

PHOTO-ESSAY OF CULTURAL, ETHNOVETERINARY AND OTHER HERBAL PRACTICES OF SOME WEED SPECIES IN KATSINA STATE

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ABSTRACT

This paper was designed specifically to highlight some cultural, ethnoveterinary and other herbal practices of some weed species in Katsina State, Nigeria through photo-essay approach. Information on socio-cultural uses of some weeds are presented in photographs such as broom, livestock feed, fencing materials, roofing, cap, mat, basket, housing decoration, bee hives and others. Table 1 and 2 explain cultural and medicinal uses of some weeds species. Therefore this paper highlighted that not all weeds are considered undesirable because of their numerous uses. It is therefore concluded that weeds have great potentials on socio-cultural, aesthetics and medicinal activities in both human and animals. Scientist are therefore recommended to extensively explore multiple benefits of weeds and its way of utilizations.

Key Words: Photo-essay, Weed, cultural and Ethnoveterinary

1. INTRODUCTION

Photographs can serve as a tool to draw the attention of scientists and animal production researchers to issues relevant to various socio-cultural, medicinal and other benefits of weeds and grass (Gaddafi et al., 2019). Moreover, photographs are noted as useful tool because they convey complex information and in the case of a photo-essay, the photographs are not disjuncted from research context information (Musa, et al., 2012).

Being weed any plant growing where it is not wanted or interfering with the objectives of humans (Maroyi, 2013) most people are usually regarded weeds as undesirable and targeted for eradications. However, weeds are useful to human beings and animals as food, raw materials, traditional medicines and other social benefits. Weeds are useful to human beings in a variety of ways such as food (Maroyi 2011), erosion control, medicines, aesthetic value, shelter, supplying of organic matter and mineral nutrients to the soil.

2. MATERIALS AND METHODS

Photographs were taken in Dutsin-Ma Katsina State Nigeria All photographs were taken using a ITEL phone version A70 model itel A665L digital camera with Rear Camera 13M DUAL Camera. The grasses photographs presented here were selected to provide visual insight into some cultural and medicinal benefits of weeds Other than image resizing, the photographs have not been substantially modified.

Uses of Weeds

Beyond biodiversity values, agro-ecological values and being part of wild nature, the colonising power of plants has been harnessed extensively by societies for a variety of uses, over millennia. The beneficial uses include exploitation as food, medicines, raw materials for industry, animal fodder, and for improvement of water resources and landscape health. There is much to be gained by re-iterating these values, as discussed below, to demonstrate that 'living with weeds' is not incongruous with sustainable agriculture, healthy environments and lifestyles, which are attuned with nature.

Weeds as Source of food: There has been renewed or increasing interest in consuming some edible weeds as vegetable worldwide. These may be due to their nutritional role and/or health benefits. Many weeds are edible, serving as traditional food every day for people all over the world, as discussed in many publications (Lee et al. 2007, Abeysekera and Herath 2007, Bakar 2007, Maneechote 2007, Morita 2007, Varshney and Sushilkumar 2009). More importantly, some are true culinary delights in Asian cooking. In Katsina among the top three edible weeds are Cassia tora, Amaranthus spp. and leptadenia hastata. Leaves and young shoots are the most commonly used parts of the weeds. Wild edible weeds are important as dietary supplements, providing trace elements, vitamins and minerals.

Ethnomedical and ethnopharmaceutical uses of weeds: There is increasing evidences supporting that weeds are relatively high in bioactive ingredient and secondary metabolites and are thus likely to hold promise for drug discovery (Ekwealor et al., 2019). Weed species form a substantially higher proportion of source plants in pharmacopoeias than would be expected from their proportion in the general flora (Stepp 2004, Stepp and Moerman 2001, Voeks 2004). The possible reasons are related to the life cycle of most (annual) weeds being ephemeral, successional, or r-selected species.

