Section 2:
ISSUES TO BE ADDRESSED

A farmer's hut destroyed by elephants, F. Osborn, WCS

What a manager needs to know

It is important that anyone responsible for assessing or managing a human-wildlife conflict situation knows exactly what the important issues are locally, how far they extend geographically and temporally, and what portion or group within the local population are affected, or consider themselves to be at risk. In order to target an intervention it is vital that there is a good understanding of the problem at hand. Often attempts are made in the case of crop raiding to reduce the damage levels when actually this is not the real problem that needs to be addressed. More specifically, it is vital that the following types of information be readily available prior to implementing any conflict reduction/resolution strategy.

I. The type of problem that exists, i.e. are people suffering (or claiming to suffer) crop losses, damage to property, or potential damage to and loss of human life?

II. A good understanding of the actual problem. For example people may complain about losing crops to wildlife yet it is not so much crop damage that is the issue as their fear of the particular species they claim is causing the damage. Elephants are complained about more frequently and more vociferously than other species, yet they are sometimes not the species that causes most damage to a crop (Naughton-Treves 1996). People complain about them so vehemently because they fear them more than other animals. A not dissimilar situation is observed in the case of some nocturnal raiders such as wild pigs. Here the problem may be that people fear them; alternatively, the inconvenience of guarding at night, or fear of the bush at night, may be important factors that render people especially likely to complain about these

animals, even when they cause comparatively small amounts of damage (Hill; Nchanji, Appendix I).

III. Detailed and accurate information as to the extent of the problem. For example are all people equally affected or are some, perhaps by virtue of their farm location in relation to natural habitat, more vulnerable to damage by wildlife (Hill 1997); (Hill 2000); (Naughton-Treves 1998); (Plumptre and Bizumwuremyi 1996)? Is the problem seasonal or year round, and which particular wildlife species are involved?

IV. Knowledge of the degree to which people's perception of risk of crop loss reflects their actual risk of crop damage. Information of this sort may well prove vital when trying to understand when and why people's complaints may appear to exaggerate the situation.

V. What are the possible options with respect to intervention and trying to reduce human-wildlife conflict? The spatial distribution of farms, the species of wildlife in conflict with people, the scale and distribution of the problem, the degree of financial and technical support available, and the willingness of local people to input resources into reducing conflict, are all important considerations for any manager trying to alleviate the problem.

The level of detail

Other factors that are important when considering studies/investigations of crop raiding issues are (i) the purpose behind the particular piece of research, and (ii) the scale at which data are collected, i.e. at the national or district level, or at the level of the individual farm for instance. These factors will determine the level of detail required from an investigative program. Those responsible for planning intervention strategies are generally more likely to be concerned with information pertaining to the community level. However, on occasions it may be beneficial or even vital for them to have access to very detailed localized information collected at the level of the individual farmer/household. For example, information about the relationship between the spatial distribution of crop damage events and Protected Area (PA) boundaries may be essential when devising cost effective management strategies, yet to obtain accurate information of this nature may require very detailed monitoring at the level of individual farms and farming households. It is also important for researchers and managers to remember that information from key informants may not necessarily be representative of the whole community or even the section most severely affected by wildlife. Consequently, it is critical that researchers and managers recognise the limitations of the methods they use to

obtain information, and thus any shortcomings of the data they collect and employ to determine intervention policy and practice.

The types of questions to be asked

The reason behind the research will determine

1. the particular avenues of investigation that are of significance in any instance
2. the types of data needed, and
3. the most appropriate methods for obtaining those data.

Inevitably factors such as time, logistics and financial constraints will also need to be factored in when making the final decisions about the exact details for any study.

Once the focus of the study has been identified then the types of information required will become clear. Areas for consideration include:

1. Community related factors such as socio-economic information, village residential patterns, local farming and land tenure practices, and the role of agriculture in local subsistence strategies, the particular human-wildlife conflict issue(s) as perceived by the farmers, whether people take any action to reduce the impact of wildlife on their livelihoods, and do they utilize species that crop raid?
2. Crop losses, including which crops are most vulnerable, their role in local food security, and the extent of the damage they sustain. Additional information about the species responsible, and their conservation status is also important.
3. Wildlife, including the species perceived as being problematic, and their conservation status.
4. Deterrence, including methods of reducing crop losses already in use and alternatives that might be introduced/adopted, and the presence/absence of local community management structures that might be used to implement monitoring and deterrence strategies if appropriate.

Why a combination of approaches is necessary

Social scientists and wildlife biologists ask different research questions. While social science is likely to look at crop raiding from the farmer's perspective, wildlife biologists are often more concerned with crop raiding and its consequences vis à vis conservation from the perspective of the animals concerned. Both perspectives are valid and both are important.

Human-wildlife conflict involves both humans and wildlife; therefore we need to have a comprehensive understanding of the issues at stake. In order to obtain the necessary information to fully assess a situation it is appropriate to consider the conflict circumstances from a number of different perspectives. It may not necessarily be adequate, or appropriate, to concentrate just on devising techniques for deterring animals from raiding crops. Any such intervention must be acceptable to the farmers themselves as well as effective and affordable, thus it may be advantageous for researchers investigating crop protection methods to have some understanding of local social systems, labour divisions and constraints, gender roles, and land and crop tenure systems, when designing deterrence strategies. For example, farmers in Zimbabwe have been reluctant to adopt electric fencing patterns whereby individual household crops are fenced, yet this was shown to be the most effective pattern to adopt against crop raiding elephants. Instead it was more acceptable to local farmers that farms be communally fenced, rather than individuals be fenced separately (WWF, 1998; 2000). An understanding of how people locally view an individual who sets themselves apart from the rest of their community might help explain why in this case the most effective strategy was not acceptable to these farmers. A further example relates to a suggestion in the literature that farmers need to increase the time they spend guarding to help protect crops against wildlife, and particularly primates (Strum 1994). This is not necessarily practical for many households who may already be facing labour bottlenecks. Both these examples illustrate the point that what might seem like an appropriate intervention strategy to researchers may not necessarily be acceptable or practical to the particular community or individuals in question, thus there is a very real need to consider human-wildlife conflict issues within the context of local community and individual needs as well as conservation objectives.