

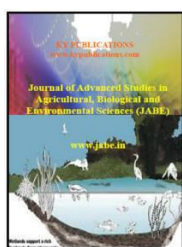
**THE WEAVER-BIRDS' CROP-RAIDING: A SERIOUS NIGHTMARE TO THE LOCAL FARMERS IN TIKO MUNICIPALITY, SOUTHWEST REGION, CAMEROON**

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**ABSTRACT**

In recent decades there has been a significant shift towards the intensification of agriculture. The increase in the human population and the expansion of agricultural land has forced wildlife into modified habitats. The annual crop-yield decline due to weaver-birds crop-raiding problem has placed the local farmers of Tiko Municipality into serious farming challenges. Hence, the objective of this survey was to determine the challenges faced by the farmers in crop production. To carry out this study, 250 questionnaires were administered to the local farmers in the study area. The results of the study have recorded a positive significance between crop-raiding and the weaver-birds population $\chi^2=23.322$ df=1 $P<0.05$. Moreso, the study revealed a positive significance on the crops most damaged and the periods, $\chi^2=25.311$ df=15 $P<0.05$. In addition, there is also a positive significance between crop-raiding and the farmers' discouragement, $\chi^2=12.449$ df=1 $P<0.05$. Also, the study has shown a positive significance between farm-size and the production challenges, as well as years of farming experience, $\chi^2=4.069$ df=6 $P<0.05$ and $\chi^2 = 17.188$ df=2 $P<0.05$ respectively. A respondent of 47.60% has shown that most crop-farms range between three to five hectares. Furthermore, a respondent of 33.60% was recorded on farm-input shortage, as the main challenge faced by the farmers. Weaver-birds do not only destroy the grains, seeds, and fruits but also destroy the leaves of most of their crop-victims like palm trees to build nests. Though the farming population of Tiko has learnt to cope with the nuisance of weaver-birds in their croplands, many questions are raised on the farmers' resilience to this plaque when prolonged.

Keywords: Agricultural land, Crop production, Wildlife, Farming challenges, Crop-raiding

Crop-raiding is when wild animals moved from their natural habitat into agricultural land to feed on the crops that humans grow for their own consumption and trade (Sillero-Zubiri and Switzer, 2001). Some of the more dramatic cases like the swarms of locusts that devastate large swaths of crops in many parts of the world, tend to receive wide coverage in the media. However, crop raiding by vertebrates such as birds and mammals is also becoming a major issue. Human wildlife conflict is of increasing concern in several or many parts of the world and has been the focus of recent conservation efforts (IUCN, 2002). With increasing human populations especially in the developing world more human and wildlife populations are coming into direct competition for resources. Crop-raiding by wild animals is sometimes conceived as part of a wider issue that



people are concerned about, such as their loss of “ownership” of wildlife to government and/or lack of control over resources or particular aspects of their lives (Hill, 2002). Where conservation policy and practice have prevented or discouraged farmers from taking direct action against all, or certain, crop-raiding species, farmers’ may expect government agencies to assume responsibility for providing adequate crop protection against wildlife (Campbell, 2000). This can encourage people to expect compensation or intervention from external bodies or government agencies. If such expectations are not met, any alternative mitigation strategies may be ignored or discounted by farmers. Crop-raiding is not a new phenomenon; it has most likely been occurring since humans started practicing agriculture. Conservationists view human wild animal conflict as a critical new problem created by growing rural populations settling in or near wildlife habitats.

Historically, experts realized that agriculturalists have lost crops and livestock to wild animals for centuries. (Sukumar, 1990). More recently, as human population continues to increase, human-wildlife conflicts have intensified and this demands careful management plans (Hill, 2002). One major type of conflict between wild animals and farmers in Nigeria and the world at large is crop raiding (Warren, 2013; Distefano, 2010). Crop raiding by wild animals is a problem of most rural Africa which has led to incidences of loss of human life, injury to humans, destruction of crops and farm infrastructure (Naughton-Treves, 2001). People have co-existed with wildlife since the early age when they lived a simple hunter- gatherers lifestyle supplementing his diet with fruits and leaves. Man has been and is still a threat to wild plants and animals. The interaction between wild animals from National Parks, Wildlife reserves and forest reserves with man has been studied in many different areas of the world (Thouless, 1994). A lot of studies have been done on the impact of wild animals on agricultural crops in eastern and central Africa (Thomption, 1966). Human wildlife conflicts are not a new problem in Africa. The contemporary conflict between farmers and wildlife at the edge of Uganda’s National parks, wildlife reserves and forests echoes the traditional pattern of conflict on African agricultural frontiers, in historical times, agricultural frontiers were dynamic. At some sites, shift in animal distribution forced farmers to abandon cultivation due to heavy crop losses (Vansina, 1990). More recently, as human population continues to increase, human