The opportunistic, short-lived species appear to rely heavily on qualitative toxic chemical defenses to deter herbivores, rather than quantitative compounds (Coley et al. 1985). These are secondary metabolites, which accumulate on leaves, shoots, flowers and fruits. They are glycosides, alkaloids, and terpenoids, which are all low molecular weight, often toxic at small doses, and highly biologically active. As a result, a large variety of weeds are used in traditional medicine and pharmaceutical industry as sources of therapeutic compounds. Many have healing effects, which include diuretic, choleric, anti-inflammatory, antioxidative, anti-carcinogenic, analgesic, anti-hyperglycemic, anti-coagulatory and pre-biotic effects, and are used in the treatment of a wide variety of diseases. Among the best examples of weeds commercially important in western medicine are: *Digitalis purpurea* L. (Foxglove) from which digitalin, a group of cardiac-active glycosides is extracted; and *Catharanthus roseus* (L.) G. Don (Madagascar Periwinkle) from which an anti-cancer alkaloid vincristine, is extracted. The lists compiled by Bakar (2007), Abeysekera and Herath (2007), Maneechote (2007) and others, demonstrate the medicinal values of a large number of weed species, commonly used in the Asian-Pacific region in traditional medicine, including Ayurveda and Chinese medicine.

Weeds as raw materials for paper-making and other industrial products: For producing straw hats, ``Bolga`` bags, hats, fans, hay for cattle. Guinea grass is very flexible and can be manipulated into useful products such as window blinds, sleeping mat, bags and ceiling panel among others.

A large variety of colonising species, particularly grasses, are suitable for extraction of high quality lingo-cellulose fibre and other materials. Examples are: *Spartina alternifolia* Loisel. (Cord Grass), *Erianthus arundinaceus* (Retz.) Jeswiet (wild sugarcane), *Saccharum arundinaceum* Retz. (Hardy Sugarcane), *Saccharum spontaneum* L. (kans grass), *Phragmites australis* Steud. (common reed), and *Miscanthus sacchariflorus* (Maxim.) Hack. (amur silver grass). In addition, the stems of *Chromolaena odorata* (L.) King and H.E. Robbins. (siam weed) and *Ageratum adenophora* (Spreng.) King and H.E. Robbins. (crofton weed), which contain large amounts of cellulose, are also used for fibre board manufacture in China (Kim et al. 2007). The large biomass produced by water hyacinth is also popular as raw material for paper and pulp industry in several countries.

Weeds as Livestock Feed: Most weeds are delicious, palatable and acceptable quality for animal feed if they are grazed for cut when young. Many fast-growing species, annuals and perennials, legumes and grasses, which produce abundant biomass, provide the fodder required for rearing of animals, such as cattle, goats, pigs, sheep and even horses, ducks and geese.

Weedy residues as compost and mulches: The biomass of almost any weed can be composted, as most breakdown quickly; these may not serve as good mulches. On the other hand, biomass of some weeds, which breakdown slower, can be useful mulches. The large sized grasses, *Panicum maximum* Jacq. (Guinea grass), *Imperata cylindrica* (L.) Beauv. (cogon grass);

Weeds as raw material for bio-fuels: Given the large biomass that colonising species can produce, there are significant environmental benefits in utilizing this biomass directly for burning as fuel (primary biofuels), or used as raw material for fermenting to produce bio-diesel, ethanol and methane (secondary biofuels). The possibilities have been demonstrated in China, India, USA and other countries. Examples are *Jatropha curcas* L., *Thlaspi arvense* L., *Arundo donax* L. (giant reed) and others. There is also considerable interest in using the biomass of shrub weeds and medium-sized trees, which have colonised large areas as biofuels. Water hyacinth continues to be of considerable interest, for the combined uses of both phytoremediation of polluted water, and fermentation to produce biogas (Singhal and Rai 2003).

Other uses of weeds: Several studies have demonstrated that a wide variety of colonising plants are used in landscaping; stabilization of slopes and banks and roadsides. Others are important as ornamental plants, handicrafts, and for building human shelters (bricks and roof thatching), as well as for green roofs (Lee et al. 2007). In addition, several weeds are important as sources of natural, plant-based dyes, and many yield strong allelochemicals, which may be used as biological insecticides (Minggen 2007, Sondhia and Varshney 2009). Some provide useful ingredients of cosmetic products, such as soaps, perfumes, creams and hair oils.



