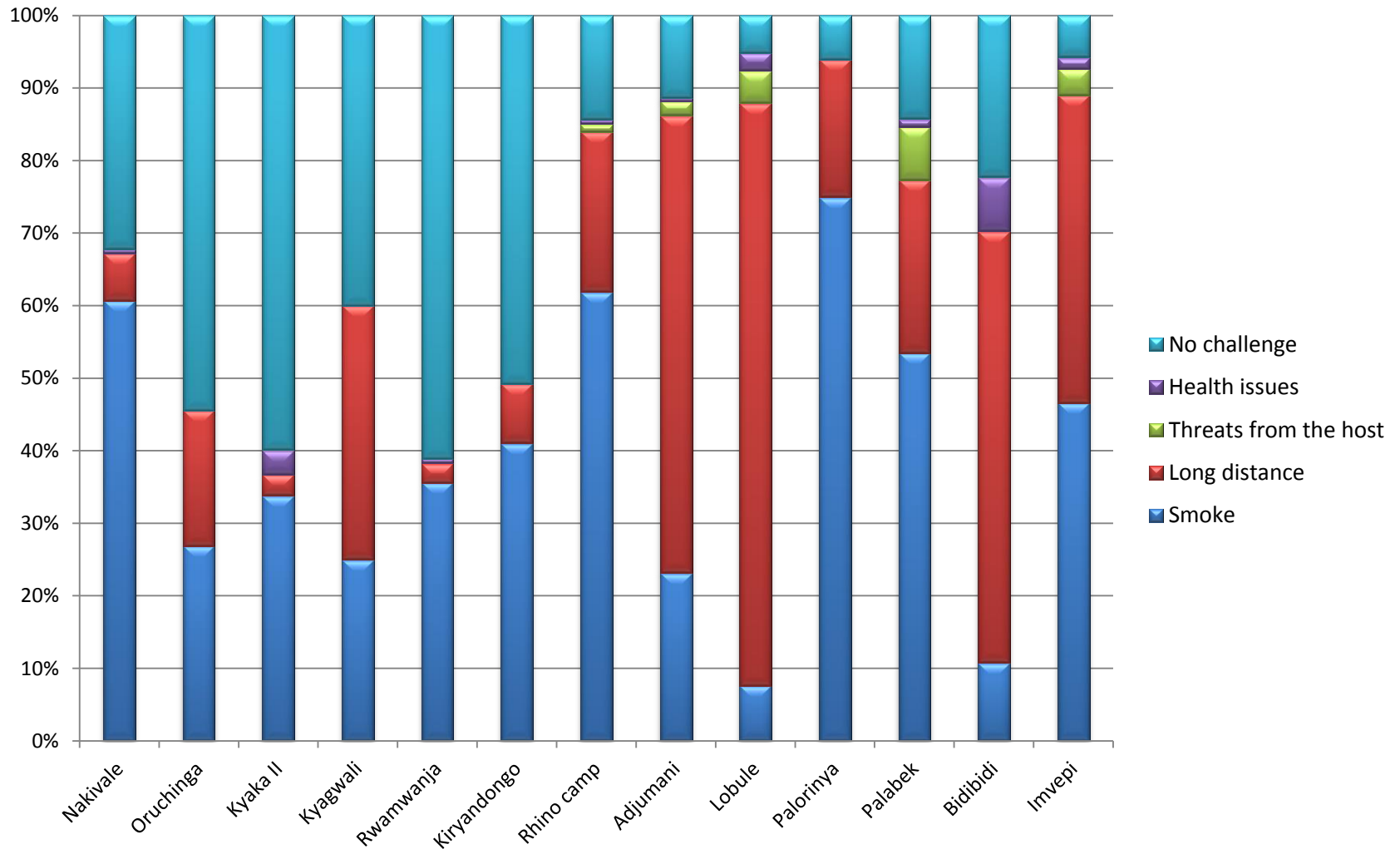
Stove used Refugees Vs Hosts



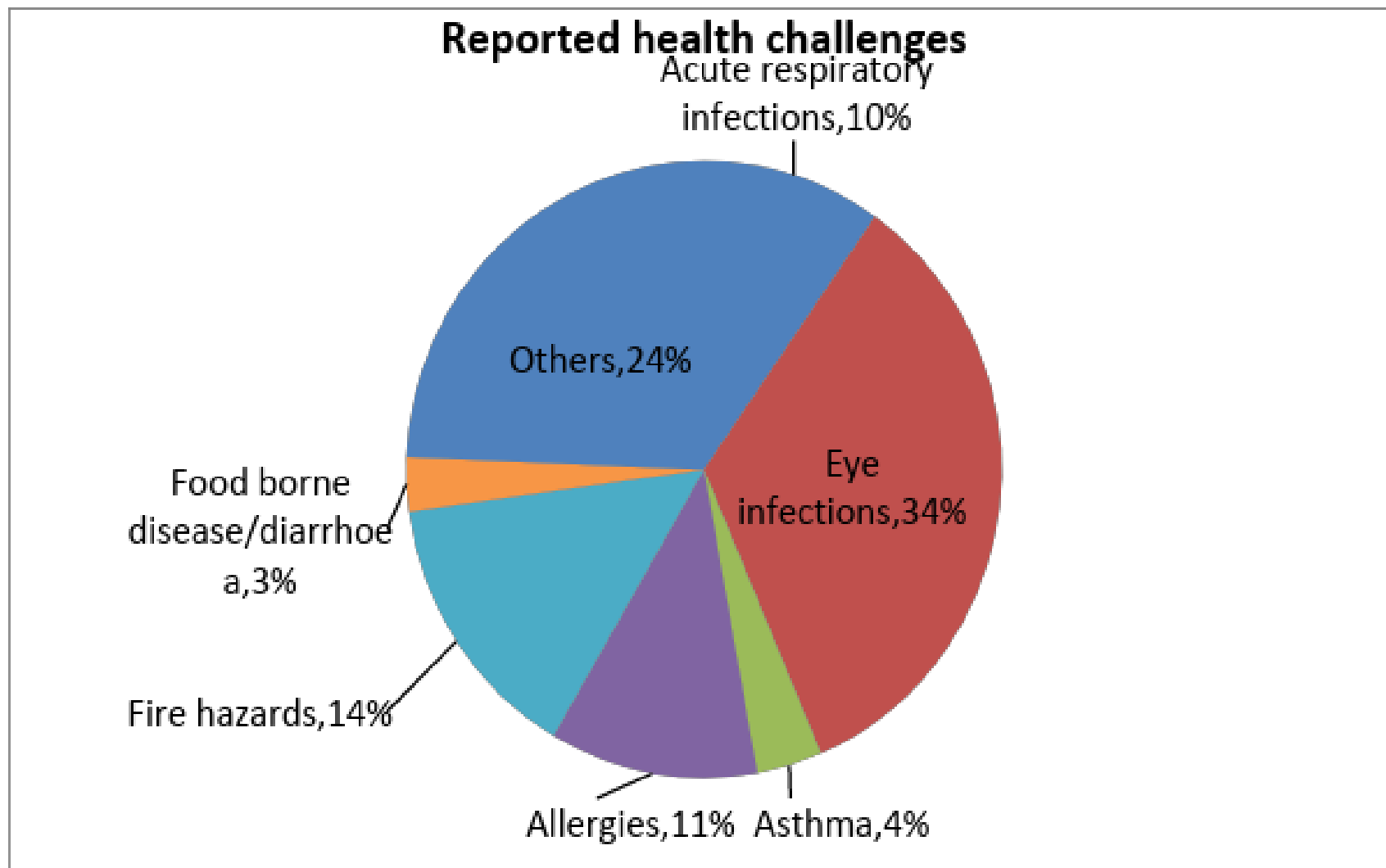
Common stoves used



Challenges faced using firewood



Health challenges related to fuel

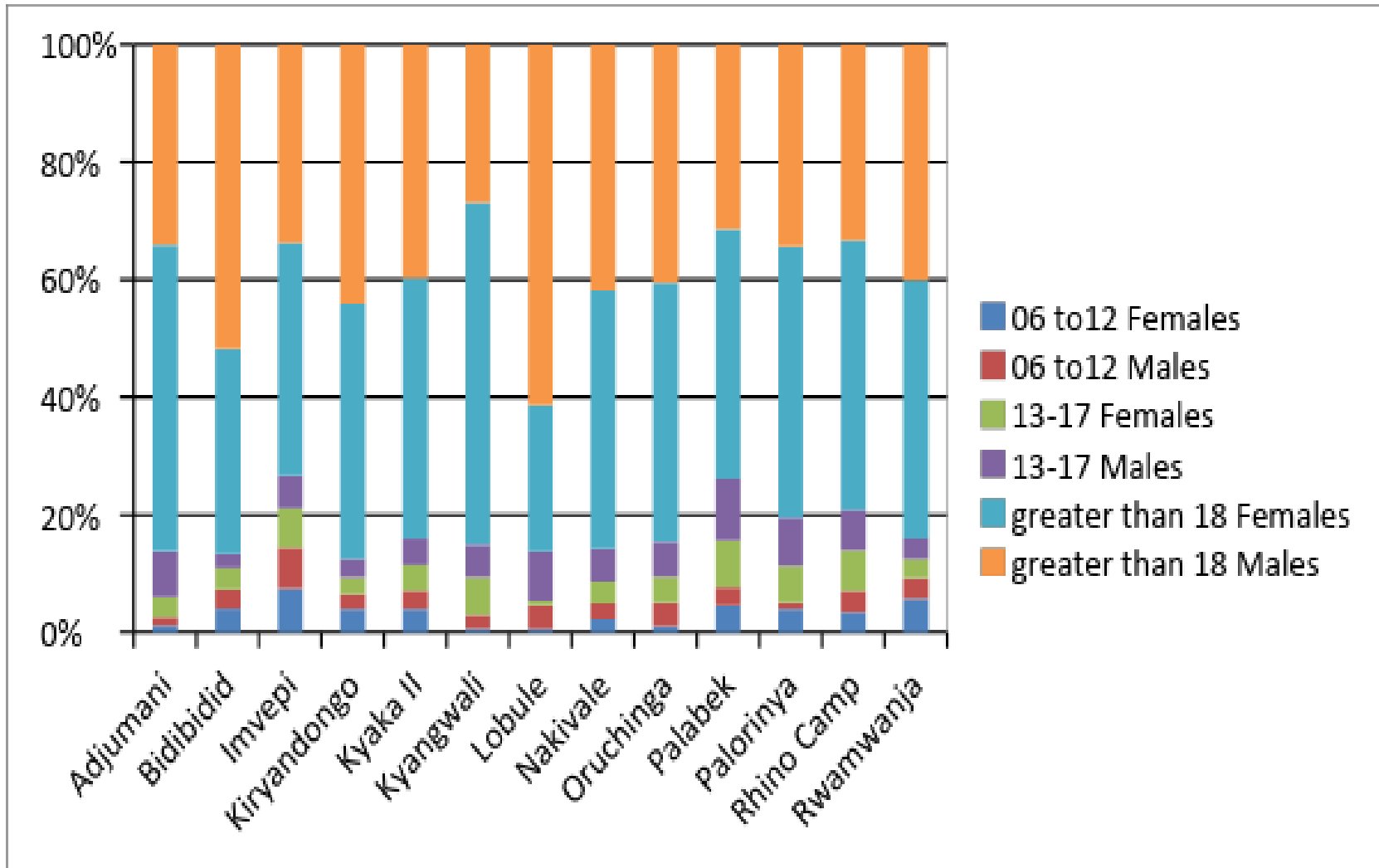


Health challenges related to fuel



Paid labour

No. of females and males working for a pay



Paid labour







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Proposed Interventions – Tree Growing

Current Initiatives

- Marking of trees
- Afforestation
- Reforestation
- Protection of natural trees

Challenges

- Marked trees are still getting cut
- Lack of good management practices
- Funding coming in at the wrong time leading to delays in planting and thus missing growing seasons
- Refugees should be able to pick their own types of seeds
- Refugees do not have enough land to plant their own trees

Recommendations

- Monitoring mechanisms such as the refugees planting the trees and taking care of them
- Participatory approach to tree planting
- Planting of fast growing and fruit bearing trees that are drought resistant especially for West Nile region
- Timely implementation of activities, and proper accountability

Promotion of energy efficient cook stoves

- Lorena stove: adoption rate and feedback are positive



Promotion of energy efficient cook stoves

- Stove for work principle
- Alternative fuels
- Market led solutions such as PAYG, micro enterprise and outsourcing labour from settlements offer a stronger basis for energy sustainability
 - Involving both men and women in the design process.

