

UNIVERSITY OF MINNESOTA



## The Whole Village Project

### Summary of Engusero, Makame, Matui, Ndedo, and Ngipa in Kiteto District

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## INTRODUCTION

The purpose of this report is to present district officials and local leaders with multi-sectoral data across several villages in this district. We hope these data may be useful in seeing the strengths and weaknesses of different sectors and the variation across villages. These data may be useful in prioritizing future development projects. The villages represented here were selected by our donors for their project purposes and therefore they cannot be seen as representatives of the district. The data however, illustrate the diversity of economic and social development activities occurring across villages in the district.

The Whole Village Project (WVP) is collecting and analyzing comprehensive data at the village level over an extended period of time. A collaborative project between Savannas Forever Tanzania (SFTZ), a Tanzanian NGO, and the University of Minnesota, USA, the Whole Village Project has a **vision** to work with people in rural Tanzanian villages to acquire and use knowledge for improving long-term health and well-being while sustaining natural resources. To achieve this goal, quantitative and qualitative data are systematically collected in villages across northern Tanzania by the Savannas Forever team in partnership with staff from the National Institutes of Medical Research (NIMR) and the Tanzanian Wildlife Research Institute (TAWIRI). The data are sent to the University of Minnesota for analysis and then returned to Tanzania. The SFTZ team returns to each village to present the data to villagers for their own use and decision-making. WVP intends to return to each village every two to three years in order to assess the sustainability of development projects over time and identify best practices.

In this report, we present a summary of data collected within a single district. Household surveys, interviews and focus groups were conducted in Engusero, Makame, Matui, Ndedo, and Ngipa villages, Kiteto District during the month of April 2010.

## METHODOLOGY

The Whole Village Project's survey tools and methodology has been reviewed and approved by multiple Tanzanian research authorities (COSTECH, NIMR and TAWIRI) and the University of Minnesota institutional review board for the ethical conduct of human subjects research. Further, permissions are sought by the respective regional, district and village leadership before beginning data collection.

Village selection is based on the funding agency priorities and permission of government leaders. After permissions are received the Savannas Forever Tanzania (SFTZ) staff arrange dates for data collection with district officials and village leaders. A Tanzanian survey team of 6-7 personnel work in each village for 5-6 days. The team begins with a sensitization session with leaders and community members to introduce the project and staff. Village leaders provide a roster list of heads of households and the research team uses a computer generated randomization program to select 60-75 households from this list. A standardized quantitative survey is conducted in each selected household.

Data collection tools include both quantitative and qualitative instruments. All interviews and focus groups are conducted in Kiswahili whenever possible. If respondents are not fluent in Kiswahili, a bi-lingual villager is identified by the leadership to translate from the local language to Kiswahili. The core household survey asks questions about livelihood, earnings, educational status of all household members, assets, health and natural resource use. From the household members, two brief individual level surveys are conducted: (1) a HIV/AIDS knowledge, attitude and practice (KAP) survey and (2) an anthropometric assessment of children under-five and nutrition questions. For the KAP survey, up to 4 adults (15 years or older) within the household are asked to complete the survey. All interviews are conducted in a private space where no one else may listen. All children in the household under-five are weighed and measured and the primary caretaker is asked to answer the accompanying survey.

In order to obtain more contextual data about each village, a number of focus group and key informant interview tools are used. Focus groups are conducted with men and women, village leaders, and a special group of agriculturalists and livestock holders. Village leaders invite villagers to participate and try to obtain diversity of representation by sub-village, age and gender. The research team also conducts an institutional assessment of village organizations with a mixed group of 10-15 villagers to identify the different NGOs, religious organizations, and government services working in the village and their respective strengths, weaknesses and contributions to the community. In addition, key informant interviews are conducted with school headmasters and clinic officers. A detailed list of survey instruments and focus group guides can be found in Appendix A.

## **KEY FINDINGS**

The research captured a broad range of information from five villages in Kiteto District: Engusero, Makame, Matui, Ndedo, and Ngipa. Overarching district strengths, gaps, and opportunities were pulled from the abundance of data collected and analyzed and are presented below. Detailed results and discussion are presented in Section 4.