However, much as agriculture is important to the farmer and the country’s economy in general, it is threatened by a number of factors which include; soil degradation, land tenure, misuse of agrochemicals, low technological inputs, low yields, and poor agricultural produce marketing. At household level, subsistence farming is threatened by erratic climatic patterns, civil unrest, cattle rustling, pre and post harvest losses (NEMA, 2000) and crop raiding by animals. Crop raiding by wildlife is neither a new phenomenon nor a rare one. In many parts of rural Africa and Asia, it is perceived to be an increasingly serious issue by farmers, conservationists and developers (Thouless, 1994; Sukumar, 1990). Until recently, there has been little attention given to vertebrate species that damage crops with exception of elephants and rodents. Wildlife that has become agricultural pests present a wide spread problem throughout the world (Else, 1991). As human populations expand, particularly in the biologically rich developing world, the conflict between wild animals and people over crops poses a major threat to wildlife in general and primates in particular. The increase in the human population and the expansion of agricultural land has forced wildlife into modified habitats. Some primate species find crops palatable and these are ones that become pests (Forthman Quick and Demment, 1988).

In recent decades there has been a significant shift towards the intensification of agriculture, and the resulting large monoculture can be very attractive to animals. Some animals are naturally pre-adapted to take advantage of these opportunities, for instance cereal crops are a target for birds that are



primarily seed eaters, and root vegetables are prime target for species of pigs that are able to dig the ground. Omnivorous species like baboons will take a wide range and diversity of foods, including many crop species, and often utilize several different parts of these plants, rendering them vulnerable throughout their life cycle (Sillero-Zubiri, and Switzer, 2001). Through high population pressures, the rise in demand for land for cultivation means that in many areas much of the suitable arable land is already cultivated. More marginal land is therefore tilled and farming goes right up to boundary of wilderness and protected areas. Pest species are likely to flourish along the edges of natural habitat and agricultural lands, where they can eat both the food available in undisturbed habitats and the crops growing in the adjoining farmland (Sillero-Zubiri, and Switzer, 2001). Crop-raiding is on the increase and people are competing with wildlife for resources. In Kenya for instance, the remarkable transition from semi nomadism to semi agricultural and settlement. Most natural wildlife buffer zones have led to competition for food, water, habitats, and space for both humans and wildlife hence resulting in a conflict for survival (Kagiri, 2000). Crop-raiding is a major problem in Uganda currently because it leads to a very negative attitude towards protected areas and their managers. There is therefore a great need to find ways of reducing this friction by either reducing the level of crop loss or by raising the tolerance of local people so that they are prepared to accept a certain amount of loss. Crop raiding is a very emotive issue and finding effective solutions is difficult. (Hill, 2002)

MATERIALS AND METHODS

Description of the study area

Tiko Municipality is found in the Southwest Region of Cameroon. With a geographic location of Longitude 9°21'36.18" E and Latitude 4°04'30.00" N, it has a total surface area of 4,840 km² and is bounded to the West by Limbe, to the North by Buea, to the East by Muyuka, and to the South by Dibombari town respectively, (SIRDEP 2011). Climatically, Tiko has two distinct seasons, a long rainy season of about 8 months and a short dry season of about 4 months. The annual amount of rainfall ranges from 2000mm to 4000mm, providing a suitable condition for both perennial and annual crops to grow, an ideal condition for two cropping seasons a year. Daily temperatures are high throughout the year ranging from 28°C to 33°C, with a moderately variable atmospheric humidity throughout the year. The drainage system of Tiko includes mainly river Mungo, Ombe stream, Ndong stream and the sea (SIRDEP 2011). About 80% of the forest land of Tiko municipality has been converted into oil palm, rubber and banana plantations by the Cameroon Development Corporation (CDC). The creeks harbor large areas of mangrove forest which is very highly exploited for wood. These mangrove swamps form important breeding sites for fish, shrimp and other important aquatic wildlife. The clearing of forest for farmlands has destroyed the habitat of many wildlife species, rendering them vulnerable to hunters. This has led to the disappearance of many forest wildlife species like antelopes, and African Buffalos. However, a few wildlife species such as guenon monkeys, python, bush-pigs, and crocodiles are still observed (SIRDEP 2011).

