



AGRI PARTNERSHIPS

Bringing together business leaders, policy makers and farmers to collaboratively unlock growth in the agriculture sector and facilitate new opportunities for farming families in the Markham valley.

EDITION 8 December 2020



Survey identifies Market Access Issues and Potential Opportunities

The Household Income Baseline Survey for Markham undertaken in October identified specific market access problems which are affecting the level of income.

The survey focused on establishing a baseline of the income for agriculture crops earned by villagers in the three local level government (LLG) of the district of Morobe Province. These are Umi-Atzera, Leron-Wantoat and Onga-Waffa.

Grow PNG's vision is to Accelerate the growth of the agriculture sector in the Markham Valley by enabling 20,000 smallholder households to increase their income by 20% within eight years.

The report provides the basis to measure interventions against income level growth. The key intervention being Working Groups which is the model for operation and implementation of programs.

Based on the report estimated base income level in a month for high income earning crops across the three LLGs is K200 and above for each crop such as vegetables, banana, peanut, watermelon, coffee and cocoa. Annual estimate income for each crop is K2,400 (24%).

The report indicates opportunities for development of certain crops that have the potential for large scale commercial market which are currently underdeveloped or needs to be redeveloped such as rice and peanut.

The district has the potential for maize (corn) farming for stock-feed production. Corn is currently only grown for consumption

and to be sold at public markets. Hore Agricultural Supplies is the only small medium enterprise doing small scale commercial farming. The farm is located in Huon District along the highway leading to Markham.

Issues

The Report captured three main issues for all three LLGs.

1. Market Access and Cost
2. Household Income and Expenditure
3. Market Access Challenges

Recommendations

- Improve Transport System
- Roads Construction and Upgrade
- Markets

Improve Transport System

- The Government assist SMEs to venture into trucking and business
- The district government authority introduces freight subsidy for farmers as this would help vehicle owners reduce transportation charges which will enable farmers to have better income.
- Construct new roads or upgrade existing ones.
- Construct roads to areas not connected by roads.
- Regular road repair and maintenance should be done on all roads in the district to enable business continuation.
- Road construction and maintenance should be done by qualified and registered engineers and road construction firms.
- A wet crossing should be created for vehicles in Onga-Waffa to cross the Markham River to Mutzing.

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Market access issues and opportunities

Markets

- Build a shelter at Lae main market to cater for Markham farmers who sell their produce under hot sun and rain.
- Coffee and cocoa factories to be built in Markham for downstream processing.
- Markham peanut factory should be re-established to provide a steady market for smallholder peanut growers.
- Build new market sheds at Umi market
- Relocate Waterise market to a safe location
- Construct new market for people of Ragizaria, Banabin, Wankun, Marasana and Raginam villages
- Relevant Markham District authority to close the old Mutzing market and ensure all marketing happens at the new market.
- Identify a site along the highlands highway and build a market for people of Onga-Waffa to sell their food.
- Improve market facilities at Leron market including extension of parking area for safe vehicle manoeuvring and to enable smooth flow of traffic in and out of the market area.

Survey Objectives

The primary objective of the survey was to appreciate and understand the income level of people involved in agriculture activities in Markham valley. The study also has a concurrent objective of identifying market access problems faced by farmers in Markham. Information derived from this survey would assist Grow PNG in engaging and building partnerships with agribusinesses, farmers, government agencies and other stakeholders to grow the sector in the Markham.

Study Design, Data Collection and Analysis

The baseline survey was executed at Umi-Atzera, Onga-Waffa and Leron-Wantoat LLGs in Markham district. Information was collected from farmers in various markets and households in the three LLGs. The nature of the study was basically an open-ended investigation involving direct personal contacts between respondents and interviewers. It was carried out in selected markets and various villages. The main data collection methods were interviews, focus group discussions, ground observations, transect walks and questionnaire survey. User-friendly statistic software, SPSS was used to process and analyze the data.

The survey was conducted by the Staff and Students Association of PNG University of Technology in Lae. The survey report was received at end of November and in December it was presented to the Onga-Waffa council president and Deputy Governor of Morobe, Willie Simbisi.

Agriculture Crops

Markham valley has attracted the attention of the government to invest and convert the valley into an agriculture economic zone in Papua New Guinea.

Smallholder production and marketing of garden produces such as aibika, banana, cucumber and taro is a norm in the farming communities in Umi-Atzera, Onga-Waffa and Leron-Wantoat. Watermelon is produced in Leron-Wantoat and Onga-Waffa for consumption as it cannot be transported via extensive rugged



A female farmer from Wankung village in Markham waited for two days for a vehicle to bring her produce to sell at a market when the survey team met her.

and poor road conditions to the markets. It is however, produced in specific sites in Umi-Atzera in large quantity for markets in Lae and even Port Moresby.

Coconut and mango are grown and sold by households in Umi-Atzera. Quite large areas in Onga produce and sell coconut and mango at the markets despite market access limitations while there is limited or no coconut or mango production in Waffa because of high altitude.

The crops, however, grow and yield well in lower Leron areas while upper Leron and Wantoat have limited or no coconut and mango.