Laws and Regulations

1



Marking
of trees



2



Selling
charcoal

3



Cutting
trees

Planting wood lots

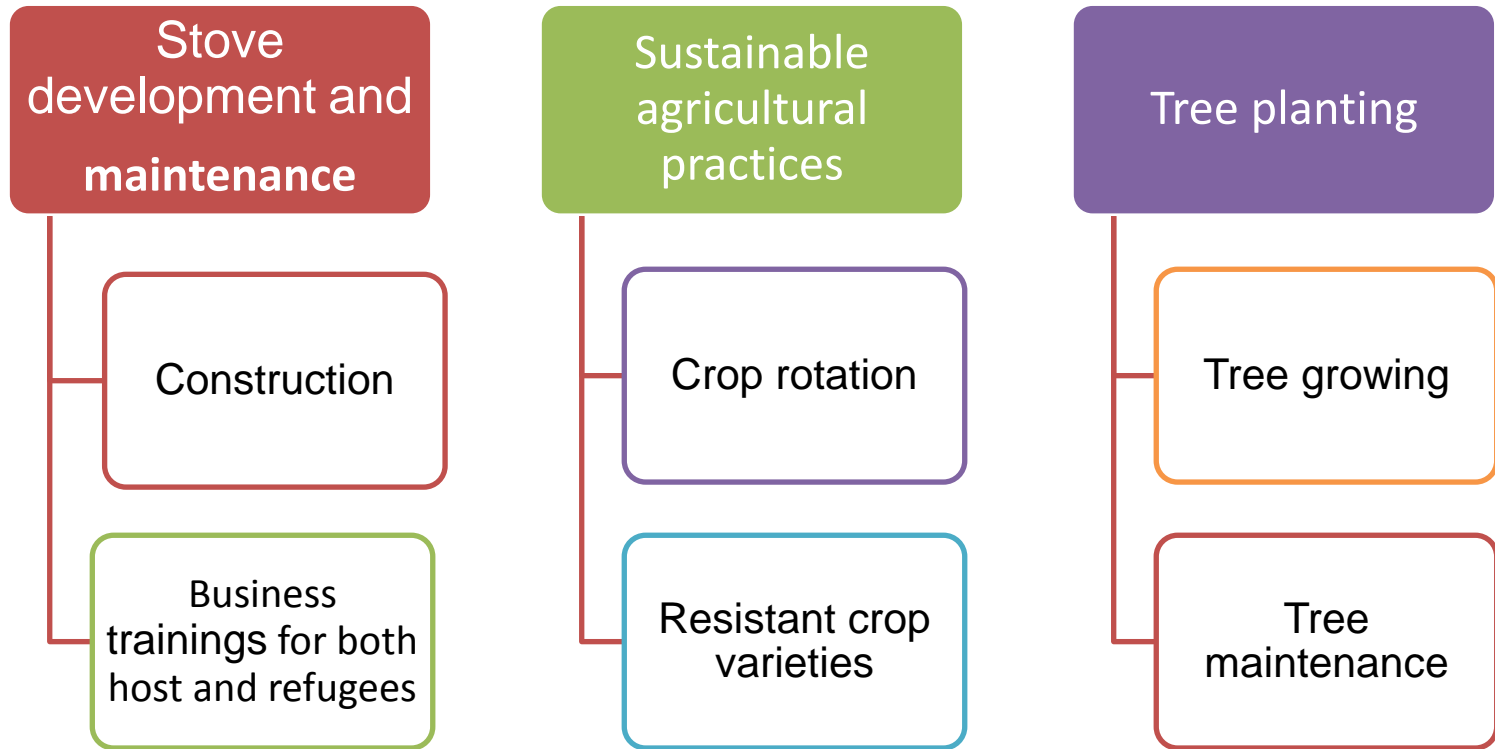
Challenges

- Ownership issues related to community woodlots
- Poor adoption attitudes

Recommendations

- Sensitization with the use of refugees that have had success in the areas of the settlements and hosts in the communities
- Avoiding conflict with the hosts by using a cost and profit sharing model

Recommendations – Specialized Trainings



Recommendations – Sensitization

Improved cook stoves

- Benefits
- Attitudes

Tree planting

- Benefits
- Attitudes

Energy conservation

- Benefits
- Methods

Recommendations – Monitoring

- Stringent monitoring of projects and continuous follow up is necessary for the success of any project implemented in the settlements.

Thank you!



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