

## Introduction

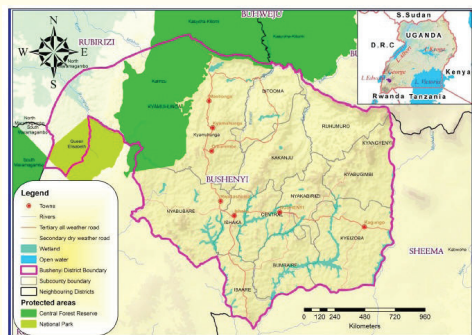


The PIBID plant at Nyaruzinga in Bushenyi District

The Presidential Initiative on Banana Industrial Development (PIBID) is a pilot project of the Government of the Republic of Uganda under the Board and Management Committee (BMC). PIBID's underlying theory of change is that rural farmers with access to science-led processing and value-addition enterprises, will be able to rapidly access profitable market chains that supply local, regional and international markets, resulting into increased household incomes, modelled around Technology Business Incubator (TBI) and an Industrial Technology Park (ITP), models that enhance success of early stages of technology transfer and diffusion, and entrepreneurs, researchers and academics through research-based banana crop value addition. PIBID is under the patronage of HE the President of the Republic of Uganda. Appendix 1 shows the TBI master plan with the locality project area and the total footprint.

To date, PIBID research aimed at the transformation of banana from a mere low-value food crop with high perishability to a crop with various industrial applications and products that has led to various products and services including: Raw Tooke flour, Instant Tooke flour, Tooke biscuits, Tooke flakes, Tooke extruded products that can be used in a crisis situation, as well as training of farmers in PIBID's Banana Value Chain Model.

## Method



A map showing the Greater Bushenyi Districts (Map 1)

The research was purposive and used a cross-sectional research design, employing both quantitative and qualitative research methods (mixed methods) as backed by McCormick and Schmitz (2001) in collecting data from the main banana value chain actors. Semi-structured questionnaires and key informant interviews were used as tools for data collection. The tools captured farmers' general information, land utilization, production and productivity and marketing and sales. The baseline household survey was conducted with a total of 1,119 respondents from all the sub-counties in five districts making up Greater Bushenyi. The soils and climate data were used in addition to a questionnaire to collect qualitative and quantitative data from the farmers

## Results:

This section highlighted and summarized the outputs of this study in reference to one of the objectives set before the research. Demographic and socio-economic characteristics of banana production chain key actors giving brief description of the socio-economic characteristics of the selected banana growers, casual workers, technicians, managers and policy-makers among banana production chain actors was represented in the study.

Decision-making behaviour of individual is determined to a large extent by his/her socioeconomic characteristics. Socio-economic environment also largely determines the nature and extent of participation of people in national development programmes. The socio-economic variables of the key actors in the banana production chain are given below.

From the farmer's questionnaire, the findings were generated from a few sub-counties of the Greater Bushenyi districts. Only one sub-county (Karungu sub-county) was visited in Buhweju District and only four parishes within the sub-county. In Mitooma District, Bitereko and Mutara sub-counties were visited with Kigarama, Busheregnyeni, Nyakashojwa, Bugongo, Mutara, Biking, Buongiorno, Kyeibare and Futurama parishes. One sub-county in Rubirizi District was visited and eight parishes. In Bushenyi District six sub-counties, two divisions, 10 parishes and three wards were visited. In Sheema District three town councils, 95 two wards, four divisions, 10 sub-county parishes, two wards were visited. Hence covering less than 1% of district households, according to the 2014 census (Tables 1 & 2).

**Table1: Showing percentage coverage at district level**

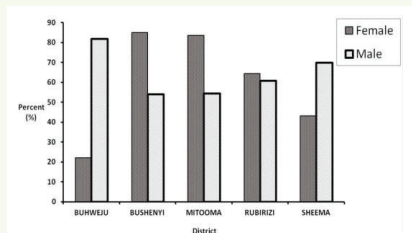
% Coverage at District Level			
District	Households	No. Households visited	% Household Coverage
Bushenyi	51363	235	0.46
Buhweju	24816	105	0.20
Mitooma	39817	156	0.30
Rubirizi	28798	143	0.28
Sheema	46203	471	0.92