Coffee is grown in higher altitude areas in Markham district such as Waffa area in Onga-Waffa LLG, Markham headwaters and Yarus in Umi-Atzera LLG and most parts of Leron and Wantoat. Cocoa and peanut additionally are produced in both lowland and highland in the entire Markham district.

Rice was introduced and cultivated in small-scale for consumption though Markham has potential for large-scale rice production as proven by Chingwam rice in Ragiampun.

Farmers were asked if they would try planting other crops apart from the ones they currently grow. Majority (52%) said they will stay with their current crops while 48% agreed in principle to venture into farming vanilla and other garden foods such as sweet potato, cassava, spring onion, corn, pumpkin, avocado and vegetables like cabbage, lettuce, bulb (round) onion, chilly and capsicum.

Full survey report can be found on our website at www.growpng.org.

Any organisation is welcome to become a partner of Grow PNG and its Working Groups. Partners are expected to have an interest in the country and agriculture, a commitment to supporting smallholders and rural development and an openness to partner with other organisations in a pre-competitive space.

FARMING

Simple and appropriate village technology



Kisa technology is a simple manual rice milling machine developed for rice farmers in Morobe and Madang provinces.

The technology is used by rural farmers in Markham, Kabwum, Bulolo in Morobe and Rai Coast in Madang.

The wooden rice mill was introduced by the European Union Farm Mechanisation project in 2016 and implemented by the National Agricultural Research Institute (NARI).

NARI's Senior Farm Mechanisation Technician Joe Someng said Kisar is a wood-en-made technology adapted from Indonesia mainly to mill rice.

The absence of milling services prompted NARI to introduce the Kisar technology to address this challenge faced by rice farmers in rural areas.

Farmers can make their own Kisar with basic tools and resources such as the Teak tree, bush knife, axe, chisel and other basic tools. The advantage in using the Kisar is, there is no need for spare parts except the need to continue to carve grooves. Grooves are straight carved spaces between the top (male part) and bottom (female part) see diagram.

This process allows rice grains to pass through when milled. If looked after and stored well, like the common coconut scraper, it can last over 20 years at the most.

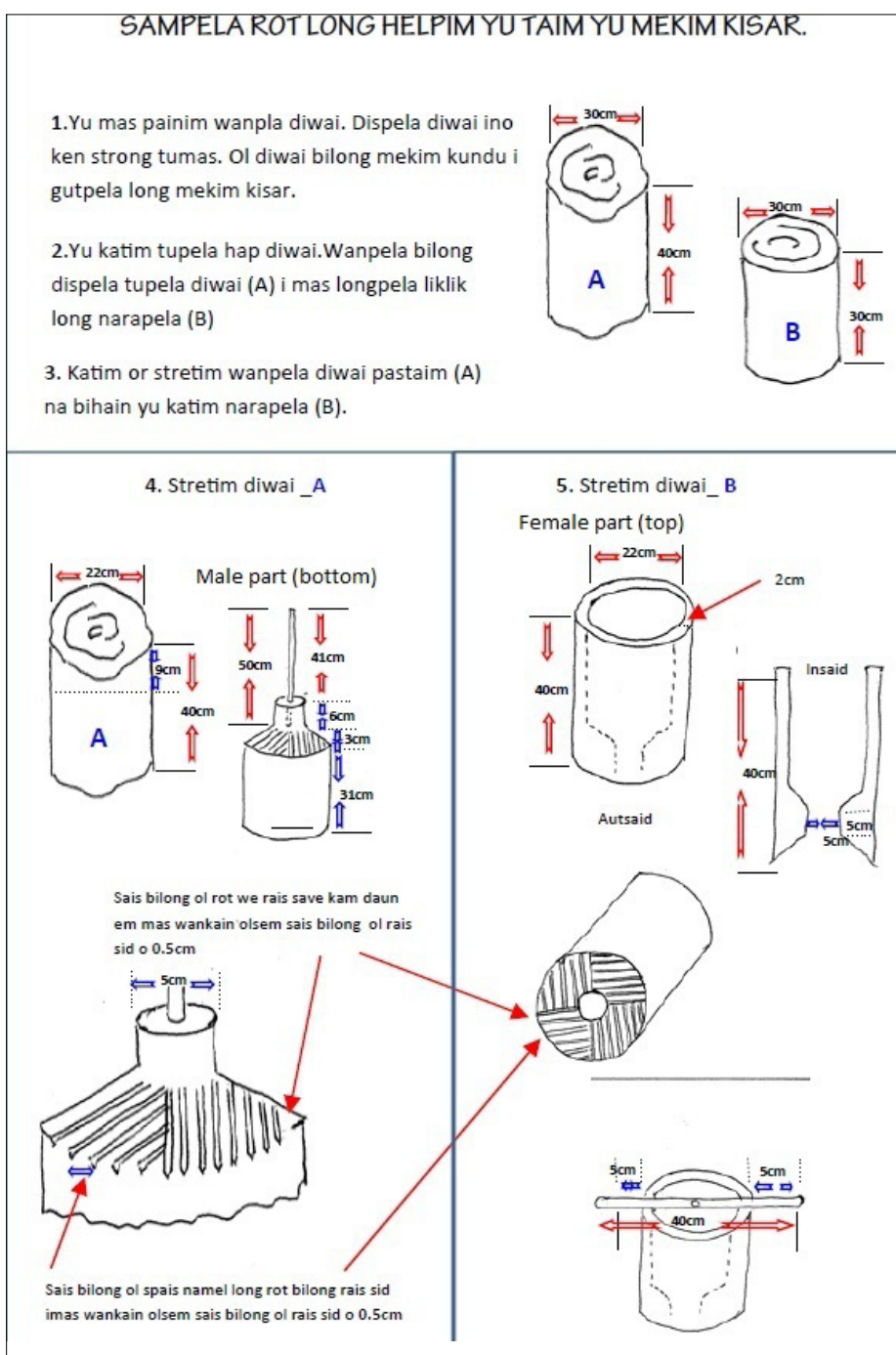
Type of wood used for coastal areas is mainly the Teak tree which is soft, easy to carve, lighter to transport and will not cause rice grains to break.