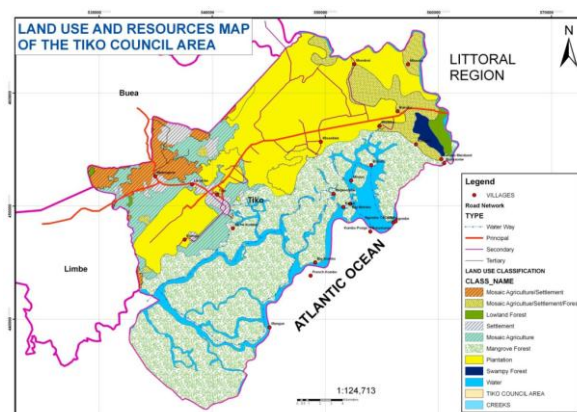


Fig.1: Map of Tiko Municipality (Source: SIRDEP 2011)

Reference

Data Collection and Analysis

The research data of this study was collected through the administration of 250 questionnaires to a chosen population of farmers in the study area. With the help of a field assistant almost all the questionnaires given to the respondents were collected within one week. During this survey, variables such as farm size, crop-raiding rate, and crop damage rates were statistically tested on farming experience, farmers' discouragement, farming periods, and weaver-birds population escalation respectively. The research data was analyzed by using SPSS version 20. Chi-square (χ^2) was the main statistical model used for inferential analysis, while the exploratory descriptive model was also used, and the results the study have been displayed in graphs and pie-charts.

RESULTS

The survey recorded a positive significance between crop-raiding and the weaver-birds population $\chi^2=23.322$ $df=1$ $P<0.05$ (fig.2). Crop-farming in this part of Cameroon is witnessing aggressive attacks from weaver-birds especially on cereal crops like maize, and beans. These raids are rampant and might be among the factors affecting production and the annual income generation yields. Weaver-birds are ecologically very important like any other wildlife or birds, unfortunately their destruction of crops in both local and industrial farming systems is seemingly outweighing their importance in ecology. The crop destruction behaviour of weaver-birds is alarming, especially in farming regions where its population is not controlled by the use of chemicals, traps, and hunting. The crop-destruction caused by these birds has been the reason which most local farmers in Tiko and other parts of Cameroon consistently suffer reduction in harvest. In most farms these birds are observed eating the leaves of plantain, maize, red-oil palms, cassavas, beans, and even fruit trees like avocado. During their breeding season, the birds use but the leaves harvested from farm-crops to build their nests. The reason for which fruit trees in the same farms and nearby farms are always observed anchoring sometimes hundreds of nests with no fresh leaves left on these trees to support photosynthetic processes. During this time there is escalation in the consumption of maize grains, beans, and red-palm fruits directly from the crops. The high fecundity rate and the reproduction prolific nature of the birds alarmingly escalate the destruction of farm-crops, especially if effective bird population control measures are not given a serious consideration.

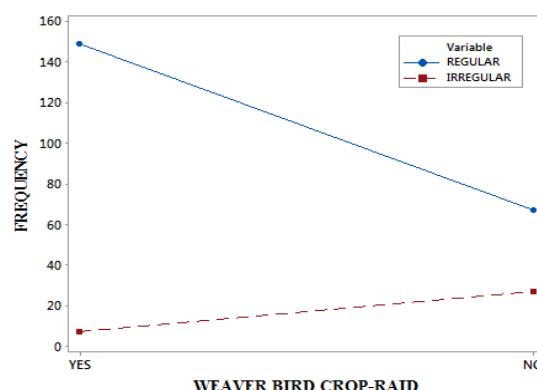


Fig.2; The rate of crop-raiding and weaverbird population

The study has revealed a positive significance on the crops most damaged and the periods, $\chi^2=25.311$ df=15 $P<0.05$ (fig.3). In this study, the weaver-birds were observed harvesting and destroying maize, beans, palms, plantains, tubers, and fruits. The destruction of these plants was observed at the leaves, grains and tubers, done with very alarming calls or vocalizations. The social vocalization is one of the key characteristics associated with the presence of a significant population of these birds in a crop-farm. However, the destruction of crops is observed to have a seasonal dependence on both wet and dry seasons. Ecologically, the weaver-birds are more active and often ready for long travels in the dry season than the wet, making their destruction to be more obvious and effective in the dry seasons. A wet weather slows down the metabolic activities within the body physiology of the animals, hence, a great opportunity for farmers yield increase in this season.

