

Tips for trainers

Participatory quota setting

The Tips for Trainers for this issue are taken from a publication called *District Quota Setting Toolbox*, part of the World Wide Fund for Nature (WWF) Wildlife Management Series. The toolbox was developed under WWF's Support to CAMPFIRE (SupCamp) project in Zimbabwe (see overview and many articles in this issue).¹ It describes a set of activities for participatory quota setting at the district level, providing detailed instructions on the methods and activities that can be used by a facilitator at a district-level quota setting workshop.

Why quota setting?

In wildlife management, a quota represents the number of animals that can be safely removed or harvested from a population each year without damaging that population. Setting quotas ensures that wildlife populations maintain themselves and continue to survive into the future. To do this we need to know how many animals there are and how many of these animals can be used.

The participation of local people in quota setting is crucial if they are to feel a sense of ownership and responsibility for wildlife resources. Effective participation and control by wildlife producer communities over



quota setting provides the rationale for their other wildlife management activities such as ground counts and the enforcement of local-level rules and regulations. But wildlife management in the communal lands often involves more stakeholders than just the 'producer community'. Both the process of quota setting – and the final quota – are improved if all the major stakeholders are participants in the workshops.

Arrangement of the quota setting toolbox

The toolbox is divided into sections, covering:

- key steps upon which participatory quota setting depends;
- planning and organisation of a typical district quota setting workshop;
- activities which can be used for a quota setting workshop; and
- information and checklists.

These extracts are taken from the quota setting workshop activities section, as follows:

- Topic one: Counting animals – drawing up a resource abundance matrix (pp.21-23)
- Topic two: Use of the quota – examining the use of the quota (pp.28-29)
- Topic three: Monitoring and evaluation – measuring and calculating trophy size (pp.30-33).

¹ Communal Areas Management Programme for Indigenous Resources

Topic one: Drawing up a resource abundance matrix

Time required: 30 minutes

The purpose of this activity is to:

- allow participants to visualise their understanding of changes in their environment; and
- allow participants to discuss the reasons for these changes.

Resources required:

- flip chart/brown paper;
- counters such as beans, seeds or stones; and
- marker pens.

Introduction

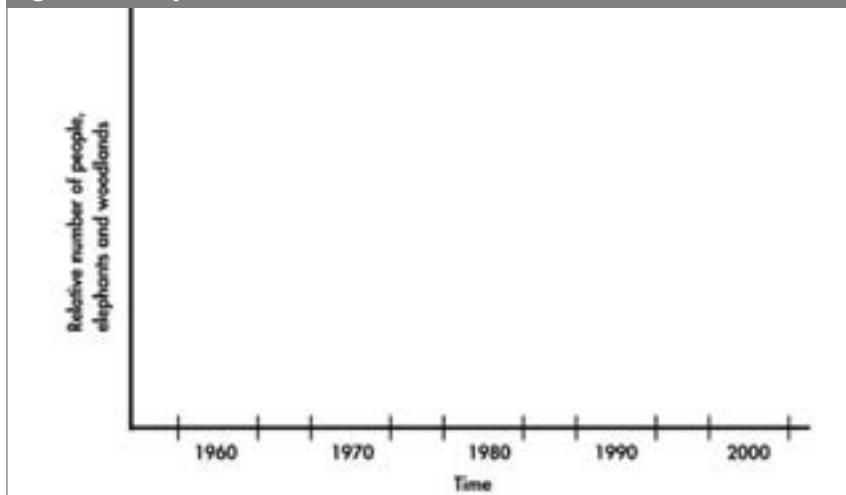
A resource abundance matrix is a visual representation of the changes in natural resources over time. The horizontal or x-axis usually represents time and the vertical or y-axis represents the number or status of the resource. It can be helpful in analysing the current status of species (including domestic livestock, human populations and other resources) within a certain area. The matrix can be used at the district, ward or village level. This activity is optional and can be used:

- when the number of participants is large; and
- as 're-enforcement' if there is an indication that participants are experiencing difficulties in interpreting trends on graphs.

Advantages

The activity will:

- present a clear picture of how the

Figure 1: A sample resource abundance matrix

participants perceive the numbers of key species to be changing; and

- provide a very useful forum for discussing the reasons for the observed changes.

Disadvantages

- The activity is based on peoples' perception rather than systematically collected data.
- It is often difficult to get consistency between the estimates for different years.

Facilitator's hint

It is important to ensure that the participants are using a constant and well-defined area for each estimate.

Training method

Step one: Drawing the matrix

Decide on which resources are going to be represented in the matrix. Draw the matrix on brown paper or on the ground (Figure 1). Agree with the participants on how far back they would like to show change in the status of these resources. On the horizontal axis, write the years, for example

1960, 1970, 1980, 1990, present (e.g. 2006) and the future (e.g. 2010).

