

- Strengthening linkages between the input and output markets by encouraging genuine collaborations and vibrant farmer associations
- Providing extension services in the management of crop pest and diseases.

### Policy implications

#### Farmer level: Outputs

- ✓ Use clean planting materials
- ✓ Better pest and disease management
- ✓ Appropriate agronomic and market information

#### Community level: Outcomes

- ✓ Improved livelihoods
- ✓ Creates employment
- ✓ Improved productivity and quality fruits
- ✓ Sustainable incomes

#### County, National or international level: Impacts

- ✓ Increased markets both local and exports
- ✓ Improved economic supremacy
- ✓ Increased incomes
- ✓ Improved household food and nutritional security

### Acknowledgements

Policy brief preparation was supported by University of Eldoret through the annual research grants. I wish to thank Dr. Felix Rotich and Mr. Bonface Alkamoi for the valuable inputs and support in this research.

### References

1. Horticultural Crop Development Authority (HCDA). (2011). *Horticulture Validated Report 2010*. Nairobi.
2. Horticultural Crops Directorate. (2018). *Passion fruit production*. Report
3. United Nations Industrial Development Organization The MARKUP Project. (2018). *Passion Fruit Value Chain*. Nairobi - KENYA.

Contacts:  
Dr. Emmy Chepkoech  
School of Agriculture Biotechnology Studies  
Department of Biotechnology  
Email: [emychepkoech@uoeld.ac.ke](mailto:emychepkoech@uoeld.ac.ke)

Published by:  
Directorate of Research and Innovation  
University of Eldoret  
P.O Box 1125-30100  
Eldoret  
Website: [www.uoeld.ac.ke](http://www.uoeld.ac.ke)  
Email: [ridirector@uoeld.ac.ke](mailto:ridirector@uoeld.ac.ke)

## POLICY BRIEF

March 2021

### Declining passion fruit production: Ailing of the passion of fruit farmers in Uasin Gishu County



#### Key messages:

- Purple passion fruit is the most important fruit crop in Kenya earning a total of about 8% of foreign exchange among the horticultural produce for both local and export markets.
- In Kenya, the area under passion fruit production increased from 2,157 Ha to 2,296 Ha in the year 2017-2018.
- In Uasin-Gishu County, purple passion fruit between 2003 to 2012 had emerged as an important cash crop for the small-holder farmers
- Constraints limiting production include; pest and diseases, lack of quality seed source and high variability of plants within the farms, lack of adapted variety, lack of irrigation capacity during the dry periods and marketing challenges
- The challenges affect farmers and processors weakening economic ability and sustainable development.

Passion fruit (*Passiflora edulis* Sims) is the third most important fruit crop in Kenya earning a total of about 8% of foreign exchange among the horticultural produce in 2010 (Horticultural Crop Development Authority (HCDA), 2011). Locally passion fruit consumption has also gained importance due to the perceived health and nutritional benefits. In Kenya, the year 2017-2018 the production and value of the crop plunged by 12,499 tons and KShs 109 million mostly due to diseases such as

woodiness virus (fig. 1), fusarium wilt and dieback disease (HCD, 2018; United Nations Industrial Development Organization (UNDPO), 2018).

In Uasin Gishu County, Kenya, purple passion fruit is commonly grown and is an important cash crop especially for the small scale resource poor farmers. However, production started to decline causing devastation and abandonment of the crop by many farmers due to constraints which affects fruits production causing massive losses to farmers and processors. The constraints especially diseases reduce the passion fruit vine trees lifespan from 5 to 7 years to 2 years or less thereby increasing the cost of production and weakens the economic abilities of farmers.

#### Methodology

A field survey was carried out in February 2017 to January 2018 using a structured questionnaire.



Fig. 1: Fruits affected by passion fruit woodiness disease

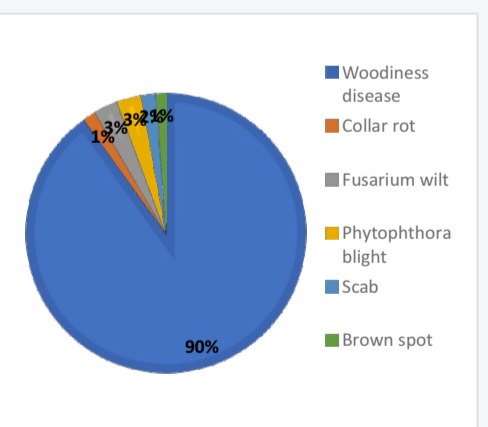
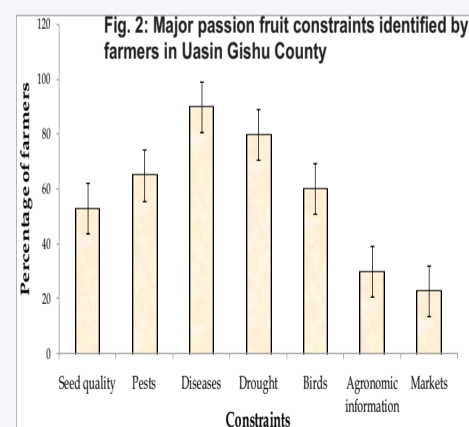
Two hundred and forty households were interviewed and 6 focused group discussions in Uasin Gishu County. The households were sampled based on owning passion fruit orchards. Descriptive statistics were used to analyze the data.

### Challenges in passion fruit production

The major challenges in passion fruit production include:

- ✓ High diseases incidence such as passion fruit woodiness (locally referred as Kaangumu) (reported by 90% of the respondents), Fusarium wilt, bacterial canker, Septoria leaf spot, *Phytophthora* blight, stem-dieback, brown spot and root crown rots. 90% of the respondents reported five of these diseases. (Fig. 2&3)
- ✓ High pest incidence such as aphids, whiteflies, mealybug, mites, green stinkbug, leaf miners and thrips. 65% of the farmers reported that pests affect the crop at different growth stages and is more significant during flowering. These pests transmit diseases especially viral diseases such as passion fruit woodiness (PWD).

- ✓ Birds were reported by 62% of the respondents as a menace feeding on the flowers and fruits causing decline pre and post-harvest losses.
- ✓ Lack of clean, certified planting materials free from pests and diseases. Purple passion fruit farmers produce their own seedlings from selected seeds collected in their farms, neighborhoods or from fresh fruits purchased from the market.
- ✓ 32% of the farmers interviewed reported that they had access to agronomic information on passion fruit production
- ✓ Prolonged drought during the dry episodes (from October to early March) reducing fruit quality and yields. These periods coincide with when the maize farmers are harvesting the crop.
- ✓ Fluctuating market prices ranged from US \$ 0.3 per Kg during dry periods to US \$ 1.2 per Kg of fruit when the crop yields are booming during rainy season.



#### Profitability of passion fruit

Purple passion fruit is a profitable enterprise which has attracted several farmers where a Kg of fruit goes for US \$ 1.2 hence acts as a source of employment and generates income improving the livelihoods of the farmers.

#### Policy Interventions and recommendations

- Seed certification and legislation - Enactment of laws and regulations by Ministry of Agriculture, the county governments and KEPHIS that will protect farmers from buying uncertified seeds/seedlings from commercial nurseries.
- Development of passion fruit improvement program to help come up with high yielding varieties that are tolerant against drought, pest and disease
- Collaboration between research institutions, county, national governments and other stakeholder strengthen the farmers' capacity in passion fruit orchard establishment and management towards producing high quality fruits