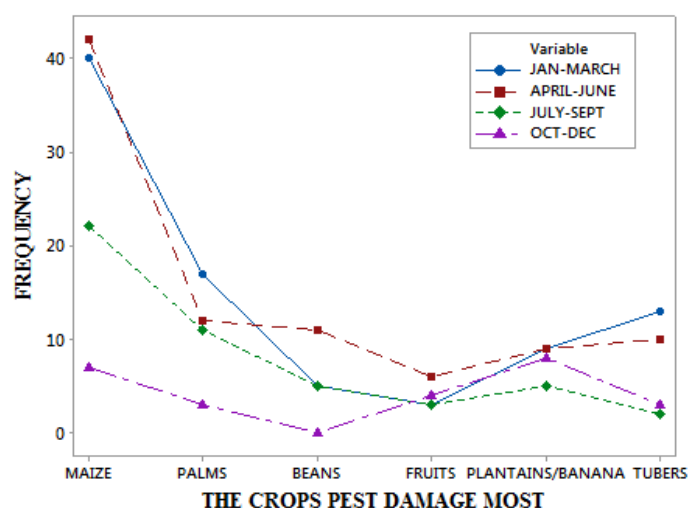


Fig.3. The Crop damage and periods

There is also a positive significance between crop-raiding and the farms' discouragement, $\chi^2=12.449$ df=1 $P<0.05$ (fig.4). The rampant crop-raiding tradition of the weaver-birds already seems to take a heavy toll on the farmers. Most farmers expect motivation from the national government and international agricultural



organizations to back them up with conventional fighting skills that would help in population reduction of the birds from their farmland. Some farmers alleged that their local fighting field-methods seem to have been neutralized significantly at many fronts by the birds through an adaptive orientation behavior acquired in the course of time. However, the high population growth rate of the weaver-birds in a farming area like Tiko might create a huge panic within the farming population when all the available options are exhausted, consequently, the most affected farmers might divert their investment interest into other businesses that would present a sustainable guarantee for future income generation assurance.



Fig. 4. The rate of crop-raiding and farmers' discouragement

Also a positive significance was recorded between farm-size and the production challenges, as well as years of farming experience, $\chi^2=4.069$ df=6 $P<0.05$ and $\chi^2 = 17.188$ df=2 $P<0.05$ respectively (fig 5 & 6). The farming population in Tiko is poor, the reason for which subsistence farming practice is the mainstay. However, Tiko Municipality has hosted the tradition of monocultural crop-farming for Cameroon Government from the colonial era due to its favourable climate, flat landscape, and volcanic soil. The large monocultural crop-farms have consumed much of the cultivation land, thus, any individual farms in the area are definitely restricted to small scale. Unfortunately, most of the government plantation workers earn very little salaries monthly, a situation that has brought the population of Tiko Municipality into poverty as compared to other areas in the region where the individuals practice large scale farming due to the availability of fertile land. Some of these large scale farms are run by groups of a few individuals who decided to common and budget funds for large crop-farming business. There are also some farming groups, financially and materially equipped by the national government, an encouragement to boost the local food supply to the population especially in big cities. The incentive idea to increase food production in remote areas in Cameroon introduced by the national government has been the main encouragement to the local and industrial crop-farmers to push crop-farming investment to its limits. In many villages in Tiko area and other parts of Cameroon youths are very much enthusiastic when it comes to crop-farming investment since they know this would attract the national government and FAO stakeholder's funding. In most areas of Cameroon where there is fertile and available farm-land youths prefer farming than the poorly paid office jobs.

