3.0 PRE-FIELD SURVEY ACTIVITIES

As part of the survey programme, three activities namely, news conference, TV and Radio Talk shows were carried out.

The News Conference was held in September, 2001 to sensitize about 40 journalists about the importance of the Closed Season and the role of wild animals in contributing to forest regeneration, food security and their socio-cultural importance to the Ghanaian society. The press conference received widespread media publicity with about 6 articles published by the print media within a period of one (1) week (Appendix A). About seven (7) other radio stations, some of which broadcast in the local languages, also ran commentary highlighting the importance of the Closed Season on Hunting.

CI and Wildlife Division also featured in a popular Ghana Broadcasting Corporation (GBC) television programme called *Mmaa* Nkomo. The *Mmaa Mkomo* programme is one of the most popular television programmes that feature issues of national interest in the most widely spoken Ghanaian language, Akan. During the programme, the general public, especially the three categories of bushmeat traders: Market Queen-mothers, Retailers and Restaurant Operators and consumers were in attendance. The issues discussed were the importance of the Annual Closed Season, the impact of over-hunting, the use of unauthorised hunting methods and their implications for biodiversity conservation, food security, health and the socio-cultural fabric of the Ghanaian society. The panellist answered many questions and most of the participants made valuable contributions.

Conservation International was featured on one of the country's Radio Talk-shows, *Choice FM* Radio Station, to discuss the importance of the Annual Closed Season on Hunting. Some of the listeners who phoned in to contribute to the programme, acknowledged the fact that but for the News Conference and the Radio Programme, they were ignorant about the policies that were in

place to protect pregnant and lactating wild animals. They requested that such programmes should be run regularly to create awareness about the importance of the Closed Season.

4.0 THE MARKET SURVEY

4.1 The Results of the Markets Survey and Implications

The survey targeted major bushmeat markets in both Accra (Kantamanto, Adabraka, Agbogbloshie, Kaneshie, Madina, Makola and Mallam Atta markets) and Kumasi (Atwemonom, Central, Kwadaso, Sofoline, Asafo, Amakom, Ayigya, Bantama and Asawase markets). Questionnaires were used to collect and document information from 60 queen-mothers, 300 retailers and 200 restaurant/chop bar operators on the various aspects of the bushmeat trade. Among others, particular attention was paid to, the species being hunted and traded in during the closed season, the major sources of supply, the mode of hunting and the species that were most preferred by customers. The animals recommended for domestication were also documented. From the outcome of these measures, the appropriateness and the extent to which the Closed Season was being adhered to was assessed.

4.1.1 .Species Offered for Sale on the Ghanaian Markets

Fig.3 All types of bushmeat species being sold

The survey listed forty seven (47) different species of wild animals that are sold on the Ghanaian market, with fourteen (14) of them being wholly protected in Ghana (Appendix C). The protected animals identified on the markets are Black and White Colobus Monkey (*Colobus polykomos vellerosus*) Bongo (*Tragelaphus eurycercus*), Palm Squirrel (*Epixerus ebii*) and Two-spotted Palm Civet (*Nandinia binotata*). The two

species of Pangolins are Giant and Long-tailed. The others are Bay Duiker (*Cephalophus dorsalis*) and Elephant (*Loxodonta africana*), Monitor Lizard (*Veranus niloticus*) and Honey Badger (*Mellivora capensis*).

The capture or destruction of any of these animals at all time is currently strictly prohibited by LI 685 as amended by LI 1357 of 1988 (WD, 1998). However apart from the wholly protected species, the rest could be captured or hunted after obtaining permits from the Wildlife Division. Only the Grasscutter (*Thryonomis swinderanus*) is legally permitted to be hunted and sold during the Closed Season with permit.

The survey also revealed that some totems such as the Crested Porcupine (*Hystrix sp, totem of Asantehene*) and Buffalo (*Syncerus caffer, totem of the Ekona clan of Ashanti*), are also being hunted and sold. This practice was traditionally prohibited, as totems were revered as sacred animals by many tribes and clans, particularly chiefs who use them as symbols of authority. Traditionally, it is maintained that the welfare of an individual or lineage depended on its members maintaining a relation of respect towards a particular species of animal (Ntiamoa-Baidu, 1997). As such they refrained from killing and eating such totems. It is worth noting that such traditional practices affirmed the ecological truth that human welfare is dependant on plant and animal welfare (BSP, 1993). As adherents to such beliefs advocated for the preservation of their respective totems, they prevented their indiscriminate hunting. Unfortunately, traditional wildlife management practices and control through totemism, festivals and sanctions are on the decline. The sale of all species of wild animals in the open markets is therefore a reflection of the increasing disregard for such traditional conservation norms and the breakdown of these practices.