### **District Strengths**

There are a number of common strengths observed between the five villages surveyed in Kiteto District. In particular, there is relatively high mosquito net ownership and high rates of child vaccinations for BCG, DPT and polio.

In Ndedo, 100% of households own at least one net and the lowest percentage is 75% in Ngipa. Despite this strength, an average of only 43% of nets in the five villages had recently had their nets dipped in insecticide treatment. Given the high rates of malaria in the area increasing bed net coverage to 100% and regular dipping of nets should be encouraged.

Infant and young child vaccination rates for BCG, DPT and polio were averaged at over 95% in the five villages. However, vaccination rates for measles drop to between 71% in Ngipa and 81% in Matui; given the virulence of this disease, clinic officers and health committee members should identify strategies to meet the gaps in measles vaccination. Although an average of 69% of infants and children took Vitamin A supplements, again the community should strive for 100% coverage given the low Vitamin A intake in local diets and the significant impact that Vitamin A deficiency has on child development.

Of the villages surveyed, 100% of households in Makame were reported with latrines. The numbers for the four other villages surveyed will be represented in the following section: District Gaps. Access to latrines and appropriate waste disposal reduce opportunities for communicable disease transmission and water borne diseases.

### **District Gaps**

The level of one's education is often a predictor of other quality of life factors such economic productivity, food security, and overall health. In both villages, the quality of schools is a concern and the significantly lower percent of girls attending secondary school. Girls' education often is a

predictor of family health in future; further Tanzania has set increasing girls participation rate in secondary school as a Millennium Development Goal. Other quality factors include a low teacher to student ratio, poor student exam results, and the limited food available at school. Only Makame and Ndedo, at a cost, provide school meals. Children are the future. However, if they are not able to access quality education their chances for improved quality of life as adults are greatly reduced.

Access to quality health services is also limited in the district. Most respondents in this district felt the treatment at local dispensaries was not helpful. According to men's and women's focus group discussions, malaria is the number one problem followed by sexual health. In addition, maternal and child health services are limited.

Any level of acute malnourishment among children under five must be considered a gap. In the villages surveyed in Kiteto District, acute malnourishment is a grave problem in Makame where 11% of children under-five were identified as malnourished, followed by 7% in Matui. In Engusero, fewer children under-5 (48%) were identified as malnourished while the percentage was higher in Ndedo (51%). In both villages, the main source of food for children under-five is ugali, which itself cannot meet a child's nutrition needs. There was also a significant lack of green vegetables and fruit in the diet of children and the limited intake of the nutrients these foods offer affect child development.

Farming, as the main source of income in Engusero, Matui, and Ngipa, is vulnerable to the problem of soil erosion. Households are concerned at the danger of soil erosion to be a serious problem, which is harmful to the sustainability and reliability of farming. Further, there is little to no irrigation of plots and very limited use of fertilizers. Only Engusero and Ngipa indicated that they had received visits from agricultural extension officers in the past year.

Newcastle Disease is the number one cause of chicken mortality in Tanzania. Vaccination rates against Newcastle Disease are low in Kiteto District. Only 2% of households in Makame owning chickens vaccinate those chickens against Newcastle Disease. The highest vaccination rate (14% in Ngipa) is still low given the severe consequences of infection with Newcastle Disease. Household surveys revealed that 25% to 46% of chickens had been lost to disease in the past year in these villages.

## Opportunities

Girls' participation in secondary school is quite low. The education committees in all of the villages have an opportunity to work with district leaders to identify opportunities for identifying solutions to this and improving the quality of schools in the district overall. As education creates a foundation for overall family health and economic opportunities, prioritizing education is critical for the future development of this district.

Farmers in three villages reported that did not receive a visit by an agricultural extension worker in the past year. These agricultural extension workers typically train a small group of local farmers in agricultural best practices and established model farms (growing maize, sunflowers, etc.) as demonstration plots. The trained farmers are expected to transfer knowledge and skills learned to their own farms. Given that the most common complaints of farmers was lack of knowledge of improved farming techniques and other measures, there appears to be an opportunity to further spread agricultural knowledge from model farmers to others and improve the productivity of farming. The district should monitor the impact of the work done by agricultural extension workers.

