COMMUNITY INTERVENTIONS AROUND THE VNP

Felix Ndagijimana

Karisoke Research Center

Mission Statement

DFGFI is dedicated to the conservation and protection of <u>gorillas and their habitat in Africa</u>. We are committed to promoting continued <u>research</u> on their threatened ecosystems and <u>education</u> about their relevance to the world in which we live. In collaboration with government agencies and other international partners, we also provide <u>assistance to local communities</u> through education, training and economic initiatives.

Karisoke Research Center

Founded in 1967 by Dr. Dian Fossey

Habituated groups

Research: Ecology and Behaviour

Anti-poaching patrols

Four core programs: Research, Protection and monitoring, EH and Community development, Conservation Education.

DFGFI Community interventions

Direct

Health: EH and Community development program

Marginalized people

Indirect

Research

Education Program: Support to Bisate Primary school

Text books

School materials

Building & renovation of classrooms

Conservation Education

EH and Community Development

Bisate Clinic

Rehabilitation

Staff training and salary support

Provide medical supplies

Clean water and sanitation

Solar panels

De-worming campaign

Marginalized people Through REDO

Protein Access Project

De-worming

Reassert land rights

Agricultural projects: Irish potatoes, Wheat

Assessing impacts from CC interventions around the VNP

Household survey random stratified framework:

4 Districts, 12 Sectors (with and without a heavy tourism presence)

12 park adjacent Cells and 12 non adjacent Cells

Approx 15 households in each cell, total of 380 households

Also a 7 participatory rural appraisal exercises at the sector level
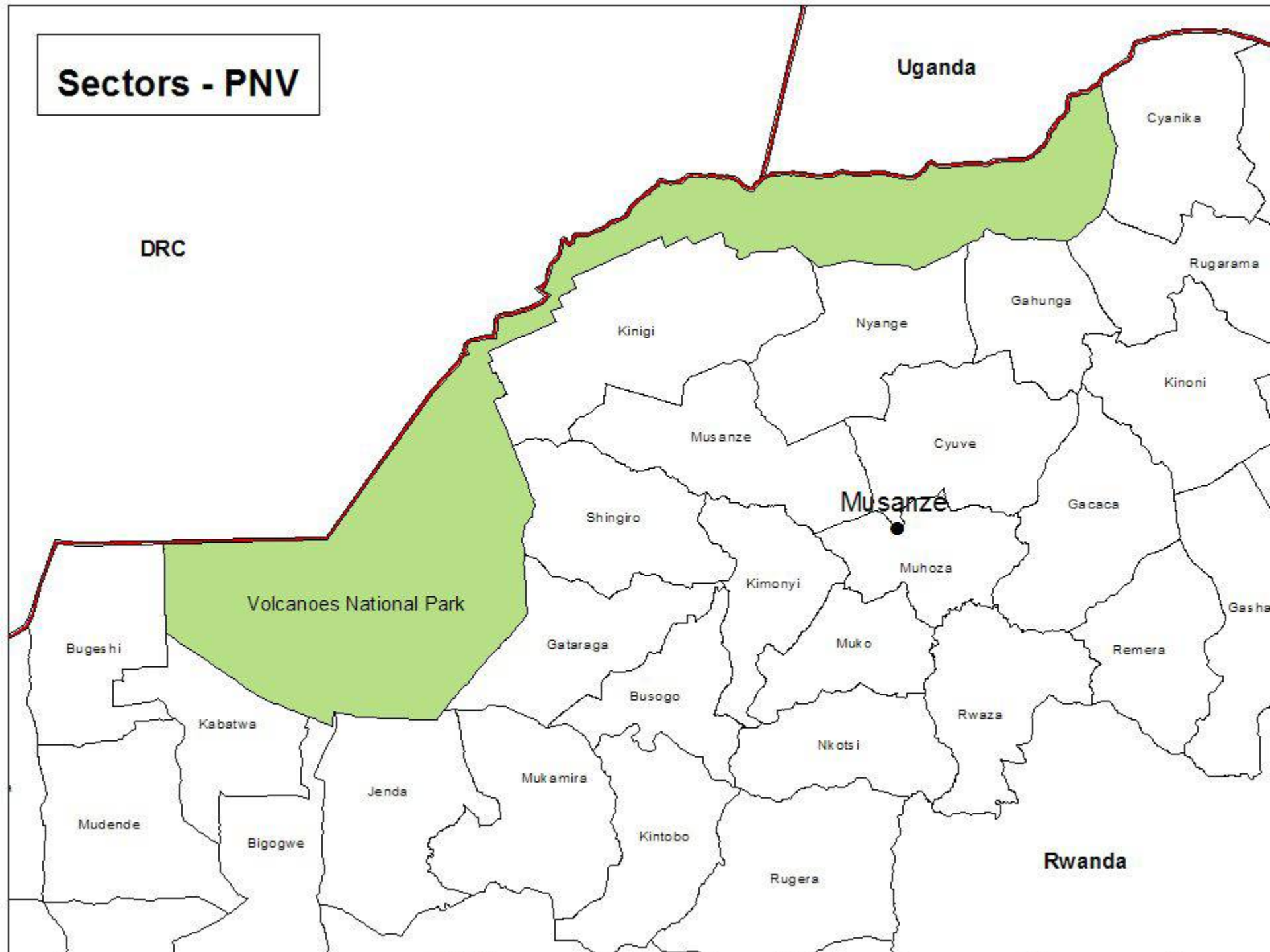
General Study objectives

