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## **DEDICATION**

.This work is dedicated for the memory of my Late Parents

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## **ABSTRACT**

This study was carried out in the Er. Renk Area, Northern upper Nile State of the Sudan.

The main objective of the study was to investigate the contribution of some of the non-wood forest products (NWFPs) to the food security. This was carried out through determination of nutritional values of some parts of NWFPs. Also the contribution of the NWFPs for income generation and its environmental role to enhance the livelihood of the people in the area was assessed.

The results indicated that, parts of some non-wood forest products like the fruits of some trees contain essential nutritional sources that can contribute substantially to the local food security.

The fruits of Tebeldi (*Adansonia digitata*) and Sidir/Nabak (*Ziziphus Spina-christi*) contain 0.52% and 0.78% protein, 50.6% and 78.4% Carbohydrates and 5.6mg/100g, 5.9mg/100g vitamin C respectively.

People in the study area use different non-wood forest products as snacks or famine foods during times of scarcity. Some are also used to add palatability to the staple diets. Among the non-wood forest products which are widely used in the study area were the fruits of Heglig, Tebeldi, Nabak and Dom. Also honey, fish and bush meat.

In addition to the dietary contributions, NWFPs, also play a role as income generating activities. The environmental role of non-wood forest products will enhance agricultural productivity. The medicinal values of some non-wood forest products also play a role in the health and safety of the inhabitants.

So the non-wood forest products complement each other to contribute to the concept of the food security.

## ملخص الاطروحة بالعربى

Arabic Abstract

أجريت هذه الدراسة فى منطقة الرنك ، شمال ولاية اعالى النيل فى السودان .

الهدف الاساسى من الدراسة هو التحرى من مساهمة بعض منتجات الغابات غير الخشبية فى الأمن الغذائى.

وتم ذلك من خلال تحديد قيم غذائية لبعض اجزاء منتجات الغابات غير الخشبية ، كما تم ايضا تقييم مساهمة منتجات الغابات غير الخشبية كمصدر دخل ، ودورها البيئى فى تحسين الاحوال المعيشية لسكان منطقة الدراسة.

أوضحت نتائج الدراسة أن اجزاء بعض منتجات الغابات غير الخشبية كثمار بعض الاشجار تحتوى مصادر عناصر غذائية يمكن أن تساهم بقدر كبير من الامن الغذائى فثمار التبلىدى (*Adansonia digitata*) السدر (*Ziziphus spina-christi*) تحتوى على 0.5% ، 0.78% بروتين و 50.6% ، 78.4% كاربوهيدرات و 5.6 ملغ / 100 جم ، 5.9 ملغ / 100 جم فيتامين C ، على التوالى

يستخدم الناس فى منطقة الدراسة أنواع مختلفة من منتجات الغابات غير الخشبية كوجبات خفيفة Snacks او طعام فى زمن

المجاعات Famine foods

فى اوقات ندرة الغذاء.

بعض منتجات الغابات غير الخشبية تستعمل كادام (Stew) مصاحب لغذاء الحبوب الاساسى.

ومن منتجات الغابات غير الخشبية التى تستعمل بكثرة فى منطقة الدراسة ، ثمار اشجار الهجليج ، التبلىدى ، السدر والدوم ، كذلك العسل والسماك ولحوم الحيوانات البرية بالإضافة الى المساهمة الغذائية لمنتجات الغابات غير الخشبية تلعب ايضا دورا كمصدر دخل ، الدور البيئى لمنتجات الغابات غير الخشبية يساعد فى زيادة المنتجات الزراعية وكذلك الفوائد الدوائية لبعض منتجات الغابات غير الخشبية تلعب دور فى صحة وسلامة المواطنين .

وكذلك فإن منتجات الغابات غير الخشبية تكامل مع بعضها لتساهم فى مفهوم الامن الغذائى.



## **DECLARATION**

I **Martin Lokota Paramena Kwari**, do hereby declare that, this Thesis is my own work and has not been submitted or presented in whole or in parts for any award of Master's Degree (M.sc.) at any University or Institution of High Learning.

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