Step two: completing the matrix

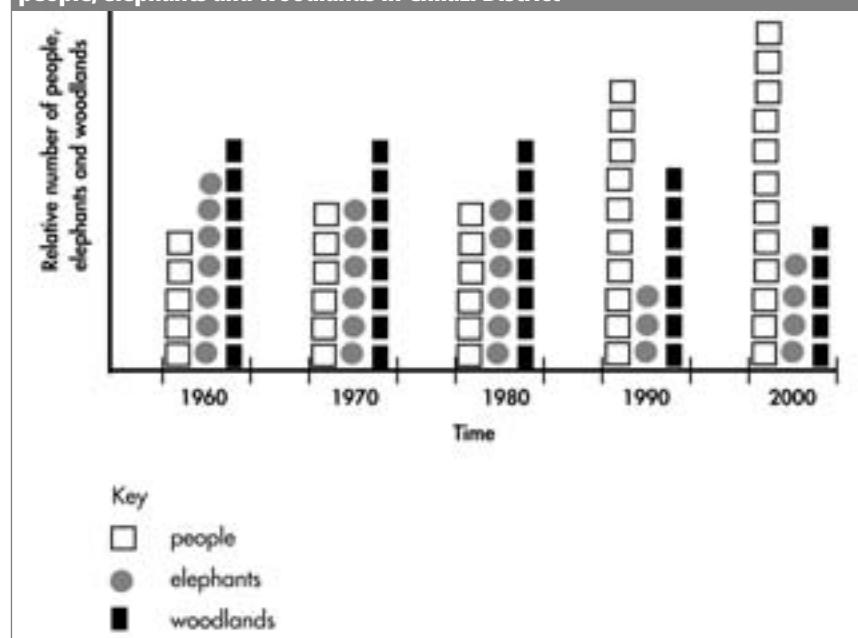
Provide counters such as beans, seeds or stones with which to visualise the status and changes of the chosen

species or resources over time. The logic of the matrix is that fewer counters mean lower numbers or availability of the resource. Ask participants to use a scale of 0-20 beans to represent the availability or status of the resource for each time period, with 20 as the maximum. Each time period should be completed before moving onto the next time period.

Facilitator's hint

Remind participants to be consistent when deciding on the number of counters. For example: 20 beans are used to represent the number of animals which were believed to have been present in 1970 and 10 represent the number present in 1980. This means that there are only half the number of animals in 1980 compared with 1970.

When the matrix has been completed, it can be recorded on flipchart paper, or the number of

Figure 2: A sample resource abundance matrix showing the relative numbers of people, elephants and woodlands in Chilazi District

beans can be counted in each cell and the total written in. Record the names of the participants and the date on the matrix for reference purposes (see Figure 2).

Summary

An important part of the activity is the discussion of the changes and trends represented by the matrices. For example, participants may find it interesting to draw up a matrix showing the trends in human and domestic animals in their area and to compare this with the matrix for wildlife populations. This comparison often livens up the discussion as it shows the relationship between human population increase and the decrease in wildlife numbers due to settlement and the loss of wildlife habitat. Conversely the adoption of CAMPFIRE might have resulted in an increase in certain wildlife species.

Topic two: Examining the use of the quota

Time required: 40-50 minutes

The purpose of this activity is to:

- introduce participants to the quota;
- show how the quota has been allocated between sport hunting, problem animal control (PAC) and cropping (if appropriate);
- show the success rate of the safari operator; and
- show changes in the use of the quota which have occurred over time.

Resources required:

- completed hunt return forms for the previous four years;
- quotas from the previous four years;
- a flip chart;
- marker pens.

Introduction

This activity introduces quotas to the

participants. It does not need detailed information and provides important trend information for the triangulation activity. If the safari operator is present he can give first-hand explanations to questions that arise.

Advantages

- It provides an opportunity to discuss the quota and how it is being used.
- It illustrates the importance of keeping accurate up-to-date records.

Disadvantage

- It may become boring if the data used is not restricted to key species and a few years.

Training method

Step one: the quota and its allocation for one year

Participants draw-up and complete the table below on a flip chart (Table 1). They will use the quota for the current year. The first step is important for stimulating discussion about the quota. The facilitator of the activity should refer to the Quota

Setting Manual (also published in the WWF Wildlife Management Series) for discussion about the quota, why it is necessary and how it has been set.

Step two: the use of the quota

The next step is to compare the number of animals used with the quota and its allocations. For this step the hunt return forms or a hunting summary for the appropriate year are required. The same chart can be used and the figure for the number of animals used should be inserted before the quota and separated by an oblique line (see Table 2).