**Table2: Showing percentage coverage at sub-county level**

District	Sub-county	Household Total	No. of households Visited	% visited	HH
BUSHENYI/11	Nyakabirizi Division	2029	3	0.15	
	Bumbare	3007	136	4.52	
	Ibaare	2694	23	0.85	
	Kakanju	4895	2	0.04	
	Kyabugimbi	4085	1	0.02	
	Kyeizooaba	5896	57	0.97	
BUHWEJU/8	Karungu	3209	105	3.27	
	Bitereko	5917	68	1.15	
MITOOMA/12	Mutara	5011	88	1.76	
RUBIRIZI/11	Rutoto	2971	142	4.78	
SHEEMA/13	Kyangyenyi	6708	72	1.07	
	Masheruka	3962	84	2.12	
	Rugarama	6524	16	0.25	
	Sheema Town Council	3654	1	0.03	
	Kigarama	4887	83	1.70	

## Nationality, demography and gender

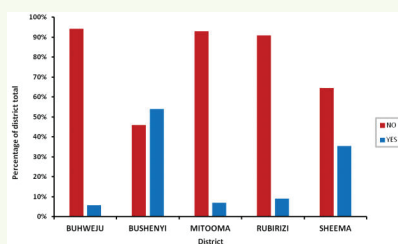
Demographic and socio-economic characteristics of banana production chain key actors give description of the socio-economic characteristics of the selected banana growers, casual workers, technicians, managers and policy-makers among banana production chain actors was represented in the study (Graph1).



Graph1: Distribution of male and female banana farmers in Greater Bushenyi districts

## Level of Agricultural Training received

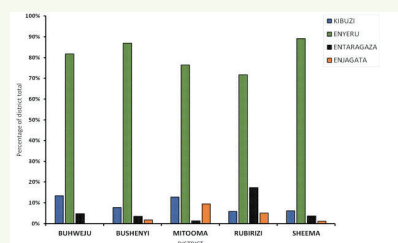
Targeted training was done to educate farmers on how to manage and maintain their banana plantation with a future focus to improve the productivity and incomes. The training was intended to improve banana productivity in the changing climatic conditions, by adopting improved farming practices (Graph 2).



Graph 2: Statistical agricultural training conducted by PIBID Production team

## Type of cultivars planted

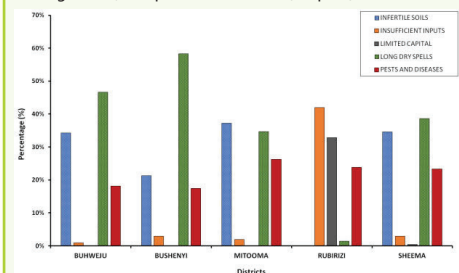
The types of cultivars planted were so competitive, especially the *Enyeru* type. *Enyeru* is the highly plated cultivar in all districts. In Sheema *Enyeru* scores approximately 89%, Buhweju scores 81.73%, Bushenyi scores 87.01%, Mitooma scores 76.35% and Rubirizi 71.74%. *Entalagaza* dominates more in Rubirizi District after *Enyeru* at 17%. In Bushenyi, Mitooma, Sheema and Buhweju districts *Entalagaza* is less than 5%. In Buhweju District, Kibuzi scores 13%, Mitooma 12%, and less than 10% in Bushenyi, Sheema and Rubirizi districts. Other cultivars scored less than 10% in all districts like *Embawazirume*, *Bukumu*, *Entalagaza* (Graph3)



Graph 3: Showing mostly grown types of cultivars at district level within the Greater Bushenyi

## General challenges

The banana farmers emphasised the following challenges: long dry spells, pests, and disease, insufficient inputs, limited capital, among others, and price fluctuations (Graph 4).



Graph 4. Percentage of main challenges that banana farmers are experiencing

## Discussion:

The role of knowledge mapping and management is important in the banana value chain in Uganda. This explains the distinctive of farmers from one another from the farm to processing.

There is clear observation that the use of KM principles and tools can enhance organisational performance in upstart subsistence agriculture and agro-processing in rural Uganda.

The findings from this study have given indications that KM practices and tools are likely to enhance organisational performance and fulfil the organisation mandate such as the one that was piloted at BIRDEC.

## Conclusions

Mapping knowledge management in the banana agro processing industry is new, but important in Uganda, especially to improve banana productivity at farm level and along the upstream value chain processes.

From the study, the knowledge levels are varied given the history of the PIBID Project

The founding person who is the principal investigator (PI) had both the tacit and coded explicit knowledge. The tacit knowledge that she has is still available for retrieval and needs to be mapped appropriately. With training and keen observations/imitation of activities carried out at demonstration banana farms, the production of banana per unit area has been improving and will continue to improve.

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