

UNIVERSITY OF MINNESOTA



## The Whole Village Project

### Summary of Oldonyowasi, Mzimuni and Lengijave in Arusha Rural 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 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 Mwang'halanga and Runele villages, Kwimba District during the month of September 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 three villages in Arusha Rural District: Oldonyowasi, Mzimuni and Lengijave. 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**

The three surveyed villages of Arusha Rural District have high outcomes with respect to some environmental health indicators and under five health and nutrition. In terms of environmental health, Oldonyowasi, Mzimuni and Lengijave have high access to quality water, widespread toilet ownership and high levels of mosquito net ownership. Over 85% of respondents from all villages report getting water from a protected water source (mostly from a public tap). Conversely, very few must rely on unprotected sources such as surface water. Relative to other WVP villages, the percentage of households with protected water access is a tremendous advantage in terms of general public health.

Nearly 80% of all households in the surveyed villages own mosquito nets, though the numbers that have been re-treated with insecticide varies. Although a little over one in five respondents does not have mosquito net coverage, consistent levels of ownership implies that there is reasonable access to mosquito nets regardless of village differences. Additionally, over 95% of households in Oldonyowasi and Mzimuni have a latrine compared to just 51% in Lengijave.

The health status of young children under five years is generally good among the surveyed villages. There is already near universal vaccination against polio, DPT and BCG. Moreover, aside from fever or cough, relatively few children have been afflicted by diseases in the past three months. Low disease or symptom outcomes for children may also be attributed to their fairly good nutritional intake. While most children are primarily given ugali, milk, and green vegetables, consumption of fruits is on average much higher in Arusha Rural District than other participating district villages. The strong nutrition habits of children are further evidenced by the low number of cases of underweight children (either moderately or severely).

The district also has a fairly large number of kitchen gardens to supplement household food supplies or incomes. This is especially true for Oldonyowasi in which 45% of households have a kitchen garden (most often for selling at nearby markets). Lengijave and Mzimuni households have far fewer households with kitchen gardens (approximately 10%) but this should be kept in the context that few participating villages are shown to have higher kitchen garden ownership.

## **District Gaps**

Tremendous gaps exist in the district and the analysis reveals that there are a number of high concern areas. Most of the district gaps center on the relative position of Lengijave with respect to Oldonyowasi and Mzimuni on matters of HIV/AIDS knowledge and village education levels. Overall, there appears to be a significant loss of livestock to disease and drought as well as a general lack of health care access within the villages.

Lengijave HIV/AIDS knowledge and prevention scores are substantially lower than the other two villages. Not only are the scores lower, but nearly 70% of participants' tests revealed that they had no prevention knowledge. The scores were lower for women than for men but both groups are shown to be inadequately informed of safety measures. Given the potential ramifications for low knowledge, this is of considerable concern for residents of Lengijave (the scores in Oldonyowasi and Mzimuni were actually high relative to other district villages). Lengijave also contrasted with the other villages in terms of the education levels of adults. Over 70% of adults in Oldonyowasi and Mzimuni completed primary school while only 34% in Lengijave achieved the same level. Moreover, 44% of adults in Lengijave have no education. These are very low figures for any district villages.

Lastly, during the time of the surveys no village had any type of health facility present. Construction of a dispensary had already commenced in Lengijave but was not completed. All residents had to travel outside the village for medical services. Most residents in Lengijave go to Arusha town to Selian hospital which is approximately 20 kilometers from the village.

## **Opportunities**

The district villages have strong foundations in multiple sectors which would lend themselves toward the enhancement of health and livelihoods. The district boasts early universal access to protected water, high vaccination rates of under five children, and widespread mosquito net coverage. The already high levels can act as an impetus to reaching all households with the above

tools and services, benefiting public health as a whole. However, improving access to medical facilities, of which none is present in any village, is another important step. As in the case with Lengijave, the villages may find avenues for supporting the construction of medical facilities from outside organizations and NGOs.

Improved education can produce tremendous results for the livelihoods and socioeconomic status of households among the villages. For example, the two villages with the highest educational attainment levels among adults also have higher wealth measured in the wealth index. Oldonyowasi and Mzimuni have among the highest averages of adults with at least a primary education compared to all villages in the WVP data set. Lengijave adults lag substantially in this regard and moreover, nearly one in three children between the ages of 5 and 15 are not enrolled in school. Such figures suggest that lower levels of education (and subsequently lower levels of wealth and productivity) may be perpetuating. Closing the education gap in Lengijave relative to the other villages could produce tremendous long term gains for households with short term investments in enrollment.

Increasing the number and types of livestock are highly demanded activities in the three villages. Given the number of NGOs that provide livestock village proximity to water streams and channels, livestock keeping could flourish. However, the data shows that there is a fairly low level of vaccination for livestock, generally due to inhibitive cost. Organizations that provide livestock to households may be called upon to provide vaccinations against prevalent diseases. Reducing losses could be as effective as adding to the herd, which is an important source of money, food and fertilizer.