The fact that virtually all species are subjected to over hunting implies that where the populations of key species, such as the primates and duikers, which are pollinators and seed dispersal agents,

are drastically reduced, they can no longer play their ecological functions of facilitating forest regeneration. The apparent loss of the habitat of some of these species could be attributed to this tendency. It is therefore obvious that modern conservation practices, such as the existing legislation alone cannot be effective in ensuring sustainable utilization of the wildlife resources. There is therefore the need to consider a combination of both modern and traditional practices that are sensitive to biodiversity conservation, while providing adequate levels of sustainable utilization that could also enhance food security.

4.1.2 Most Preferred Bushmeat in Ghana

It is worthy to note that of all the eleven (11) wild animals listed in terms of bushmeat preference, during the surveys, the Grasscutter (*Thryonomis swinderanus*) was the most preferred, accounting for 65.1 percent of the total preference (fig 4). This was confirmed by the fact that it was the most sought after consumed bushmeat in the restaurants and chop bars throughout the country. It is also the most abundant in all the markets surveyed. This conforms to the assertion by Ntiamoa-Baidu (1997) that it remains the most important bushmeat species throughout West Africa in terms of volume of trade and preference. It is also an indication of an over-dependence of consumers on a single species. Such over-dependence is probably resulting in the over-exploitation of this species as some of the traders had reported that much smaller sizes are now being hunted and sold, as compared to previous years. Even though the species breeds prolifically and is reported to be a destructive farm pest, the current rate of exploitation could be more than what the reproductive capacity of the populations in the wild could sustain.

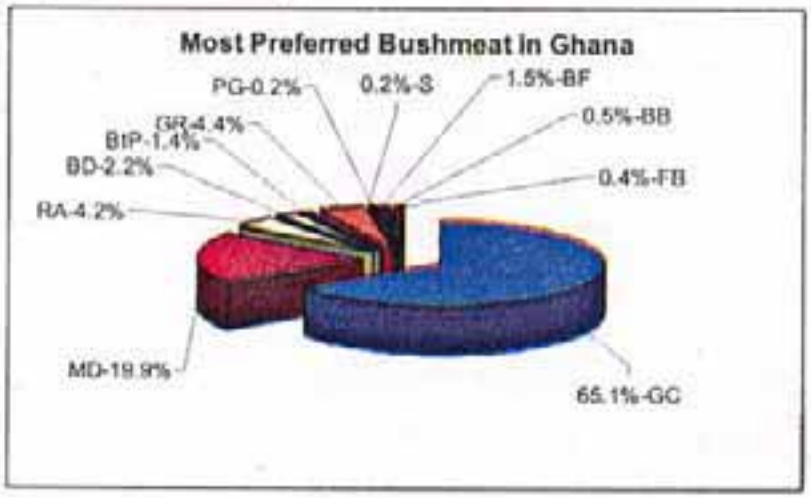
The high dependence of consumers on this single species provides justification for the promotion of the Grasscutter (*Thryonomis swinderanus*) domestication programme. This is because there is currently, adequate demand for the meat of this species and any investment is most likely to readily pay off and contribute

enormously to reducing the high market demand on other wild animal species.

The preference for Grasscutter is followed by Maxwell's duiker (*Cephalophus maxwellii*)(19.9 percent) and not Royal antelope (*Neotragus pygmaeus*), as was noted by Ntiamoa-Baidu (1997). This could be attributed to the fact that the hunting pressure had impacted the populations of the latter more than the former. Caspary (2001) observed that most exploited species were those considered to cause damage to agricultural areas. Incidentally, all the eleven (11) preferred species, except the Pangolin (*Manis sp*), were farm pests *eating maize,* cassava, cocoyam among others. Altogether, they constituted more than 80% of all the bushmeat sold in the markets and the restaurants. That probably justified why they were the most exploited and sought after.