Brooms made from grasses Grasses as livestock feed Weeds used for fencing Hat made up of guinea grass



Basket made up of grasses Hand pan made from grasses Gamba grass mat Grasses preserved as animal feed



Weed used as ornamental purposes Thatch used for shade roofing Grasses used for bee hive construction Cooked senna tora for eating

Table 1: Cultural practices of some weed species in Katsina state

Weed	Part used	Purpose/utilization
<i>Pennisetum pedicellatum</i> (Pennisetum)	Whole plant	Whole plant are used in soil mixture for earthen blocks making and wall plaster in Hausa land.
<i>Guiera senegalensis</i>	Leaves	Leaves are used for cultural bathing for a period of four weeks after parturition for a cultural bathing called “wankan Jego” in Hausa.
<i>Andropogan gayanus</i> (Gamba grass)	The stem and leaves	Both stem and leaves are used for house roofing and animal shade roofing.
<i>Striga senegalensis</i> (Witchweed)	Leaves and flower	Leaves and flower were squeeze and applied on skin for rashes treatment.
<i>Cenchrus ciliaris</i> (Buffel grass)	Whole plant	Helps in controlling soil erosion and soil disintegration
<i>Hyparrhenia rufa</i> (Jaragua grass)	Stem and leaf	Stem and leaves are used for fencing and basket sewing.
Senna tora	Leaves	Leaves are cook and eat as vegetables.
<i>Panicum maximum</i> (Guinea grass)	Whole plant	Control erosion, mulching, broom making, folk medicine, and seed as food grain for cage birds.
<i>Eragrostis tremula</i> (Love grass)	Stem	Stems are used as broom
<i>Senna occidentalis</i> (Coffee senna)	Stem	Use as fuel
<i>Cyperus corymbosus</i>	stems	Stems are utilized for mats and screens

Source: Field survey, 2024

Table 2: Some weeds with ethnoveterinary activities

Disease condition	Plant/weed	Application	References
Mastitis	Curcuma longa (Turmeric)	Applying curcuma longa on udder have found to treat mastitis	Marandure, (2016); Mann et al., (2003)
Salmonellosis	Tapinanthus dodoneifolius (Goat weed)	Infusion or decoction is given to birds	Sofowora, (1993); Iwu,(1993)
Helminthosis	Vernonia amygdalina	The power mix with salt and infusion is given	Saganuwan, and Gulumbe, (2007)
Foot and mouth diseases	Acacia nilotica (Locust bean)	Dried bark and seeds are pounded and infusion was used to wash affected parts	Marandure, (2016)
Tympany	Linus usitalissimum (Linseed)	Orally administered	Sofowora, (1993)
Newcastle disease	Cannabis indica (Hemp plant)	The leaves are soaked in drinking water	Mann, et al., (2003)
Abortion	Desmodium velutinum (Velvet leaf)	Decoction with potash given to animals	Marandure, (2016)
Constipation	Newbouldia laevis (Boundary plant)	Leaves are squeezed and given to animals	Sofowora, (1993)
Bacterial and fungal infection	Telfaria occidentalis (Fluted pumpkin)	Decoction powdered is administrated	Dalzyd, (1996)
Ecto parasite infestation	Euphorbia hirta L. (Asthma plant)	Juice squeezed from the leaves are applied on the body for ecto-parasite control	Marandure, (2016)
Tick infestation	Senna occidentalis (Coffee senna)	Pound fresh leaves in water and filtrate applied as a topical spray	Ekwealor, (2019)

3. CONCLUSION

It was concluded that weeds have great potentials on socio-cultural, aesthetics and medicinal activities in both human and animals. This paper highlighted some weeds are used for roofing, mats making, mulching, fencing, basket and used for other aesthetics purposes. Scientist are therefore recommended to extensively explore multiple benefits of weeds and its way of utilizations.

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