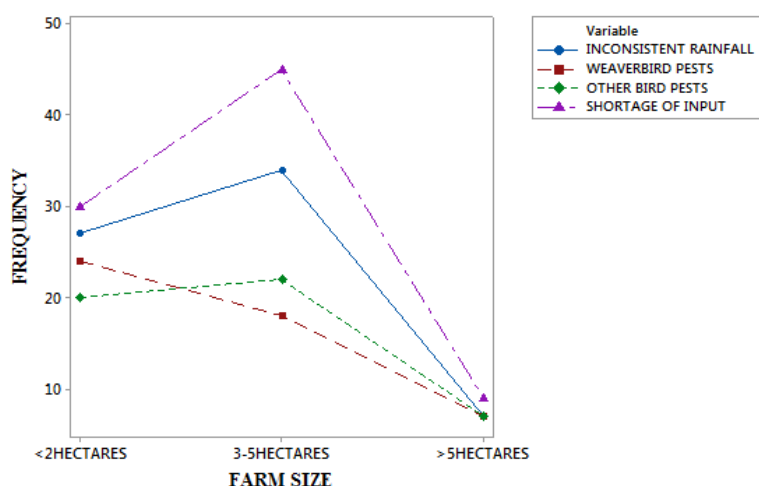


Fig.5. The farm size and challenges faced in crop production

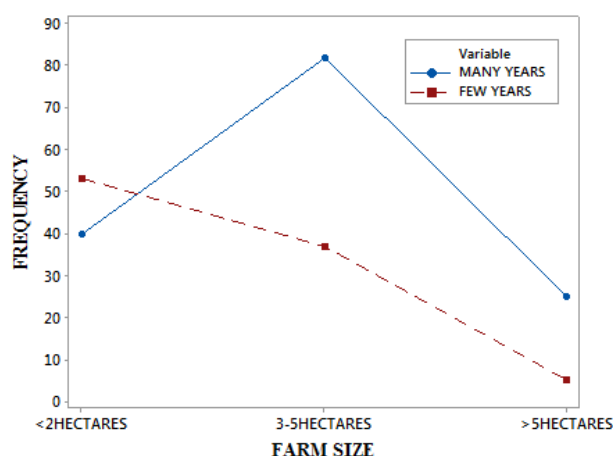


Fig.6. Farm size and years of farming experience

A respondent of 47.60% has shown that most crop-farms range between three to five hectares in Tiko farming area (fig.7). The factors involved in this farm-size restriction are many; poverty, pest's management and land scarcity are among the problems. The extensive monocultural crop-farming practice carried out by Cameroon Government in this area is dated far back the colonial era where land confiscation from the local indigenous people was established, leaving the local people and strangers with very small portion of land for them to farm. Many generations have learnt to tolerate this large land grasp by the national government, however, with the population increase in Cameroon, unemployment, and the need for youths to get themselves occupied on local farming practice, it is becoming evident that Cameroon Government would have to make a wise decision by handing part of this land to the indigenous population as done in other areas. However, for the local farming population of Tiko to have larger crop-farms, many factors need to be involved, financial incentives, extensive agricultural work-shops, pest and also disease control need to be given attentive consideration. A respondent of 12.00% for farm-size of above five hectares gives a clear justification that there



is a need for external farming investment support by the stakeholders to boost the local crop-farming system in Tiko.

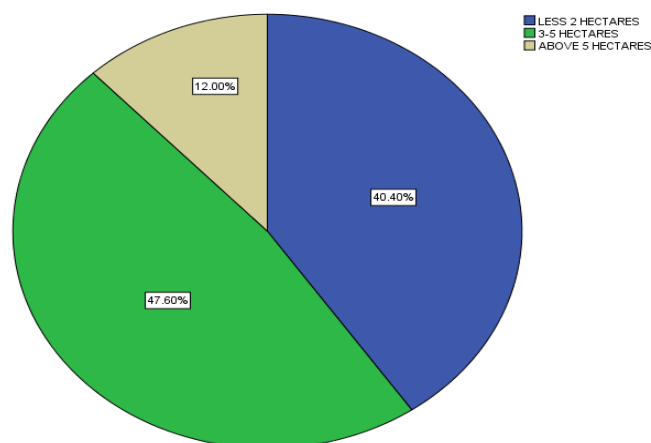


Fig.7. Farm Size

The study recorded a respondent of 33.60% on farm-input shortage, a main challenge faced by the farmers (fig.8). The Cameroon Government support might be insufficient to make crop-farming sustainably lucrative in areas like Tiko where weaver-bird pests appear to exacerbate the cost of framing. The Government of Cameroon seems to have already put in much resource to support local framers within the national territory, unfortunately some government administrators responsible for the execution of the material support are biased, hence, indiscriminate management of the budgets ends much of these funds into individual pockets and grant benefit approval to farming projects without commensuration. A respondent of 19.60% was recorded on other birds as a problem in the farm management. Though the weaver-birds are dominant in crop destruction on Tiko farmlands, there are other birds like francolins that also damage crops in these farms. The francolin birds make aggressive swift attacks on the tuber crops like cassavas, yams, and cocoyams by digging and eating the tubers when ready for harvest. Most crop-tuber farmers are having francolin birds as a very huge challenge in their farm management programs.