Hardwoods such as Kwila and Ton can be used to make Kisar, however the amount of pressure applied when milling rice has to be reduced to minimise rice grains breaking. Rice is milled by pouring unmilled rice grains into the top wooden part (female part-refer to diagram), by slightly applying downward pressure

and twisting the top part it in a clockwise and anti-clockwise manner. This process will remove the rice husk and push out the milled rice grain through the carved grooves.

The peanut sheller is another simple wooden technology that has gained

popularity among areas where peanut is prominently grown. The technology is helping peanut farmers reduce manual labour in removing peanut shells. The peanut sheller is a concept transferred from the Kisar rice mill and remodified for milling peanuts.



Agriculture, Health and Education

Agriculture and Health are linked in many ways; better nutrition, increase income resulting in people seeking better medical care and economy-wide effects such as government or private sector funding for education and health services.

With emphasis being placed on improving villagers' health and lifestyle, Markham farmers are using their income to construct permanent houses and seek medical services outside of the district. Growing and selling crops also help them to meet school fees.

The Household Income Baseline Survey report for Markham which is now available on Grow PNG's website indicates health and safety as important factors apart from the key issues of lack of markets and space at public main markets.

High freight charges and costs, bad road condition, limited transport and long waiting time forces farmers in several villages in Leron to transport their produce using the Leron river by inflated tyre tubes to Leron bridge. The produce are then loaded on vehicle for transportation to Lae markets. This mode of transportation is risky as unsubstantiated lives and properties have been lost.

Farming to pay for school fees is the top priority and health care is rated second for people of Onga-Waffa and Leron Wantoat and third on the list of priorities for the people of Umi Atzera.

LLG	Medical	School Fee	Permanent Homes	Others
Leron-Wantoat	27%	36%	21%	15%
Onga-Waffa	25%	39%	21%	15%
Umi-Atzera	9%	36%	12%	15%

The PNG Government's Medium Term Development Plan III (MTDP III) 2018-2022 sets the goal of 'securing PNG's future through inclusive sustainable economic growth' by focusing on key investments to further stimulate the economic growth in the medium term. The key priorities are:

1. inclusive Economic Growth with renewed focus in Agriculture,
2. continuing with Infrastructure development,
3. improvement of quality of Health Care,
4. improvement of quality of Education

and Skills Development, and
5. improvement of Law and Order.

In the foreword message of the Plan, the government says it is its core responsibility to improve the quality of life for its current generation and plan to deliver a better, safer and secure future for generations thereafter. Since independence much progress has been made in development efforts but much more needs to be done to improve the quality of life of citizens especially those who live in underserved rural and remote communities in the districts.

PNG's social and human development indicators, such as literacy rate, life expectancy at birth, and under-five mortality, have been gradually improving since the 1970s. For example, at independence, PNG's gross enrolment ratio in education was 54.4% and grew to 144% in 2016. PNG's average life expectancy at birth was 45 years in 1975 but improved to 54 years in the 2000s and 62 years in 2016. Under-five mortality improved from 147 per 1,000 live births in the 1970s to 50 in 2017. Similarly, infant mortality improved from 77 per 1,000 live births in the 1970s to 44 in 2016. This is the result of successive governments investing significantly in rural and remote areas. Province and District Service Improvement Program, Tuition Fee-Free education and Free Primary Health care program are currently addressing the development needs of our people. Investment in roads, airports,

sports infrastructure, wharves and sea ports have greatly enhanced the outlook of urban towns and cities. Focus of the Plan is to grow the economy and to increase the internal revenue by 50%, building key strategic enabling infrastructure to unlock economic potential, skill and create more jobs, more business and wealth for citizens.

This will improve the quality of our health and education services and further ensure effective service delivery to the 89 districts.



AGRI PARTNERSHIPS is a monthly newsletter produced and published by Grow PNG.

It aims to communicate and create awareness about the work of Grow PNG and its partners.

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