Increasing livestock vaccination rates will reduce the rate of cattle and goats lost to disease, which is still relatively high. In addition, although many households have heard of Newcastle disease, only a small proportion of chickens are vaccinated. Therefore, villages have an opportunity to reallocate resources to increase livestock vaccination rates, which is effective in reducing livestock lost to diseases.

Households with kitchen gardens tend to have less serious food insecurity problems. Specifically, villages with higher coverage of kitchen gardens tend to have a lower percentage of households that went to bed hungry, ate limited variety of food, and fewer underweight children. However, kitchen garden training remains very limited in the villages surveyed in Kiteto district. Village leaders have the opportunity to convey knowledge about kitchen gardens as a means to alleviate food insecurity.

District leadership also has an opportunity to further protect the children in the district from vaccine-preventable disease. A high percentage of children under-five in Kiteto District are vaccinated against tuberculosis (BCG), DPT, polio, and measles, as recommended by the World Health Organization (WHO). However, vaccination coverage is not universal. Given the already

high level of vaccination, the district has an opportunity to reach universal coverage against vaccine-preventable disease given the proper allocation of resources.

		Kiteto District				
		Engusero	Makame	Matui	Ndedo	Ngipa
<b>THE HOUSEHOLD AND HOUSING</b>						
	Number of households surveyed	60	60	61	59	60
	Average household size	5.7	6	5.5	5.6	5.4
	% households in polygamous marriage (more than 1 wife)	20	41.7	16.4	62.7	26.7
	% of households headed by women	11.7	29.8	10	44.6	14
	% of households with corrugated roof	95	18.3	88.5	18.6	71.7
	% of households using a toilet	85	0	91.8	32.2	81.5
	Avg time (minutes) required to collect water	44.3	196.5	45.5	100.4	47.5
	% households use firewood as primary energy source for cooking	83.3	98.3	96.7	98.3	100
<b>EDUCATION</b>						
	% of all adults without education	27.9	67.3	26.8	65.7	23.8
	% of household heads completed primary school	61.7	17.5	50	16.1	47.4
	% of adult men completed primary school	66	20	53.7	19.4	46.9
	% of adult women completed primary school	28.6	11.8	16.7	12	59
	Number of primary schools	3	1	3	1	1
	Number of secondary schools	0	0	1	1	0
	Average primary school textbook to student ratio	1:13	1:7	1:5	1:4	2:3
	Average secondary school teacher to student ratio	Not applicable	Not applicable	1:47	1:207	Not applicable
	Average # of years teachers stay at primary school	9	5	6	9	9
	Average # of years teachers stay at secondary school	Not applicable	Not applicable	6	2	Not applicable
	Ratio of female to male gross enrollment rates (primary school)	295:331	135:312	220:197	217:424	31:36
	Ratio of female to male gross enrollment rates (secondary school)	Not applicable	Not applicable	99:81	120:294	Not applicable
<b>HEALTH</b>						
	% of households with at least one mosquito net	76.7	83.3	93.4	100	74.6
	% of households with access to protected drinking water	10	1.7	0	18.6	40
	% of households that take measures to make the water safe	76.7	21.7	47.5	32.2	38.3
<b>CHILDREN UNDER 5</b>						
	Average age in months at introduction of complementary feeding	5.5	8	6.6	8.6	7.2