Another issue worth-noting is the fact that primates were not a favoured species for human consumption. This is because traditionally many people do not prefer primates, as a source of protein. Therefore the apparent disappearance of the primates in their natural habitats, especially the Miss Waldron's Red Colobus (*Procolobus badius waldronii*), could not be solely attributed to bushmeat consumption alone, but to other causal factors such as habitat destruction and changes in ecological conditions.

Fig 4: Most Preferred Bushmeat in Ghana



Source: Conservation International - Ghana, 2002
(Survey Period, Nov Dec 2001)

Grasscutter	GC	Maxwell Duiker	MD
Giant Rat	GR	Royal Antelope	RA
Black Duiker	BD	Buffalo	BF
Brush-tailed Porcupine	BtP	Bushbuck	BB
Fruitbat	FB	Pangolin	PG
Snails	S		

4.1.4 Sources of Supply

The results of the survey have revealed that bushmeat dealers in Ghana received their supplies from all the regions of Ghana. This indicates that all the regions are involved in the bushmeat trade even during the closed season. Bushmeat is sent to the major markets either smoked or fresh. Those using bushmeat for medicinal purposes cut the meat into various parts (bones, skull, skin, hair, tails, jaws intestines, limbs) and dry them for their clientele.

Standards for bushmeat processing and marketing vary from one area to the other. There seems to be absolutely no rules or standards for the bushmeat trade in Ghana and the quality of bushmeat offered for sale on the markets varies widely. While there may be standards set to ensure domestic meat hygiene, these either do not seem to apply to bushmeat or are totally ignored when it comes to bushmeat marketing and processing.

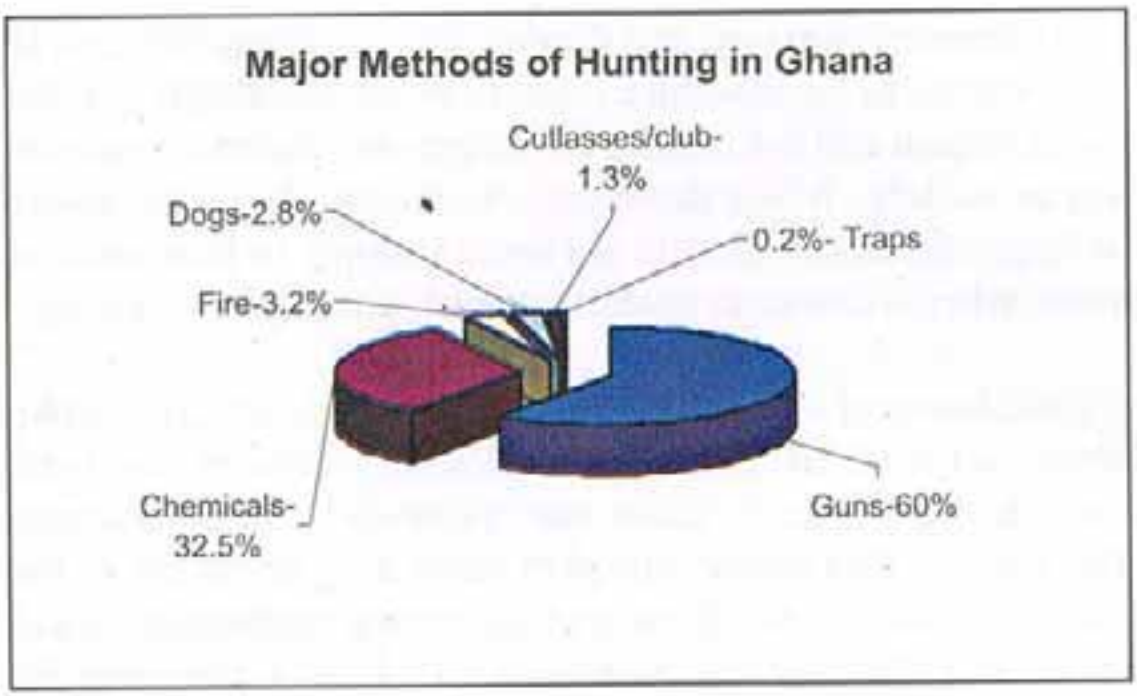
The bushmeat trade has evolved over a long period of time and developed into an intricate network of hunters, wholesalers (queen mothers, middlemen), retailers (restaurant /chop bar operators) and consumers. Hunters kill the animals and either transport them long distances to the marketing centres for sale to middlemen or the queen mothers travel to the farm gates to buy the bulk of bushmeat killed. It is common for animals killed on night hunting trips to be kept till day break before they are sold. Animals caught in traps may stay in the traps for up to three days if trappers do not visit their traps regularly for one reason or another. Sometimes such carcasses are almost beginning to decompose, but they will be collected and either sold as 'fresh' bushmeat or smoked for sale (Ntiamoa-baidu, 1997). There also seem to be no standards for smoked bushmeat and it is common to find improperly smoked bushmeat offered for sale on the markets.