To assess the impacts and potential scope of the CC interventions around the VNP

Define park adjacent communities'resources and household livelihoods in VNP impact area

Understand park adjacent household's social and economic costs benefits and attitudes towards the protected area as a baseline for monitoring future changes and impacts

Identify key entry points and to resolve park and people conflicts using development methods

Sectors - PNV

Uganda

Cyanika

DRC

Rugarama

Gahunga

Kinigi

Nyange

Kinoni

Musanze

Cyuve

Musanze

Gacaca

Shingiro

Muhoza

Gasha

Volcanoes National Park

Kimonyi

Bugeshi

Muko

Remera

Gataraga

Busogo

Rwaza

Kabatwa

Nkotsi

Mudende

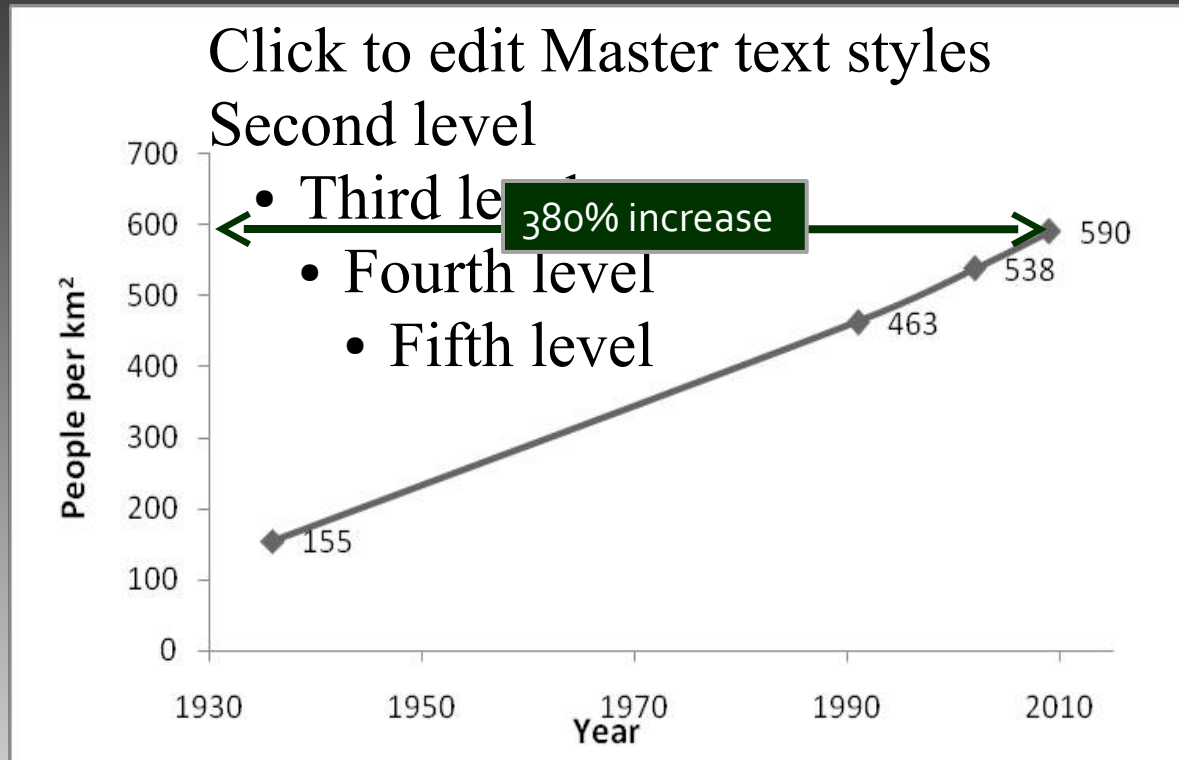Mukamira

Rwaza

Jenda

Bigogwe

Kintobo

Rwanda

Rugera

2009 Population Data 12 Park Adjacent Sectors

Sectors	Sector geographical group	Sector Land Area	Sector Population Size	Sector people per square km
Cyanika	East	33.00	27,000	818
Rugarama	East	43.00	23,058	536
Gahunga	East	22.00	22,615	1028
Nyange	Central	54.32	24,171	445
Kinigi	Central	81.04	25,450	314
Shingiro	Central	53.40	19,338	362
Gataraga	Central	50.00	20,846	417
Mukamira	West	38.00	28,576	752
Jenda	West	30.00	29,126	971
Bigogwe	West	30.60	30,575	999
Kabatwa	West	36.00	16,300	453
Bugeshi	West	27.39	27,292	996
Mean		41.56	24,529	590