% of children whose birth mother is still alive and inside the HH	100	90.5	94.4	96.1	95.9
% of children moderately to severely underweight	0	11.1	7	2	2
% of children who are vaccinated for BCG	100	98.4	98.6	100	91.8
% of children who are vaccinated for polio	98.4	96.8	98.6	92.2	93.9
% of children who are vaccinated for DPT	98.4	98.4	95.8	96.1	89.8
% of children who are vaccinated for measles	75.8	76.2	80.6	72.6	71.4
% of children received Vitamin A supplement	72.6	69.8	79.2	68.6	55.1
<b>AIDS KNOWLEDGE</b>					
% of men with high AIDS knowledge score (5-6 points)	87.5	50	81.8	100	81.3
% of women with high AIDS knowledge score (5-6 points)	76	37.5	62.5	75	81.3
% of women who know that a person can protect themselves from HIV	91.8	100	100	89.2	89.7
% of men who know that a person can protect themselves from HIV	93	100	100	100	93.3
% of men who have talked with their wife/primary partner about ways to prevent AIDS	84.2	71	86.2	90	75.9
% of women who have talked with their husband/primary partner about ways to prevent HIV/ AIDS	61.1	33.3	54.6	49	50
<b>FOOD SECURITY AND NUTRITION</b>					
% of households worried about food in the past 4 weeks	63.3	95	71.7	82.1	68.3
% of households ate limited variety of food in the past 4 weeks	81.7	93.3	86.7	85.7	85
% of HHs went one day and night with no food in the past 4 weeks	10	80	13.3	46.4	11.7
% of households that are currently growing kitchen garden	11.7	0	25	1.8	8.3
Avg # of days/times HHs ate meat protein in past week	1.8	1.25	1.4	1.3	1.9
Avg # of days/times HHs ate legumes in past week	1.5	0.3	1.2	0.9	1.9
Avg # of days/times in last week HH ate foods with Vitamin A	2.7	0.1	1.8	0.8	2.1
# of different types of food eaten in last week	6.1	2.6	5.5	3.3	6.1
Food Insecurity Index (1 is low and 9 is high insecurity)	3.6	7.8	4.5	6.1	4.1
<b>ECONOMIC ACTIVITY, AGRICULTURE AND INCOME</b>					
% households own any agricultural land	75	88.3	60.7	74.6	81.7
Average acres cultivated per household	11.6	5.3	8.1	3.9	9.4
Average # of cattle owned per household	2	11.3	5	13.7	1.6
Average # of goats/sheep owned per household	3.2	16.4	4.3	15	5.1
Average # of chickens owned per household	4.7	0.9	3.3	1.5	4.9
% of HHs whose chicken are vaccinated for Newcastle disease	10	1.7	8.2	5.1	20.7
% of cattle lost to disease in the past 12 months	13.2%	18.4%	4.3%	16.1%	15.7%

	% of cattle lost to drought in the past 12 months	1.1%	25.5%	9.8%	24.3%	1.8%
	% of cattle lost to wildlife in the past 12 months	0.0%	5.2%	0.2%	4.3%	0.0%
	% of chickens lost to disease in the past 12 months	46.1%	30.8%	41.9%	25.3%	34.9%
	% of chickens lost to drought in the past 12 months	0.0%	1.5%	0.0%	0.0%	0.0%
	% of chickens lost to wildlife in the past 12 months	9.3%	35.6%	5.2%	3.7%	5.1%
	% of goats/sheep lost to disease in the past 12 months	28.0%	25.9%	17.2%	29.4%	21.3%
	% of goats/sheep lost to drought in the past 12 months	0.0%	12.1%	4.3%	12.5%	1.0%
	% of goats/sheep lost to wildlife in the past 12 months	0.0%	9.4%	0.7%	3.8%	6.8%
	% of household heads with the main occupation of farming	86.7	21.1	93.2	14.3	79
	% of HH heads with the main occupation of livestock keeping	0	70.2	5.1	71.4	14
	% of HHs that irrigate the plots in village (from focus group data)	0	0	0	0	0
	% households with bicycle	68.3	31.7	75.4	18.6	38.3
	% households with radio	71.7	10	59	22	46.7
	% households with cell phone	43.3	13.3	26.2	13.6	21.7
<b>KEY INSTITUTIONS</b>						
	% of HHs that participated in village assembly in past 12 mo	24.5	20	13.1	8.5	16.7
	% of HHs in village government or committee in past 12 mo	22.6	8.3	24.6	15.3	21.7
	% of HHs that asked village leaders for assistance in past 12 mo	83	58.3	63.9	30.5	71.7
<b>DEMOGRAPHICS</b>						
	Religion (% Christian; % Muslim; % Traditional)	43.4;56.61; 0	0;95;5	44.3;54.1;1 .6	3.4;88.1;6. 8	21.7;70;8.3
	Dependency Ratio (# of child (0-14 years) and aged (65+) population per 100 intermediate age (15-64 years)	1.2	1.7	1.3	1.6	1.2
	Child-Woman Ratio (# of children aged 0-4 years per 1,000 women in the age group 15-44 years)	1	1.5	1.3	1.4	0.8
	Sex Ratio (# of males per 100 females)	0.9	1.2	1	1.3	1