Facilitator's hint

If there are four working groups and four years of data available, then each group can do one year. This will give four years' historical data on the use of the quota. If there is time it might be useful to plot graphs of the use of key species (for example elephant, buffalo) over the four years.

Step three: discussion and analysis of the use of the quota

It is very important that some discussion is developed around this activity. Participants must question:

Table 1: The total quota and its allocation between different uses

Species	Total quota	Sport hunting	PAC	Cropping
Elephant	12	9	2	1
Buffalo	18	15	0	3
Leopard	4	4	0	0
Impala	22	21	0	1
Sable	3	3	0	0

Table 2: The total quota, its use and allocation

Species	Total quota	Sport hunting	PAC	Cropping
Elephant	12/12	7/9	2/2	1/1
Buffalo	18/18	15/15	0	3/3
Leopard	3/4	3/4	0	0
Impala	16/22	15/21	0	1/1
Sable	1/3	1/3	0	0

- why were there changes in the quota (e.g. 'why has the number of sable on quota declined?');
- why were there changes in the way the quota was allocated (e.g. 'why has an elephant been allocated to the cropping quota rather than the sport hunting quota?'); and
- what are the implications for income (e.g. 'why has the total value of the quota declined over four years?').

Summary

At the end of this activity the participants should understand:

- how the previous quotas issued by the Department for National Parks and Wildlife Management (DNPWLM) have been used by the safari operator and the district;
- why the quotas have been used in these ways; and
- how the number and species on the quota affects the income earned by the safari operator, the district and the community.

Topic three: Monitoring and evaluation: measuring and calculating trophy size

Time required: 30-45 minutes

The purpose of this activity is to:

- demonstrate how to measure sport-hunted trophies and the importance of doing this for quota setting;
- enable participants to calculate and analyse changes in trophy quality for key species over time; and
- prepare graphs for triangulation of data for setting the quota.²

Resources required:

- horns for kudu, buffalo and one other horned antelope;
- the skin or skull of a leopard or lion;
- a pair of elephant tusks (where possible);
- steel tape, a scale, and steel cable (for measuring horns such as kudu);
- set of wooden boards or inside and outside callipers;
- copy of Rowland Ward measurement instructions (see Figure 3);
- pencil, marker pens, wooden metre ruler, hand calculator;
- notebook and graph paper or flip chart paper with a suitable axis and scale prepared by yourself;
- hunt return measurements for the species in the area being reviewed over three to five years (compiled from the hunt return forms);

² See p.34 of the manual on how to triangulate data for setting the quota.

- calculated annual average trophy quality by species;
- ideally a safari operator or professional hunter should be involved in this activity to provide advice.

Introduction

This is often a favourite activity for participants at a quota setting workshop. It allows them to handle and examine trophies as well as learn about sport hunting. It should be done at every workshop.

Advantages

It provides practice in measuring trophy quality, determining average trophy sizes and examining trend data and the implication for the quota. It allows participants to discuss the 'mystique' of trophy hunting with a professional hunter and measure trophies.

Disadvantages

The activity requires that at least some members of each group are numerate and understand how to calculate simple averages.

Facilitator's hint

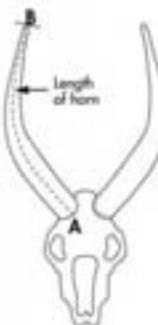
This can be a difficult exercise to facili-

Figure 3: The difference between the two trophy measurement recording systems using waterbuck as an example

Rowland Ward... Method 7

1. Measure the length of the longest horn on the front curve from the lowest edge of the base to the tip (A-B).
2. Example:
Length of left horn = 30.75 inches
Length of right horn = 30.75 inches
Horns are equal length.

The Rowland Ward Score = 30.75 inches



SCI... Method 1

1. length of horn:
Measure the length of each horn on its front surface.
2. Circumference of horn:
Measure the circumference of each horn at the base.
3. Total Score:
Total all measurements.
4. Example:
Length of left horn = 30.75 inches
Length of right horn = 30.75 inches
Base of left horn = 8.75 inches
Base of right horn = 8.75 inches
The SCI Total Score = 79 inches

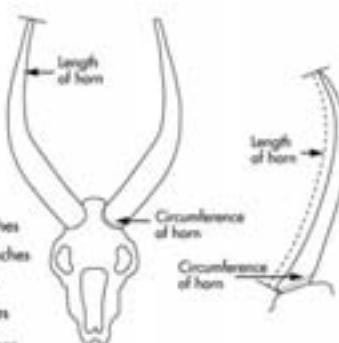


Table 3: The presentation of measurements and averages calculated from sample trophies

Trophy number	Impala	Sable	Buffalo
1	22	41	38
2	23	39	47
3	19	40	42
4	15	43	41
5	17	38	42
Average	19.2	40.2	40

tate in a large workshop. The facilitator should use assistants from within the workshop to help. A good person to use is the safari operator and/or the professional hunter.

