ABSTRACTS OF PRESENTATIONS FOR ACTIVITY CLUSTER 3: INDICATOR RESEARCH

Title: The Impacts of Human activities on Apiculture in the sub-Saharan region of Africa: Case study of Borno state -Nigeria

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Borno sate in Nigeria is one of the leading areas of honey production in West Africa. It is located in the north eastern part of Nigeria and shares borders with the Republics of Cameroon, Chad and Niger. Crude or local techniques are typically used in producing honeys which have distinctive taste due to the semi-arid (Sahel) vegetation in this area .Honey here is used in medicines. However poor development in this part of sub-Saharan African characterized by a high level of illiteracy as well as poverty has made almost all the communities in this state to be dependent on fire wood for energy. The most common plant used for fuel wood used to be the Kasese plant (Acacia semia) , but since the late 1980's this plant has begun to disappear in this area as a result of climate change and the rapidly increasing population dependent on this type of firewood. Plants other than, which provided shelter to bees and provided livelihood opportunities for inhabitants of the area through apiculture, are now being harvested for firewood, of the non kasese plants which there is now a significant decline in honey production in this part of the world since the late 1990's massive migration of bees from this area to the neighboring Mubi part of Adamawa state of Nigeria and even the Adamawa/Bamenda areas of north-western region of Cameroon.

FIG 1: SHOWING THE POLITICAL MAP OF AFRICA.