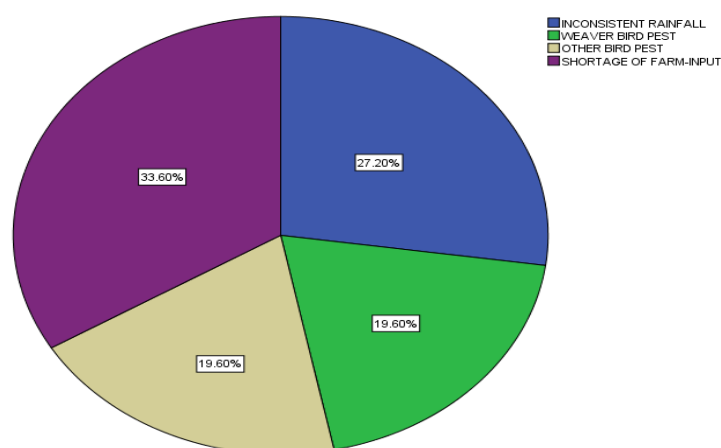


Fig.8. Challenges faced in crop production



The study has shown a respondent of 36.00% for the month of April-June as the period of frequent heavy raids of weaver-birds (fig.9). In Cameroon, like in other countries of sub Saharan Africa crop-farming is seasonal for some crops and annual for many others. The most vulnerable crops to weaver-bird raids like maize and beans fall within this period of cultivation, the reason which the pest activities are high in the farms. This period is also characterized with a more sunny weather, an added advantage to the acceleration of bird-feeding activity and nesting. Secondly, this period of the year also coincides with the breeding cycle of the weaver-birds, making a cereal crop-farm a soft spot for hosting the animals breeding cycle. The breeding period of weaver-birds is characterized by a spectrum of social activities like nesting, roosting, laying eggs, hatching, and feeding the chicks. The prolific nature of these birds could give many new chicks to a single individual mother within this time, adding many more birds to the farm-feeding system.

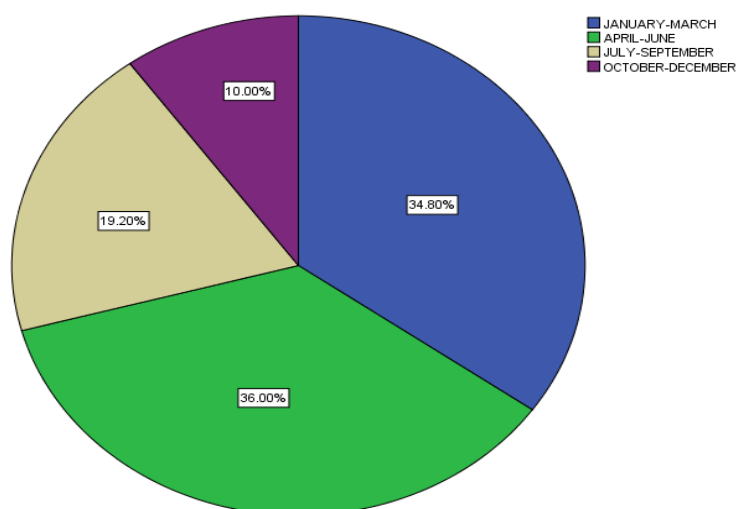


Fig. 9. Period of regular feeding raids

A respondent of 44.40% revealed that maize is the most attacked crop by weaver-birds in Tiko farming area (fig.10). Maize is a cereal crop cultivated by almost all the farmers in all parts of Cameroon, the shorter cultivation period, richness in starch content, its transformation into different food-menus, high consumption demands by the population and a ready local market for sale are among the reasons for its frequent heavy cultivation. Unfortunately, this crop is extremely vulnerable to bird-pests like the weaver-birds, consuming both the grains and the leaves. The weaver-birds have been known and observed to be very destructive to the maize plants in the whole country, posing a huge problem to the cultivators. Most farmers interviewed during this study revealed that the birds population seems to be on the rise, a situation if not urgently handled would spiral maize production into a costly noise-diving direction difficult to reverse. Maize related menus like fufu are a staple dish in many homes in Cameroon, and many Cameroonians might not be flexible enough finding an easy and cheap replacement when there is a sudden shortage in its supply due to farm-production crisis imposed by the weaver-birds. There is an emergency need for a solidarity program towards the management of pests like the weaver-birds due to their gross destruction not only to the maize plant-leaves but also the grains in the farms. The success in pest's management like weaver-birds in any community or country is dependent on the strength of solidarity put into action by all the stakeholders in the agricultural and wildlife conservation sectors. For instance, if only a few farmers in a specific farming area like Tiko agree to strongly



tackle this pest in their farms without the involvement of the entire community, efforts might turn floppy due to the fact that the birds would make an ecological migration shift to neighboring farmlands where their population control is obviously weak. A respondent of 6.40% recorded on fruit damage by the weaver-birds in this study shows clearly that this bird species is not a fruit-eater, but good in damaging the leaves of mangos, avocados and palms.

