

An Investigation Into Botanical Knowledge Gap Between Age Groups Among The Nduuri Farming Community, Embu, Kenya.

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Abstract

A study was made to assess whether there were differences in botanical knowledge between age groups among the Nduuri community in Embu, Kenya. The study found that the Nduuri community had diverse ways of utilization of the species in their surroundings. Species serving very specialized uses are evident within the locality. The investigation conducted through individual and group interviews as well as identification of species on specific niches revealed apparent gaps in general knowledge as well as in utilization of species. The study suggests the need for the community to come up with a plan to address this negative trend.

Introduction

The traditional method for transfer of knowledge and skills among the Embu ethnic group in Kenya was through oral transmission. Information and skills were usually passed from father to son, grandfather to grandson, mother to daughter or grandmother to granddaughter and aunts to nieces. Information transfer could also cut across gender boundaries e.g. from grandmother to grandson etc

Although the social structures that permitted this exchange still exist there have been several changes that have tended to dilute their efficiency.

Due to population pressure, reduction in grazing land has led to zero-grazing and tethering systems, which have reduced contact time between the old and the young. Traditionally young boys looked after cattle and goats with their grandfathers and fathers under the free range all day long. It was during these periods that the older men would pass on knowledge and skills. With reduced contact time there is reduced transfer of knowledge and skills. Rural-urban migration has also separated the young that have moved to the urban areas from the old that have remained in the farmlands. This has also led to a reduced transfer of knowledge and skills.

The Nduuri community traditionally (and to varying degrees currently) relied on the biodiversity in their area for such needs as fodder, food, fuelwood, building, medicine, etc.

This investigation was carried out in 2000 to verify if the Nduuri community was at a risk of losing the traditional botanical knowledge due to the changes indicated above.

Methodology

Through the Nduuri village sub-area headman, ten (10) elders were invited for a meeting whose objective was to advise the PLEC team on the different age groups to be found within the Nduuri community and to generate a list of the people in their village who belonged to those groups. The elders were from 5 village sub units namely Gaturi, Karii, Kianjogu, Gicagi and Kianjeru.

Formation of age groups was linked to the circumcision of young men. Thus people who were circumcised at the same time belonged to the same age group in spite of actual age difference between them during the rite. The Nduuri elders could remember 5 age groups based on the traditional nomenclature. These were the *Mugokoro*, *Njavani*, *Ngiciri*, *Ndururu* and *Njenduru*. The elders noted that currently there existed no age groups as they understood them. The last of the age groups was the *Njenduru* of the 1930s.

The elders therefore suggested that we could use age-sets covering periods of 20 years as was the case traditionally. Four age sets were proposed i.e. 20-1939 i.e. over 61 years; 1940-1959 i.e. 41-60 years; 1960-1979 i.e. 21-40 years; 1980-1990 i.e. 10-20 years

Elders from the different village sub units were requested to make lists of people in different age sets that were current residents of the area. From these lists twenty names were selected at random to represent each age set. Thus from the entire village we had 100 people representing all age sets.

Individual interviews were conducted in which participants listed names of plant species with their utilization. The members of the age-set were later assembled to come up with a consensus list.

Another exercise performed was actual group identification of plant species in two marked quadrants, one in a recent fallow and another in a bush fallow. A discussion was held with the participants to analyse the outcome and suggest way forward.

Results and discussion

Different groups came up with various lists of plant species as in Table 1

The group consisting of the older generation members (1920-1939) listed 180 species.

The 1940 to 1959 group listed 195 species while the 1960-1979 age set listed 153 species.

Young people aged between 10 and 20 years listed 135 species.

The two oldest groups came up with the greatest number of species 180 and 195 respectively. This could possibly be explained by the fact that prior to the 1960s land parcels in Nduuri had not been registered. There was therefore no intensive cultivation and there were many tree species. The species were now few and the younger generation did not have knowledge of some of these now rare species. Additionally livestock herders had access to the free range land and would get exposed to many of the species. The younger generation of the 1960s were born and brought up in individual land parcels during a time when cultivation of cash crops especially coffee was starting leading to reduction of wild vegetation.