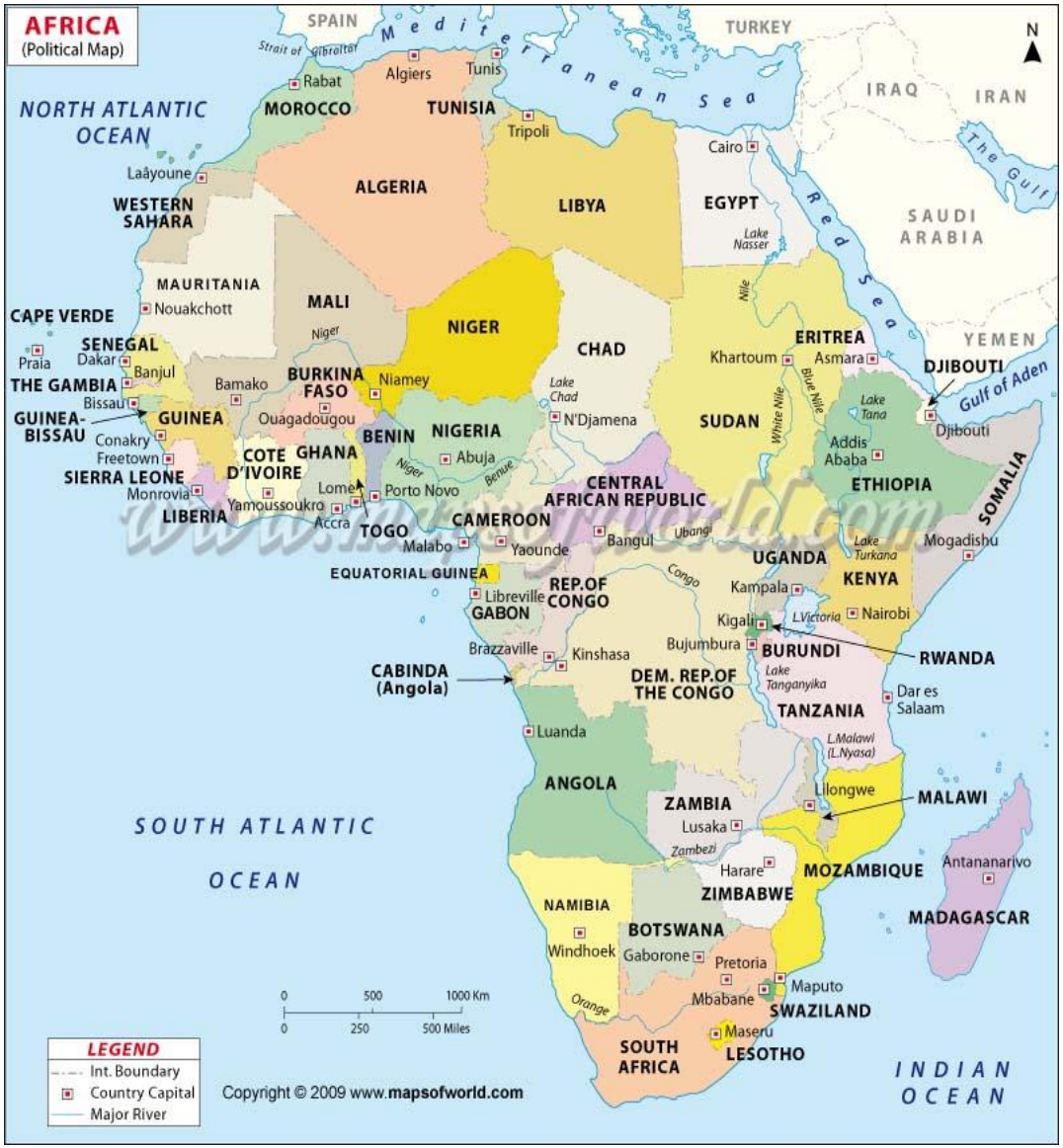

FIGURE 2: SHOWS THE MAP OF THE SAHEL REGION OF AFRICA:

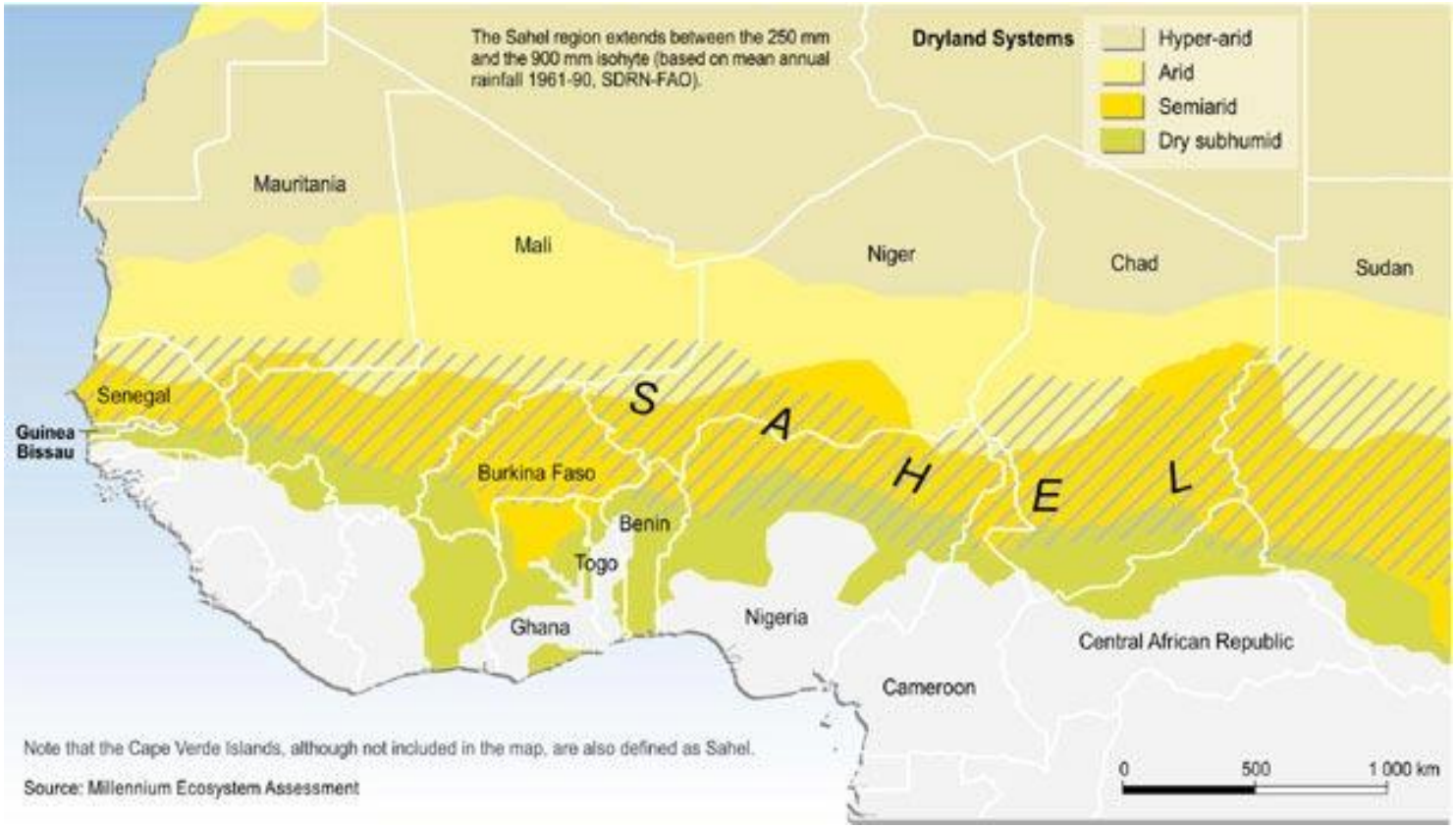

FIG 3: SHOWING THE MAP OF NIGERIA.

FIGURE 4: SHOWS TYPICAL SAHELIAN ENVIRONMENT.

FIGURE 5: A HIVE IN BORNO STATE

FIGURE 6: SHOWING A BEE COMB AND THE BEES.

FIGURE 7: HIVE IN THE WILD

FIGURE 8: A TRADITIONAL BEE HIVE IN PLACE ON A TREE.

FIGURE 9: A LOCAL BEE FARMER FIXING HIS TRADITIONAL BEE HIVE IN PLACE ON A TREE.

FIGURE 10: SHOWING THE ENCROACHING SAHARA DESERT IN NORTHERN BORNO STATE (THE DESERT IS ENCROACHING AT THE RATE OF 0.8 KILOMETERS PER ANNUM).

FIGURE 11: SHOWING THE MAP OF THE DRYING LAKE CHAD AT VARIOUS STAGES (INDICATING THE EXTENT OF THE IMPACTS OF THE CLIMATE CHANGE OVER THE LAST FORTY YEARS IN BORNO STATE AS A WHOLE).