## APPENDIX B – TABLE OF SELECTED INDICATORS BY VILLAGE

		Oldonyowasi	Mzimuni	Lengijave
<b>THE HOUSEHOLD AND HOUSING</b>				
	Number of households surveyed	60	67	75
	Average household size	4.68	5.43	5.77
	% households in polygamous marriage (more than 1 wife)	10.00%	10.45%	42.67%
	% of households headed by women	36.67%	23.08%	43.48%
	% of households with corrugated roof	81.67%	97.01%	49.33%
	% of households using a toilet	95%	98.5%	52%
	Avg time (minutes) required to collect water	33.21	61.18	92.72
	% households use firewood as primary energy source for cooking	96.67%	95.45%	96%
<b>EDUCATION</b>				
	% of all adults without education	13.58%	11.86%	43.07%
	% of household heads completed primary school	58.34%	64.62%	31.08%
	% of adult men completed primary school	71.42%	71.29%	32.29%
	% of adult women completed primary school	64.71	72.04%	34.91%
	Average primary school teacher to student ratio	1:87	N/A	1:67
	Average primary school textbook to student ratio	1:6-9	1:6	1:5
	Average secondary school teacher to student ratio	1:15	1:87	N/A
	Average # of years teachers stay at primary school	2	5	4
	Average # of years teachers stay at secondary school	4	3	N/A
	Ratio of female to male gross enrollment rates (primary school)	1:0.9	1:1.1	1:0.9
	Ratio of female to male gross enrollment rates (secondary school)	No Females	1:0.9	N/A
<b>HEALTH</b>				
	% of households with at least one mosquito net	76.67%	77.61%	73.33%
	% of households with access to protected drinking water	93.33%	92.51%	100.00%
	% of households that take measures to make the water safe	38.33%	57.58%	20.00%
	# of hospital/dispensary/clinic in the village	0	0	0
<b>CHILDREN UNDER 5</b>				
	% of infants exclusively breast fed through 6 months of age	20%	4.88%	19.05%
	Average age in months at introduction of complementary feeding	5.02	5.31	5.39
	% of children whose birth mother is still alive and inside the hh	93.75%	93.02%	89.66%
	% of children moderately to severely underweight	0%	0%	1.2%
	% of children who are vaccinated for BCG	100%	100%	94.25%
	% of children who are vaccinated for polio	100%	100%	100%
	% of children who are vaccinated for DPT	97.92%	100%	98.85%
	% of children who are vaccinated for measles	79.17%	93.02%	79.31%
	% of children received Vitamin A supplement	77.08%	88.37%	81.61%
	% children with fever in past 3 months	45.83%	48.84%	52.87%
<b>AIDS KNOWLEDGE</b>				
	% of men with high AIDS knowledge score (5-6 points)	67.9%	64.1%	37.5%
	% of women with high AIDS knowledge score (5-6 points)	43.6%	57.4%	21.0%
	% of women who know a person can protect themselves from HIV	78.2%	90.2%	59.3%
	% of men who know a person can protect themselves from HIV	82.1%	94.9%	70.1%
	Perception of risk of mother-to-child transmission of HIV	Yes (90.14%)	Yes (87.06%)	Yes (90.91%)
	% of men who have talked with their wife/primary partner about ways to prevent HIV/AIDS	40.54%	42.86%	30.56%
	% of women who have talked with their husband/primary partner about ways to prevent HIV/ AIDS	59.46%	57.14%	69.44%
<b>FOOD SECURITY AND NUTRITION</b>				
	% of households worried about food in the past 4 weeks	33 %	29%	48%
	% of households ate limited variety of food in the past 4 weeks	75%	79%	80%
	% of hhs went one day and night with no food in the past 4 weeks	3%	9%	8%
	% of households that are currently growing kitchen garden	45%	12%	11%
	Avg # of days/times hhs ate meat protein in past week	1.8	2.6	0.9
	Avg # of days/times hhs ate legumes in past week	1.8	2.7	2.6

	Avg # of days/times in last week hh ate foods with Vitamin A	6.40	2.26	1.58
	# of different types of food eaten in last week	7.47	6.96	5.89
	Food Security Index	2.88	2.92	3.79
<b>ECONOMIC ACTIVITY, AGRICULTURE AND INCOME</b>				
	% households own any agricultural land	83%	96%	100%
	Average acres cultivated per household	2.15	2.57	1.52
	Average # of cattle owned per household	2.40	4.26	2.31
	Average # of goats/sheep owned per household	6.20	8.96	5.30
	Average # of chickens owned per household	6.70	7.80	3.50
	% of hhs whose chicken are vaccinated for Newcastle disease	16.6%	74.2%	19.7%
	% of cattle lost to disease in the past 12 months	15%	18%	12%
	% of cattle lost to drought in the past 12 months	19%	2%	26%
	% of cattle lost to wildlife in the past 12 months	0%	0%	0%
	% of chickens lost to disease in the past 12 months	20%	39%	31%
	% of chickens lost to drought in the past 12 months	2%	0%	2%
	% of chickens lost to wildlife in the past 12 months	19%	5%	9%
	% of goats/sheep lost to disease in the past 12 months	8%	10%	11%
	% of goats/sheep lost to drought in the past 12 months	16%	3%	18%
	% of goats/sheep lost to wildlife in the past 12 months	0%	0%	1%
	% of household heads with the main occupation of farming	80%	90.7%	76.8%
	% of hh heads with the main occupation of livestock keeping	3.3%	0%	34.3%
	% of HHs that irrigate the plots in village (from focus group data)	60%	100%	0%
	% households with bicycle	5%	49%	8%
	% households with radio	68%	69%	53%
	% households with cell phone	63%	58%	68%
<b>KEY INSTITUTIONS</b>				
	Distance to major weekly market	3 km	4 km	N/A
	# of village committees/groups	12	7	7
	# of NGOs	5	7	7
	# of credit, banking services or VICOBA	1	1	1
<b>DEMOGRAPHICS</b>				
	Religion (% Christian; % Muslim; % Traditional)	98% Christian, 2% Other	74% Christian, 22% Muslim, 3% Traditional/ Other	58% Christian, 27% None, 5% Traditional
	Dependency Ratio (# of child (0-14 years) and aged (65+) population per 100 intermediate age (15-64 years)	87	99	124
	Child-Woman Ratio (# of children aged 0-4 years per 1,000 women in the age group 15-44 years)	0.37	0.33	0.50
	Sex Ratio (# of males per 100 females)	0.912	1.135	0.891