The queen mothers sell the bushmeat to the retailer in the state in which they bought them. The retailers mostly restaurant/chop bar operators, process the bushmeat for sale to consumers.

4.1.5 Methods of Hunting

The survey recorded six main methods of hunting wildlife (fig 5). These methods include the use of guns (60%), chemicals (32.5%), fire (3.2%), dogs (2.8%), cutlasses/clubs (1.3%) and traps (0.2%). Of the six (6) methods of hunting recorded during the survey, only guns and traps are legally approved by LI 685 of 1971 (WD, 1999).

Fig 5: Major Methods of Hunting in Ghana



Source: Conservation International - Ghana, 2002
(Survey Period, Nov Dec 2001)

4.1.5.1 The Use of Guns

Despite all the controls on weapon possession in Ghana, the use of guns for hunting accounts for 60 percent of the bushmeat supply on the Ghanaian markets (Fig.6). The high percentage use of guns as a method of hunting as against the traditional sanctioned methods of hunting such as trapping is of critical concern to conservationists. Even more disturbing was the reported use of automatic weapons rather than shot-guns. The former promoted mass killing of wild

animals at a time, especially the gregarious ones such as the monkeys and those savanna ungulates that occur in herds.

Fig.6 Hunter from the forest

Molade (2000) noted that most urban professional hunters use rifles and other licensed automatic weapons. Such weapons have a more devastating effect on wild animal populations as compared to the use of shot-guns. Larger species with slow reproductive rates are particularly vulnerable, and tend to disappear first where they are subjected to severe hunting pressure. Lahm (1993) also noted that within a population of about 130 people in a village in north-eastern Gabon, the ratio of gun ownership was 1:6.5. This observation could be similar to the present situation in Ghana. In the past flint-locks were used and these were made by local blacksmiths. Currently 12 gauge shot guns as well as locally made and imported rifles are commonly used (Ntiamoah-Baidu, 1997). Most professional hunters own a gun and it is common for a younger part time hunter to rent/borrow a gun from an older hunter and pay a portion of his catch for the use of the gun.

This method of hunting is therefore likely to be one of the major factors largely responsible for the scarcity of the primate species in the wild and low representation in the bushmeat trade. Because mass killing could easily be effected with automatic weapons, such a method of hunting has serious implications on food security and biodiversity conservation. This is because it does not favour the sustainable exploitation of wildlife resources as an important socio-economic commodity, which supports the livelihood of both rural and urban populations.

The use of guns as the predominant method of hunting is also of great concern as it poses a threat to national security. It is a reflection of the fact that a large number of people especially in rural areas possess guns. There is therefore the likelihood that such weapons could easily be used to cause civil strife, which could result in political instability as has happened in Sierra Leone and Liberia (BSP, 2001). The displacement of human populations who tend to depend largely on natural resources, eventually leads to destruction of biodiversity. Armed conflicts tend to prevent local people from growing basic food crops for their survival and hence could result in a greater dependency on wild food such as bushmeat and wild food plants. It is therefore not only a potential threat to national security, but also to the volatile food security situation of the country.

4.1.5.2 The Use of Chemicals

One significant revelation of the survey is the widespread use of chemicals for bushmeat hunting. This method of hunting is illegal as stated in Part 1 Section 5 of the Wildlife Conservation Regulation LI 685 of 1971 (WD, 1998). This is a further indication that there is no adherence to the law.

According to the survey, the use of chemicals for hunting of wildlife constitutes about 32.5 percent of the bushmeat supplies to markets in Ghana (Fig.7). This method is particularly dangerous since it poses health hazards to consumers of bushmeat. Available records of some chemicals used for hunting bushmeat have resulted in the death of consumers. This suggests that the chemicals are harmful not only to animals but to humans as well.