Human Population Density Changes 1936 –2009

Click to edit Master text styles
Second level
- Third level
  - Fourth level
    - Fifth level

380% increase

People per km²

700
600
590
538
500
463
400
300
200
155
100
0

1930   1950   1970   1990   2010
Year

Data source: Weber (1987) Ruhengeri and its Resources; National Census Service (2002) National Census

Land based livelihoods

Increasing household size:

1984 -4.95

2002 -5.5

2009 –5.64

Decreasing farm size

1984 - 0.96 ha per household

2002 - 0.79 ha per household

2009 - 0.55 ha per household

- Household income generally restricted to arable agriculture (56.62%)
- Park adjacent households mean holdings smaller than non adjacent
- 16% have holdings less than 0.02ha; 11% completely landless

Development impacts of community conservation projects

Community conservation activity	Type	Awareness % of sample	Direct Beneficiary % of sample
Buffalo Wall	Social infrastructure	100.00	89.74
Public Water Tanks	Social infrastructure	60.79	46.32
School Infrastructure	Social infrastructure	47.11	36.84
Health center Infrastructure	Social infrastructure	13.68	11.58
Honey production	Income generation	34.47	19.47
Handicrafts production	Income generation	13.16	8.42
Agricultural improvement	Income generation	5.00	2.89
Buffer zone plantation	Social infrastructure	85.79	50.00
Conservation education	Education	42.63	30.00

· Social infrastructure projects and education creates more awareness and can impact on more people about conservation issues and helps to improve attitudes

· Income generating projects have a smaller impacts overall

Development impacts of community conservation

Community conservation activity	Type	Impacts % of Direct Beneficiaries			
		Very Beneficial	Beneficial	Little Benefit	No Benefit
Buffalo Wall	Social infrastructure	65.71	15.18	14.66	4.19
Public Water Tanks	Social infrastructure	64.4	3.24	8.74	23.62
School Infrastructure	Social infrastructure	61.34	1.42	1.06	36.18
Health center Infrastructure	Social infrastructure	30.93	0.04	0	66.95
Honey production	Income generation	52.1	6.51	4.22	37.17
Handicrafts production	Income generation	77.16	3.87	3.02	15.95
Agricultural improvement	Income generation	81.41	0.93	1.86	15.8
Buffer zone plantation	Social infrastructure	50.56	9.04	11.02	29.38
Conservation education	Education	51.03	1.38	2.07	45.52

·Income generating projects showed a slightly higher impact of benefits than social infrastructure

·Puts money in households pockets rather than easing the general living conditions)

·Thus more likely to influence behavior towards the park

Development impacts of community conservation projects

% of direct beneficiaries ranking very beneficial		Quintile 1	Quintile 2	Quintile 3	Quintile 4 Upper middle	Quintile 5	
Community conservation activity	Total % of sample	Lowest 20%	Lower Middle 20%	Middle 20%	middle 20%	Highest 20%	ChiSqP value
Buffalo Wall	89.64	14.3	18.66	17.54	19.16	19.98	ns
Public Water Tanks	46.32	3.5	8.55	9.81	13.3	11.17	<0.001
School Infrastructure	36.74	4.68	6.77	5.97	8.16	11.15	<0.01
Health center Infrastructure	11.87	0.58	1.64	2.22	3.57	3.86	<0.05
Honey production	19.47	1.32	1.88	5.64	6.11	4.51	<0.001
Handicrafts production	13.16	2.46	2.46	1.59	3.76	2.89	ns
Agricultural improvement	5	0	1.55	1.03	2.41	0	<0.05
Buffer zone plantation	85.64	15.64	20.75	12.85	15.64	20.75	<0.05
Conservation education	42.76	4.26	6.93	9.59	10.79	11.19	ns

· Most often the poorest households benefitted least

• Notable exceptions, Buffalo wall, handicrafts, conservation education

• Poor often furthest from community centers, less likely to send children to school or able to afford healthcare, lack the skills or resources to participate in technical improvement projects, But they are the most likely to illegally use the park