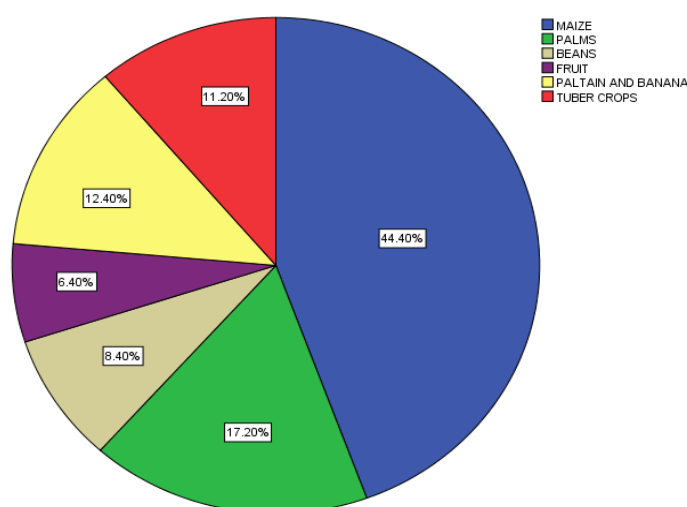


Fig.10. Crops damaged by weaverbird pest

DISCUSSION

Birds are found almost everywhere both in villages and big cities and because they are very dynamic, they can easily be seen and observed for several purposes. For example, birds have been used recently to monitor Environmental Impact Assessment (E.I.A) because they are very sensitive to environmental changes. Some birds are generally believed by local people to be both indicators of season and time, and to some extent certain bird species can be used to predict the period of the day and night, e.g., cock-crows and francolins. Bird farming enables some people to be economically self reliant and has reduced the number of the unemployed human population in some society. They are also used as national symbols. For example in the Roman Empire, the symbolic eagle in Europe was the Golden Eagle (Gill, 1995), while the Eagle is also used in the Nigeria's coat of arms to represent strength. Birds are regarded as divine messengers in primitive culture, thus to understand them is to understand divine revelations. Despite the fact that bird populations are for the most part beneficial, there are occasions when individuals of certain species can seriously compete with human interest (Ware, 1978). Some of these creatures create serious pest problems where they occur singly or in small group or in large aggregation (Inah, et al. 1999).

Wide varieties of arable crops attract granivorous birds which lead to significant damage to the crop-yields globally (Afolayan, & Ajayi 1980; Akinola, & Inah 2005). However, there are few studies pertaining to the awareness of the problem among the farmers and the magnitude of crop-damage caused by the birds in India (Elgood, 1982). The problem of crop-damage by birds is faced by the farmers and the losses due to crop depredation by birds are significant in terms of the gross crop yield. Birds can inflict damage to the crops and a loss to the farmers in all the stages of crops right from sowing and planting till harvesting. In study conducted in India, it was found that the proportion of crop damage to sunflower crop, depends on the proportion of



foraging activity of the birds (Ware, 1978).. The food of the cropland species is of mostly three types which depend on grains, seeds, fruits, green vegetation of the crop plants and grasses, insects, other arthropods, and rodents found in the soil, crops, and other plants (Ghost, 2002). Most of the activities of birds are either advantageous or disadvantageous to the farmers. Birds create negative impact on most of the agricultural activities and some agricultural activities attract birds as special feeding opportunities (Akinola, & Inah 2005). The presence of insectivorous birds in croplands is beneficial to farmers up to some extent. In countries like India, as a common remedy to the problem, attempts are regularly being made by the famers to reduce crop losses from birds by deploying measures for control of birds either through traditional means or by using bird scaring techniques, devices, and pesticides. The greatest damage to the matured crops was observed due to the foraging activities of bird species like Baya Weavers, *Ploceus philippinus*, and Munias, *Lonchura* spp., and House Crows, *Corvus splendens*, with an overall reduction of crop yield by more than 55% (Gill, 1995). Foraging pattern of birds depends on behavior of predator avoidance and not the status of feeding source (Ware, 1978). In addition to these species of birds, the Rose-ringed Parakeet, *Psittacula krameri*, is the most common and destructive bird from agricultural perspective which inflicts huge damage to standing cereal crops, fruit orchards, and vegetable crops (Inah, et al. 1999). . A single Rose-ringed Para- keet, *Psittacula krameri*, consumes about 15 g of sunflower seeds per day.

