

**MAKERERE**



**UNIVERSITY**

**IMPROVING POST-HARVEST HANDLING TECHNOLOGIES FOR  
FARMERS IN NORTHERN UGANDA: A CASE STUDY OF NORTH EAST CHILLI  
PRODUCERS ASSOCIATION**

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**DECLARATION**

This study is original and has not been published and submitted for any other degree award to any other university before.

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**APPROVALS**

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## DEDICATION

I dedicate this dissertation to my family and friends. A special feeling of gratitude to my Husband, Otim Bomax, whose words of encouragement and push for tenacity ring in my ears. My mother Anna, Aunt, Hellen, sisters, brothers, and colleagues at work who have never left my side and are very special.

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## LIST OF ACRONYMS

AHP – Analytical hierarchy process

GDP - Gross Domestic Product

GoU - Government of Uganda

KIIs -- Key Informant Interviews

LSU – Louisiana State University

1-MCP- Methyl-Cyclopropane

MCDM—Multi Criteria Decision Method

NDP -- National Development Plan

NECPA – North East Chilli Producers Association

PRDP – Peace, Recovery and Development Plan

RAV – Raw averages

UBOS - Uganda Bureau of statistics

VPD – Vapour Pressure Deficit

## ABSTRACT

Agriculture being the largest employer in Uganda has been faced with a challenge of drying not only in chilli but also other crops. Due to challenges in drying, post-harvest losses are estimated at 5-15% for cereals and legumes, 20-25% for root and tubers and over 35% for fruit and vegetables. The aim of this research study was to get the best post-harvest handling technology for chilli in Northern Uganda through drying. Due to post harvest losses farmers lose both in quality and quantity of the chilli. This compromises Uganda's ability to market her produce beyond East Africa especially to the Western world where quality is paramount. This research studied and identified the different post-harvest handling Technologies used by chilli farmers working with North East Chilli Producers Association (NECPA) for drying their chilli. The research study found that 91% of farmers interviewed use open air drying method leaving only 9% using improved solar dryer (the UV polythene sheet dryer). The factors for the use of these were: easy to use, readily available, relative cleanliness achieved. Using Analytical Hierarchy Process one of the multi criteria decision method, the study analysed 8 drying methods used by the farmers to dry their chilli. This method showed that the most appropriate method was the U.V polythene solar dryer.

Key words: Analytical Hierarchy Process, Chilli, open air drying, post harvest handling, U.V Polythene sheet Solar Dryer.