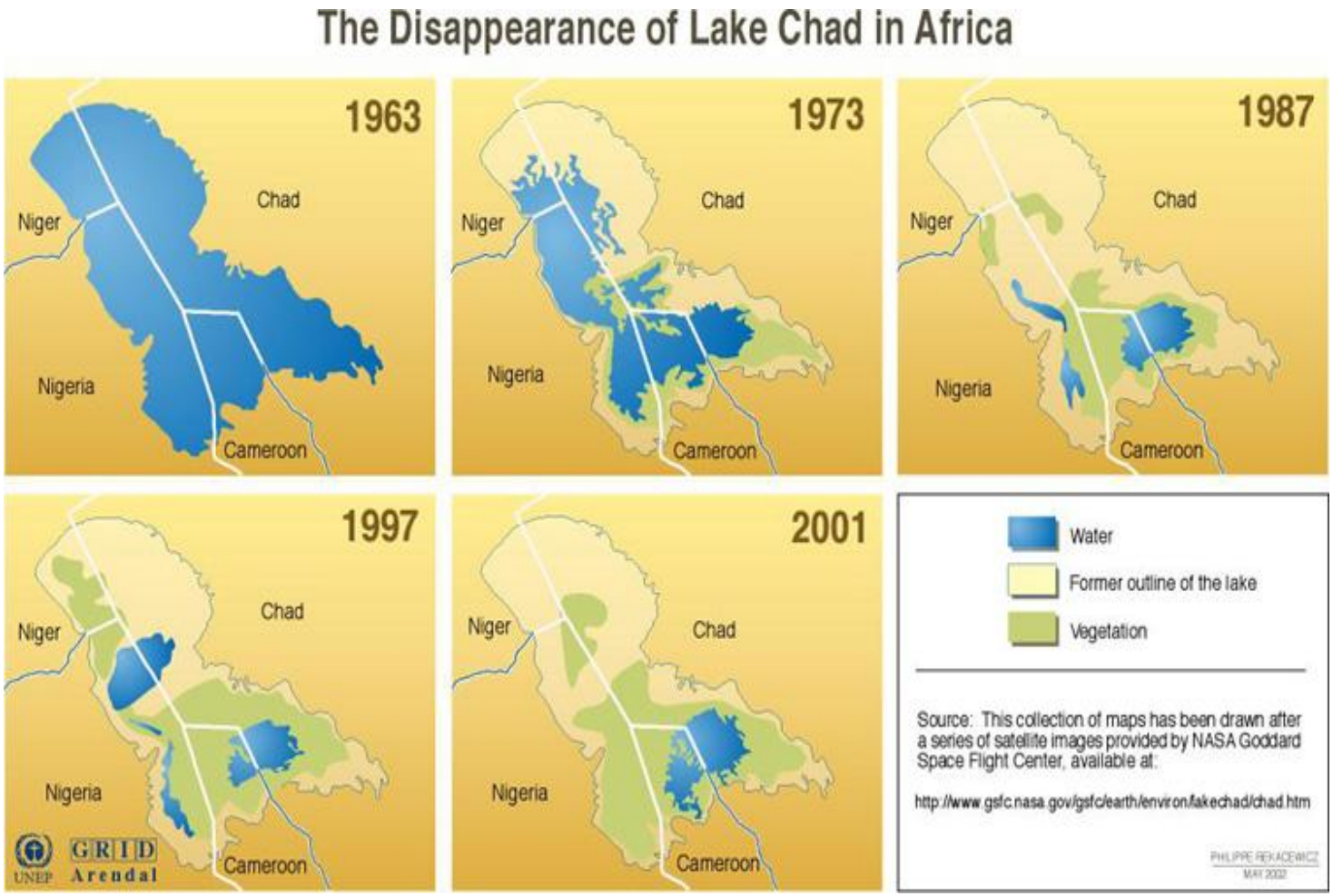

FIGURE 12: SHOWING THE OTHER PART OF BORNO STATE THAT IS NOT PRODUCING HONEY IN COMMERCIAL QUANTITY DUE TO THEIR PROXIMITY TO THE SAHARA DESERT.

FIGURE 13: SHOWING THE PICTURE OF THE HOUSE OF THE TRADITIONAL RULER OF BORNO STATE.

FIGURE 14: SHOWING HOW CLIMATE CHANGE HAS AFFECTED OTHER PART OF BORNO STATE LIVING ON PASTORAL ACTIVITIES.

FIGURE 15: SHOWING THE FINAL IMPACTS OF CLIMATE CHANGE IF THE ISSUES ARE NOT ADDRESSED.

IN VIEW OF THE ABOVE SITUATION, CHALLENGES THAT APICULTURE IN THE AREA FACES MAY BE LISTED AS:

1. **Disappearances or shrinking of apiculture in the Sub-Saharan African countries.**
2. **Loss of traditional knowledge associated with bee farming.**
3. **Loss of knowledge of traditional medicine.**
4. **Increasing poverty levels or drops in per capita income among the communities of the Sub-Saharan African countries.**
5. **Destruction of the natural biodiversity/food chain of this region.**