

Dedication

To my Mother Nafisa and Soul of my past father

To my brothers: Mahedi and Bashir

To my sisters: Hiat and Fozeia and soul of past Mahasin

To my wife: Ekhlas

To my sons: Mohamed and Mazin

To my daughter: Miaad

MUSTAFA

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List of Contents

Dedication	I
Acknowledgement	II
List of Tables	III
List of Figures	V
Abstract	VII
ملخص الأطروحة	VIII
Chapter One: Introduction	
1.1 General	1
1.2 Study Area	3
1.2.1 Location	3
1.2.2 Geomorphology	3
1.2.3 Socio–economic Characteristics	4
1.2.4 Climatic Features	6
1.2.5 Soil	8
1.2.6 Vegetation	9
1.2.7 Land Use	11
1.3 The Problem Statement	11
1.4 Study Objectives	11
1.5 Hypothesis	11
Chapter Two: Literature Review	
2.1 Ecological Aspect of <i>F. albida</i> tree	12
2.1.1 The role of species in Agroforestry	12
2.1.2 Stocking density of species	16
2.1.3 Agricultural practices favoring the species growth	16
2.1.4 Natural Regeneration of species	17
2.2 Socio economic Aspects of <i>F. albida</i> trees	19
Chapter Three: Materials and Methods	
3-1 Inventory of natural regeneration and tree growth	23
3.1.1 Location of sampling plots	23
3.1.2 Layout of the sample plots	23
3.1.3 Data Analysis	26
3.4 Socio economic study	26
3.5 Data analysis	26

Chapter Four: Result and Discussion

4.1. Experiment	27
4.1.1. Effect of location on the average density / ha of <i>F. albida</i> trees	27
4.1.2. Declination of <i>F. albida</i> number per ha at different years	27
4.1.3. Effect of location on average dbh of <i>F. albida</i> trees	29
4.1.4. Effect of location on average height of <i>F. albida</i> trees	29
4.1.5 Effect of location on natural regeneration of <i>F. albida</i> trees	31
4.2 Questionnaire	32
4.2.1 Browse season of <i>F. albida</i> tree	32
4.2.2 Browse parts of tree	32
4.2.3 Browse preference of <i>F. albida</i>	34
4.2.4 Improvement of milk production	34
4.2.5 Improvement of crops production	36
4.2.6 Utilization as local medicine	37

Chapter Five:

Conclusions and Recommendations	39
5.1 Conclusions	39
5.2 Recommendations	40
References	41
Appendix	49

List of Tables

Table (1) Average annual rainfall (mm) during the period 1946-1995	7
Table (2) Average density per ha of <i>F. albida</i> trees in each location	28
Table (3) Average dhb (cm) of <i>F. albida</i> trees in four locations	30
Table (4) Average height (m) of <i>F. albida</i> trees in each location	30
Table (5) Average natural regeneration of <i>F. albida</i> trees	31
Table (6) Browse season, average period of browse during one season, browse parts	33
Table (7) Browse preference of trees specie, and browse improvement of milk production and browse marketing	35
Table (8) Farm Land and improvement crops production and average cultivation period	36
Table (9) Popular medicine, type of diseases and socio-economic education level.	38

List of Figures

- Fig (1) Cross-section of a typical hill pediment the adjoining
Wadi. *BP. Bowellia papyrfera: Anog, Angeissus leiocarpus: Ba.e.,*
Balanites Aegyptica: Ac.a., Acacia- alBida. 10
- Fig (2) Layout of the sample plots and locations of sampling plots. 25
- Fig (3): Decline in trees number / ha of *F.albida* from year 1966 up to the
current study (2004) 28

Abstract

In this study, the ecology and importance of *F.albida* are investigated. The location covers north and west Azum and Aribo wadis of Zalingei .

The study was conducted during the period July 2003 to May 2004.

The study included covers tree density, ages class of trees (diameter at breast height) and natural regeneration survey. Four sites were selected in the location and systematic circular line plots were used to collect data on the above mentioned aspects. The questionnaires were carried out for the herders, farmers and citizens in the importance of *F. albida* as browse trees.

No significant difference was found in tree density as well as in age classes (dbh). Eleven trees per ha was the average density indicating very_ low_density which show stand deterioration. 94 cm is the average age class of tree (dbh).

Significant difference was reached out concerning natural regeneration of *F.albida* .Absence of new regeneration is attributed to different reasons like crop cultivattion, grazing, drought, fires, weed competition and other agents.

Groups of farmers and herders were interviewed. 93% of them agreed upon the time of browse as summer, that continues for three months. 94% of the interviewers said that browsing concentrate on leaves and pods. 97% of the target groups agreed upon the fact of the preference of browsing animals to Haraz more than the Heglig. 92% said that crop cultivated inside *F.albida* forest gives more production and animal grazing on *F. albida* produce more milk. 68% of them agreed on popular medicine.

ملخص الأطروحة

أجرى هذا البحث لمعرفة بيئة وأهمية شجرة الحراز في المنطقة الشمالية والغربية لوادي أزوم وأريبو في زانجي في الفترة من يوليو 2003 إلى مايو 2004. تضمنت الدراسة معرفة الكثافة الشجرية وقياس درجة أعمار الأشجار المختلفة ومسح التجدد الطبيعي للشجرة. تم اختيار أربعة مواقع في المنطقة لهذا الغرض كما تم استخدام القطع الدائرية المنتظمة علي خط مستقيم. استخدمت طريقة الاستبانة كأحدي الطرق لجمع المعلومات لمعرفة أهمية الشجرة اجتماعيا واقتصادياً لسكان المنطقة. خلصت الدراسة إلى نتائج عدة منها انه لا توجد فروق معنوية في كثافة الأشجار وقياس درجة أعمار الأشجار بين المواقع الأربعة بينما وجدت فروق معنوية في التجدد (النمو) الطبيعي للشجرة.. غياب أو عدم النموات الجديدة يعزي إلى أسباب عدة مثل زراعة المحاصيل والرعي والجفاف والحرائق و التنافس النباتي بجانب العوامل الأخرى. لغرض الاستبانة تم اختيار مجموعات من المزارعين والرعاة حيث أشار 93% منهم أن الزمن المناسب للرعي علي أشجار الحراز هو الصيف الذي يستمر فيه الرعي إلى ثلاثة اشهر بينما أشار 94% منهم إلى أن الحيوانات تركز علي الأوراق والقرون في رعيها لأشجار الحراز. 97% منهم اتفقوا علي أفضلية الحيوان لرعي الحراز أكثر من الهجليج. 92% من المجموعة إشارات إلى أن زراعة المحاصيل داخل الغابات الطبيعية لأشجار الحراز تعطي إنتاج أكثر كما أن الحيوانات التي ترعي داخل مثل هذه الغابات تدر لبن أكثر و 68% أجابوا باستخدام أجزاء من الشجرة كعلاج شعبي لبعض الأمراض.

College of Graduate Studies

**Ecology and importance of
Faidherbia albida as browse tree
in agroforestry systems at Zalingei
area**

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