Crop-raiding by wildlife is a problem of most rural Africa which has led to incidences of loss of human life, injury to humans, destruction of crops and farm infrastructure (Hill, 1997; Naughton-Treves, 2001). A common, ancient and global example of human wildlife conflict is crop-raiding (Hill , 1997; Naughton – Treves ,2001) whereby a range of mammals, birds and insects utilize cultivated crops as their food resources. Crop-raiding will continue to increase in Africa in the foreseeable future as the human population continues to grow. In the year 2000 the population of sub – Saharan Africa was estimated at 657 million. By 2025 this is expected to have grown to 1,053 million and by 2050 to 1,556 million. The rise in human populations will undoubtedly lead to the expansion of agriculture into areas currently unused (Sillero-Zubiri and Switzer, 2000).

Crop-raiding and hunting may be closely linked. People interviewed around Parc Nationale des Vulkan's in Rwanda admitted to hunting crop-raiding animals and expressed dissatisfaction with the park authorities for not doing anything to prevent crop-raiding. People who admitted to hunting in the park have small farms located near the park edge and are consequently likely to be most affected economically by crop-raiding animals Plumptre, (1997). Crop-raiding can reduce farmers' tolerance towards wildlife. Despite high human population densities in rural areas and more rapid conversion of forest to farmland, much less is known about crop-raiding in Asia and Africa (Linkie, 2007).

Human wildlife conflict (HWC) is a significant and critical threat to conservation across the world (Nyhus et al. 2005). According to the World Conservation Union, it occurs when human populations overlap with wildlife requirements resulting in costs to both native residents and animals (Distefano 2004). Changes in agricultural techniques, such as reduction of crop rotation, intensification of cropping, and rise in monoculture, and an expansion of global trade in food and plant products have dramatically increased the impact of pests (Yudelman et al. 1998). Various studies indicate that worldwide crop-loss from pests ranges from 35% to 42% (Yudelman et al. 1998). The term 'pest' can encompass insects, which are responsible for the greatest proportion of damage at approximately 15% (Yudelman et al. 1998), as well as any domesticated, native, introduced or wild species. Case studies across several continents suggest that HWC is greater in tropical areas and developing nations in which livestock and agricultural land are an integral part of people's lives and



income (Distefano 2004). Thus, the relative impact of HWC on an individual's economic livelihood is directly correlated to the amount of land owned and the dependence on rural activities (Messmer 2000).

However, until recently conservationists have focused little on the impact vertebrate species other than birds and rodents have on crop raiding, particularly paying little attention to incidents involving small-scale subsistence farmers (Hill 1997). However, much evidence points to this phenomenon having occurred since recorded history (Hill 1997). With fragmentation and reduction of natural habitat steadily on the rise, it is obvious that wildlife is forced to encounter humans with increasing frequency. Thus crop-raiding by wild animals, as a means to survive, results in conflict between local communities and wildlife conservationists (Kaswamila et al. 2007). Local farmers view native wildlife as "pests" and often resort to lethal methods to protect their land which can devastate animal populations. Retaliatory killing was the most notable reason for past eradication of many large carnivores throughout the world (Breitenmoser et al. 2005).

CONCLUSION

Almost all bird species in the world are morphologically attractive to human sight due to their beautiful plumage coloration they often display especially in a bright weather. For this reason bird-watch tourism has been on the rise for decades and the ecological study of birds has generated understanding on their behaviors, feeding, population structure, home range and the general biology as a way out for their protection. Unfortunately, the protection of birds for conservation purpose has been seriously controversial on species like weaver-birds that have been in historical conflicts with humans on cropland especially the cereals. Crop-raiding by the weaver-birds is a social behavior that has subjected the crop farming population of Tiko into poor seasonal harvest. These birds do not only destroy the seeds, grains, and fruits but also destroy the leaves of most of their crop-victims like palm trees to build nests. Though the farming population of Tiko has learnt to cope with the nuisance of weaver-birds in their croplands, many questions are raised on the farmers' resilience to this plaque when prolonged.

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