Training method

Background

This activity must begin with a discussion of the objectives of sport hunting; why people hunt, what they want to hunt and the importance of trophy quality (see *Quota Setting Manual*). The facilitator should then introduce the participants to trophy measurement techniques as given in Figure 3 (Section Five, Appendix Two of the toolbox). This should include a demonstration.

Step one – comparing individual trophy measurements

Number three to five trophies of the selected species (impala, sable, buffalo). Arrange the trophies by species on separate tables. Divide the participants into small groups. Each group should select one trophy, which is then measured by all the members of that group. Participants should compare their measurements and discuss how and why the differences might have arisen. The correct method should be agreed on and understood. The measurements can be recorded in a table, if this will assist the discussion.

Step two – measuring a range of trophies

The next step is for the group to measure and record all the trophies for a given species and calculate the average trophy quality for the sample. These results should be summarised as in the table above (Table 3).

Throughout the activity the facilitator should emphasise:

- why trophy quality is a good index of the status of the population of trophy animals;
- the importance of standardising the methods of measurement;
- the importance of accurate measurements;
- who should be making these measurements; and
- who should be keeping a record of the measurements.

Table 4: 1997 Pamberi District impala trophy quality

22 inches
20 inches
19 inches
23 inches
21 inches
18 inches
Total 123 inches
Average 20.5 inches

Step three – calculating mean trophy quality values

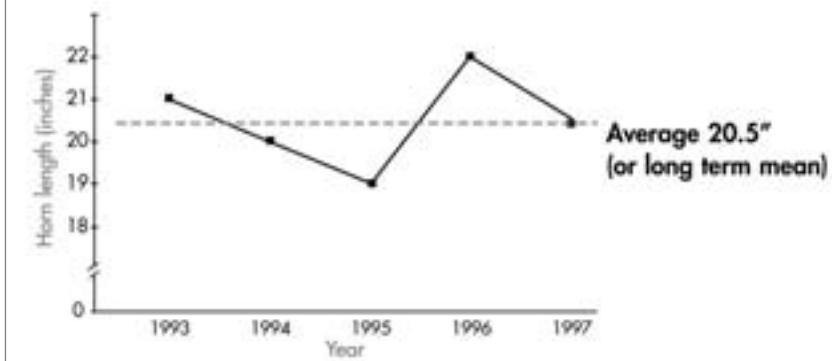
Provide each group with a set of actual data that has been previously compiled for each species using the information from the hunt return forms. Each group should then calculate the average trophy size by year for the given species. The time series should be as long as possible.

Facilitator's hint

You should have previously calculated these average trophy sizes so that you can easily spot mistakes made by the participants (see Table 4).

Table 5: Average Trophy Quality for Impala Pamberi District 1993-1997

Impala	1993	1994	1995	1996	1997
	21 inches	20 inches	19 inches	22 inches	20.5 inches
5 year average 20.5 inches					

Figure 4: Impala Trophy Quality Trends Pamberi District 1993-1997

Step four – graph trends in trophy quality

Assist each group to graph the average trophy quality by year. It should be either a bar or line graph. The years should be on the horizontal axis and the average trophy size on the vertical axis (see Table 5 and Figure 4).

Facilitator's hints

Remember the importance of scale when assisting the participants to produce their graphs. All graphs should be clearly labeled. To make the activity easier and to save time, the facilitator can prepare blank graphs for the participants to plot their results on.

When finished, each group should discuss their graph amongst

themselves. They should focus on the analysis of the information by asking the question: what is this graph telling us about the status of this population?

At the conclusion of the activity, stress that accurate measurements and reliable monitoring of trophy quality are essential to quota setting. With appropriate trophy monitoring and quota setting systems in place, Zimbabwe and CAMPFIRE districts are more likely to maintain an attractive and competitive sport-hunting industry.

Summary

By the end of this activity, participants should be able to:

- measure and monitor trophy quality and understand its importance as a monitoring tool;

- calculate the average trophy quality for at least one key species over a period of five years based on actual records from the area; and
- plot the changes in trophy quality on a graph which later will be used for triangulating data for setting the quota.

Source *District Quota Setting Toolbox* (2000), published by World Wide Fund for Nature (WWF) Southern African Regional Programme Office (SARPO), Zimbabwe Trust and Safari Club International in the WWF Wildlife Management series.

The full toolkit, together with other publications in the WWF Wildlife Management series (including the *Quota Setting Manual* referred to in the text), can be downloaded from:
www.policy-powertools.org/related/campfire.html