Fig.7 Bushmeat appeared to have been hunted with toxic chemicals

The chemicals are of two types: Imported chemicals and Traditional preparations.

- Imported chemicals - Laboratory analysis carried out on some bushmeat sold on the Ghanaian markets by the Standard Board of Ghana has revealed the presence of organophosphates and organochlorine traces in the samples. This attests to the use of such imported toxic chemicals for hunting bushmeat in Ghana.

  One of such imported toxic chemicals is referred to locally as 'sharp' because of its ability to kill large numbers of rodents that eat it. Their death occurs minutes after contact with a 'sharp' contaminated food. 'Sharp' is normally placed on a cocoyam leaf, folded and tied in anticipation that bush pigs that consume cocoyam leaves would, in addition, eat the contaminated leaves as well. The 'sharp' chemical is also used by sprinkling the chemical on the leaves of bent maize plants. Rodents that eat the contaminated maize plant die instantly in large numbers.

- Traditional preparations - Different traditional preparations are used for hunting bushmeat in Ghana. One such preparation is made by grinding the roots and bark of an indigenous tree (*Nkradadua*) and broken bottles. The ground materials are then mixed with a quantity of urine which has been kept for two weeks. This preparation is then smeared on cassava chips. A large population of wild animals, particularly rodents die after eating the contaminated cassava chips.

  Another method employed is the introduction of a chemical known locally as 'Tangen' which is introduced into a semi ripe banana and the bunch hanged on a tree. Primates are particularly attracted to bananas and they die in great numbers after eating the contaminated food.

This method of hunting leaves behind a residue of harmful chemicals and this poses great threat to the environment and human health.

4.1.5.3 The Use of Fire and Dogs in Hunting

The survey revealed that the use of fire accounts for 3.2 percent of the major bushmeat hunting methods used in Ghana The use of fire in hunting is more common in the grassland savannah areas and is mostly done in groups. Members of the group are positioned strategically around a patch of grassland known to contain wild animals. The area is set then on fire and animals are killed with cutlasses and clubs as they run out of the area to escape the fire. This method has far reaching consequences for the environment since the process results in the destruction of vegetation, soil fauna and flora and hastens in the drying of water bodies.

Hunting with dogs play a significant role in the hunting of wild animals. The bushmeat survey revealed that hunting with dogs constitutes 2.8 percent of the major methods of hunting in Ghana.

4.1.5.4 The Use of Traps and Cutlasses/Clubs

The most dominant traditionally sanctioned method of hunting is the use of traps. Others such as the use of dogs, fire and cutlasses have no legal backing (WD, 1998). Most hunters who hunt with guns also set traps. Traps may also be set by farmers who do not hunt with guns. The survey recorded a 0.2 percent in the use of traps for hunting wildlife. Traps are set in the forest in areas known to be used by wild animals or along trails and at feeding grounds. Trapping is non-selective but less destructive to wild animal populations as compared to the use of guns such as the automatic weapons. Traps end up killing all animals including those that may not be of any nutritive value to the hunter. In some Ghanaian communities snakes are not considered as food and therefore allowed to rot when captured by a trap.

Traps are also set in and around farms; often a fence is constructed around a farm and traps are set at intervals along the fence. This

system is primarily a crop protection measure and the primary objective is to reduce damage to crops by wild animals particularly rodents. This could explain the reason behind the low level of the use of this method. In addition, the irregular visit to the traps results in the decay of the bushmeat it has trapped and killed

The use of cutlasses/clubs as a hunting method is also captured by the survey. This method constitutes 1.3 percent of the major hunting methods in Ghana.

Some of these traditional resource utilization tools that are less destructive to wildlife could be modified and promoted to replace those that facilitate mass destruction.

4.2. Trade in Bushmeat during the Year

Out of 300 retailers who were interviewed, 61.4% stated that they received and sold bushmeat throughout the year. However, 38.6% indicated that they were engaged in the trade only during times of the year when they cannot find any income generating alternatives. It is therefore apparent that the former were in full-time employment while the latter only on part-time basis.

Fig 8: Trade in Bushmeat in Ghana

Source: Conservation International - Ghana, 2002
(Survey Period, Nov Dec 2001)