

Dedication

To my, father, mother, brother and sisters

To my warmhearted wife (Halima)

To my Kids Eylaf, Mohamed and Abu-Bakr

To the soul of my brother Taj edin

ACKNOWLEDGEMENT

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Abstract

Bamboo is a valuable forest resource. Its main distribution area is the southern tropical regions of the world, especially in South East Asia. Its occurrence in Africa is small compared to Asia and South Central America. However, in recent years, an upsurge in bamboo research and utilization has got momentum and an international attention was given to the research and utilization of bamboo.

In Sudan, bamboo has been in use for many purposes and it is mainly distributed in South Kordofan, Blue Nile, Kassla, Southern Darfur and Southern Sudan. The extent of its distribution has never been assessed and consequently, no management system exists for bamboo.

This study attempted to assess this resource through a survey and an inventory, which was carried in eight different bamboo forests (sites) in South Kordofan State. Systematic sampling procedure was used. Two base lines perpendicular to the contour were maintained in each inventoried site; sample plots of 20× 100 m were laid down along each line at 50 m distance, and replicated three times. The total area of the eight forest sites amounts approximately 42109 ha. Results showed that the density of bamboo clumps ranged from 110 to 1100 clumps / ha. However, the average number of clumps for all studied sites of South Kordofan was estimated at around 27 million clumps.

Moreover, there were many variations in number of clumps, culm height, culm diameter, clump circumference and number of culms at the different studied sites. In addition, they showed significant variability between them in the number of clumps per unit area. However, the number of culms ranged from 22 to 220 per sample. The biggest number of culms

was recorded by Kokaya forest site (220) and the least number was recorded by Omjamana forest site (22). Abwfada forest site ranked second with (161) but it is significantly smaller than Kokaya forest site, which showed no significant difference with Amsharmot forest site (134). Further more, Caw forest site (84) and Etogola forest site that recorded (61) showed no significant difference between them. Further more Bonjae forest site (97) and caw forest site (84) together with Etogola forest site showed no significant differences between them. In addition, a count and listing of all forest tree species associated with bamboo in the sample plots were carried out.

ملخص الدراسة

يعتبر القنا من موارد الغابات ذات القيمة، و أهم مناطق إنتشاره فى العالم المناطق المدارية، خاصة الجنوب الشرقى لقارة آسيا. وينتشر فى أفريقيا فى مناطق تعتبر صغيرة عند مقارنتها بمناطقه فى آسيا وجنوب ووسط أمريكا. وهناك إهتمام عالمى متسارع بالبحوث فى مجال الإستخدامات للقنا فى الآونة الأخيرة.

ينتشر فى السودان فى مناطق جنوب كردفان (جبال النوبة)، جبل الداير، النيل الأزرق، كسلا، جنوب دارفور وجنوب السودان. على الرغم من ذلك لم تتم أى دراسات فيما يخص أوضاع و إنتشار القنا، ولم توضع نظم لإدارته تقديره.

هذه الدراسة تعرضت لتحديد الوضع الحالى للقنا بإعتباره من موارد الغابات المهمة وذلك بعمل مسح أولى ومن ثم إجراء حصر شمل ثمانية غابات فى ولاية جنوب كردفان. تم إستخدام طريقة العينة المنتظمة. وتم عمل خيطان أساسيان داخل الغابة بشكل عمودي على خطوط الكنتور وأخذت عليهما مربيع العينة بطول 100متر وعرض 20 متر ومسافة 50 متر بين مربوع العينة والمربوع الأخر وكان عدد التكرارات ثلاثة فى كل خط. جملة المساحة للغابات التى تمت فيها الدراسة حوالى 42109 هكتار، تراوحت فيها كثافة القنا بين 110 إلى 1100 بيت / هكتار. ومن ذلك وضح أن متوسط كثافة البيوت فى منطقة الدراسة هى 7 مليون بيت.

إضافة إلى ذلك أظهرت الدراسة فروقات معنوية فى كل من عدد البيوت فى الهكتار، محيط البيت، أطوال القنايات، أقطارها وعدد القنايات فى البيت الواحد. وذلك عند مفارنتها بين الثمانية غابات التى تمت فيها الدراسة.

كذلك أظهرت الدراسة أن عدد البيوت فى مربوع العينة تراوحت بين 22 و 220 بيت. ووجد أن أكبر عدد من بيوت القنا كان فى غابة كوكاية فى منطقة كادقلى (220) وأقلها كان فى أمجمينا (22) فى دلامى. غابة أبوفيدة جاءت فى المرتبة الثانية بعدد (161) بيت فى المقابل سجلت غابة ام شرموط (134) وهى تقع جنوب شرق تالودى. ووجدت الدراسة أن غابة بونجي (97) بيت و غابة كاو (84) بيت لم تظهر أى

فروقات معنوية بينهما و قد تم عد وتسجيل كل الأنواع الشجرية التي تنمو مشاركة
للقنا في مراتب العينة التي ينمو فيها.

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