Utilization of Nduuri species

The participants identified a total of 68 ways in which the diverse species of Nduuri were utilized:-

Medicinal – various forms of treatment whether through oral ingestion, massaging with hot leaves, antidotes etc

Fuel wood - whether used as charcoal or firewood

Building – used as poles or rafters

Food

Timber – species that can be split into timber either for construction or for making furniture

Fodder – whether for direct grazing or ‘cut and carry’

Demarcation – species used to mark boundaries. Their basic characteristic was that for permanency they could survive through adverse weather conditions

Cleaning utensils – species with abrasive leaves used for scouring pots and pans

Yam support – species that does not offer competition to the yam for nutrients

Push cart wheel – species that are light and that will not easily crack

Banana ripening – species whose leaves are placed in the ripening container and which produced the bright colour of ripe bananas

Mole trapping – the mole is a common underground rodent pest of various crops. A mole trap consists of a small barrel made from stems of particular trees and two strings one acting as the loop for strangling the mole.

Oil – usually for cosmetic purposes

Thatching – this is a rare occurrence currently as most households in Nduuri have turned to iron sheets for roofing the houses

Fencing – whether a live fence or as posts

Tuck pins – used for sticking photographs on the mud huts

Tooth brush – species whose branches or roots are chewed to make a tooth brush

Tool handles – hoes and axes that are frequently used require special hard wood handles to last long.

Broom – made from shrubs with strong thin brances

Pesticide - by use of smoke or concoction made from certain parts of the plant.

Stimulant – mild drugs that are legally accepted

Bee attractant – used to prepare beehives in order to ‘invite’ the bees to colonize the hive.

Beehive making – species that are suitable for carving and whose timber will stand adverse weather conditions

Beehive support – species that have good branching for safe beehive placement, conducive to bee colonisation and honey harvesting

Latex extraction – for making waxes that were molded into traditional spouts attached to beer gourds. Sticky latex was also used for bird trapping by young boys.

Terrace stabilizer

Fibre – used for basketry, as a substitute for nails for fastening rafters in construction.

Walking sticks – were a common feature among the older folks

‘Steel wool’ – leaves of such species have an abrasive texture for cleaning pots and pans.

Coffee shade

Traditional tray –basketray

Sand paper - leaves of such species have an abrasive texture for working on wooden furniture and utensils.

Pestle and mortar

Making weapons

Perfume

Tissue paper/handkerchieves – species with soft leaves mild to touch

Arts and crafts

Banana support – tall varieties of bananas require support especially by use of forked branches

Traditional candle

Mats – used for bedding

Gourd cleaning – the gourd is used for keeping a traditional beverage made of cereal flour e.g. millet. Special leaves are used to clean the gourd in order not to introduce off flavors in the porridge. Other utilities included: Poison, Beverage, Musical instruments, Basketry, Jewelry, Soil fertility improvement, Storage structures, Detergent, Fermenting, Milk preservation, Composting, Tobacco curing, Food flavouring and Dice for Ajua game. Others were Witchcraft, Bark extraction, Bird trapping, Dye, Traditional ornamentals, Rain forecasting (by observing budding and flowering pattern), Mattress stuffing, Arrow colouring, Fungicide, Wedges for wood splitting, Making utensils, Oil refining and Brewing. The number of species for different uses mentioned by different age groups are also summarised in Appendix 1.

The group which came out with the highest number of medicinal plants was the oldest (1920-1939 i.e. over 60 years) while the lowest number of species and their uses was by the youngest group. (1980 – 1990) The results suggest that the older generations valued and depended more on botanicals e.g. for medicine compared to later generations which were brought up during rapid expansion of medical facilities in the country.

The 1960-79 and 1980-90 age group was born and brought up during expansion of education at and after independence. As such many young people's roles were changing from attending cattle to attending school. In addition land demarcation took place in the early 1960s and there was therefore a change of livestock management from free range grazing to tethering and zero grazing. These groups were therefore not adequately exposed to many fodder species. Young persons also no longer accompanying the older ones on cattle grazing trips and this loss of contact could have reduced knowledge transfer (table 4).

Bee-keeping has traditionally been an occupation for the older generation. Honey was used not only for brewing but also for matrimonial and land transactions that were

1920-1939	180	65	73	39	4	5	6
1940-1950	195	53	90	56	4	3	5
1960-1970	153	46	62	33	3	1	2
1980-1990	135	24	43	34	2	2	1
	Handcr aft	Pesticides	Bhinesup port		Fibre	Fallow species	
20-39	8	2	8		9	68	
40-59	4	2	4		7	69	
66-79	4	1	3		6	62	
80-90	2	1	0		3	30	