



MINISTRY OF SCIENCE AND TECHNOLOGY

**PROGRESS REPORT FORMAT FOR
GRANTED APPLIED RESEARCH**



Progress Report Format for granted Applied Research

1. Project Information

Project Title	Herbal Medicine Preparation and Plant Biodiversity Conservation in North Shewa Zone, Amhara Region, Ethiopia
Name & Address of Principal Investigator	Ermias Lulekal (PhD) Debre Berhan University Tel. 0911571806 Email. zeaklog@gmail.com
Amount of funding	4, 150, 000 Birr
Expected date of completion	30 DECEMBER 2018
Period covered by this report	From: <u>1 March</u> to <u>1 June 2016</u>



Institution administering the grant	Name of the Institution: <u>Debre Berhan University</u> Address: Debre Berhan P.O.Box: 445 Tel: 0118900345 Email: dbu@ethionet.et Website: www.dbu.edu.et
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2. Project Overview

- a) List the planned activities and expected outputs to be implemented in the reporting period?

The major activities planned for the reporting period were running kick off meeting and consultation workshop, conducting part of the documentation of indigenous knowledge, nursery preparation and expansion, conducting in-situ and ex-situ conservation of part of the medicinal plants, and extracting desired components from some of the elite medicinal plants. The outputs expected for the reporting period were introducing the project objectives to stakeholders and getting feedbacks from them; strengthening conservation activities to medicinal and indigenous trees available in the study area and identifying useful chemical components of elite medicinal plants.

- b) Summary of the project activities

So far the ongoing project has carried out part of the extraction of essential oils from four elite medicinal plants. Subsequent essential oil analysis of extracts, their physico-chemical characterization and in-vitro antimicrobial activity tests are also in progress. The targeted plants which are under serious investigation are Thymus schimperi, Eucalyptus globulus, Matricaria chamomilla and Rosmarinus officinalis. The in-vitro antimicrobial activity testing and safety analysis of extracts and primary herbal products from the aforementioned plants is also in progress. Moreover, the project runs an overall ethnomedicinal research on other potential medicinal plants of high informant consensus factor (ICF) in North Shewa Zone. Taking in to



account the existing efforts linked to medicinal plants in the Zone, the contributions of outputs of this research to primary healthcare services, and the direction of the government towards traditional medicine, the project is also running activities related to *ex situ* conservation of more than 100 traditional medicinal plants and associated indigenous knowledge.

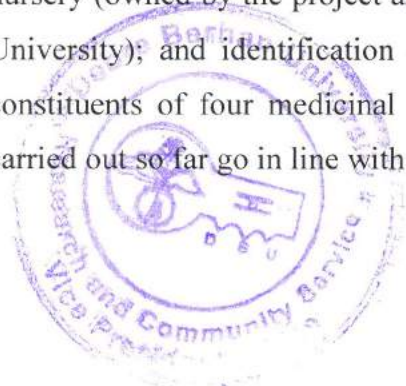
c) Provide a timeline and milestones for the entire project

The major milestones and corresponding timelines for the entire project are summarized below:

- Having well-documented list of medicinal plants and associated indigenous knowledge of the study area.....December 2016
- Running extraction and subsequent phytochemical screening of components of medicinal plants with high informant's consensus..... March 2016 - October 2018
- Carrying out *in-vitro* antimicrobial tests of extracts in comparison with synthetic drugs and internationally certified herbal drugs.....October 2016- October 2018
- Conducting *in-vivo* tests following standard procedures.....January 2017 - October 2018
- Formulation and standardization of herbal drugs, medicinal soap and latrine detergent from the crude extracts/essential oils of medicinal plants..... March 2017 - October 2018
- Organizing and consulting farmers, small and medium enterprise and pharmaceutical industries to be involved in the traditional medicine development process..... October 2017 - October 2018

d) Describe the main activities performed and discuss whether the performed activities are in agreement with the objectives of the study.

Among the major activities set to be implemented by the ongoing project, the activities addressed include documentation of part of the indigenous knowledge on medicinal plants, nursery establishment, expansion and strengthening of *ex situ* conservation of medicinal plants in the nursery (owned by the project and situated in Ankober District 42 Kms away from Debre Berhan University); and identification of useful chemicals from elite medicinal plants. The chemical constituents of four medicinal plants are also fully screened and identified. All the activities carried out so far go in line with the project's objectives.



3. Progress Summary

a) Describe the main achievement during the progress of the report period?

Among the major activities set to be implemented in the reporting period the activities achieved include, nursery expansion and strengthening *ex situ* conservation of medicinal plants, extraction of essential oils from four elite medicinal plants and running essential oil analysis of extracts, as well as conducting the physico-chemical characterization and in-vitro antimicrobial activity tests of extracts and their primary herbal formulations.

b) Describe preliminary results

Selection of four medicinal plants (*Thymus schemperi*, *Eucalyptus globulus*, *Matricaria chamomilla* and *Rosmarinus officinalis*) for further screening was carried out on time. Chemical constituents of these elite medicinal plants were identified through a GC-MS analysis experiment conducted in Addis Ababa University chemistry lab. Toxicity study of the extracts is now being investigated in collaboration with AAU, School of Pharmacy. In addition, more than 100 medicinal plants are selected and ex-situ conservation of these plants is being carried out in Ankober Nursery owned by the project.

c) If you did not achieve some of your stated planned activities in time reference, please explain the reasons and describe any problems that may exist about the project's progress

A planned activity pertinent to running a consultation workshop was not carried out due to busy schedule of the host institution and stakeholders under consideration. It will be carried out in the coming month to catch up the time and activities and go on time as planned.

d) Have any changes occurred in relation to the general project conditions/ project Set-up in the concerned reporting period? (e.g key persons, schedules, budget)

No change at all.



4. Progress Status

Research work which remains to be done under the project

The major activities to be addressed in the coming periods include: further documentation of medicinal plants from representative districts of North Shewa Zone, running *ex situ* and *in situ* conservation of important medicinal plants based on informants consensus and degree of threat, chemical screening and toxicity study of elite medicinal plants, developing herbal products (soaps, detergents, herbal creams and essential oils).

5. Detail Project Expenses description for this reporting period

(Please complete the final budget report. The budget should clearly reflect the activities conducted during the study period)

No.	Items	Utilized money in ETB		Amount of money Released in ETB		Remaining Balance	
		Birr	Ce.	Birr	Ce.	Birr	Ce.
	Nursery expansion for standard <i>ex situ</i> conservation of medicinal plants, and preparation of room for large scale essential oil extraction from medicinal plants	33,500	00	1,452, 500		1,419,000	
	Total Expenses	33,500					



The institution certifies that all the information provided in the report is true and correct.

Name of the institution **Debre Berhan University**

Head of the institution **Teferi Adnew Zelelew**

Name: Vice President for Research and

Signature: Community Service

Date: _____

Seal of the institution

