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## Participatory wildlife quota setting

by **NORMAN RIGAVA, RUSSELL TAYLOR and LILIAN GOREDEMA**

### Introduction

Participatory quota setting is an innovative biological and monitoring tool. It is used to adaptively manage wildlife sport hunting quotas in multi-stakeholder resource management regimes.

A large number of relationships need to be carefully nurtured to undertake and, most especially, to institutionalise a supposedly technical process like setting quotas for communities' hunting concessions. Zimbabwe's then Department of National Parks and Wildlife Management (DNPWLM) officially mandated the World Wide Fund for Nature (WWF), through its Resource Management Support to CAMPFIRE (SupCamp) Project, to:

*... develop, implement and disseminate improved community-based resource planning and management techniques/tools (Taylor and Bond, 2000).*

These management techniques and tools needed to be simple, robust, technically acceptable, cost-effective and socially possible, so that they can be implemented by community wildlife managers at ward and village levels. This paper describes the process for developing and institutionalising participatory wildlife quota setting in Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) programme.

**"If managed carefully, the process would give communities knowledge and skills that would empower them to make informed management decisions and take greater control over valuable resources"**

### Piloting participatory quota setting: learning from experience

Between 1994 and 1996, the SupCamp project developed and piloted participatory quota setting in three wildlife-rich districts in the Zambezi valley of Zimbabwe – Nyaminyani, Gokwe and Guruve. We used the iterative Participatory Technology Development (PTD) process described by Sutherland et al. (1998) and also by Goredema et al. (article 4, this issue, and Figure 1).

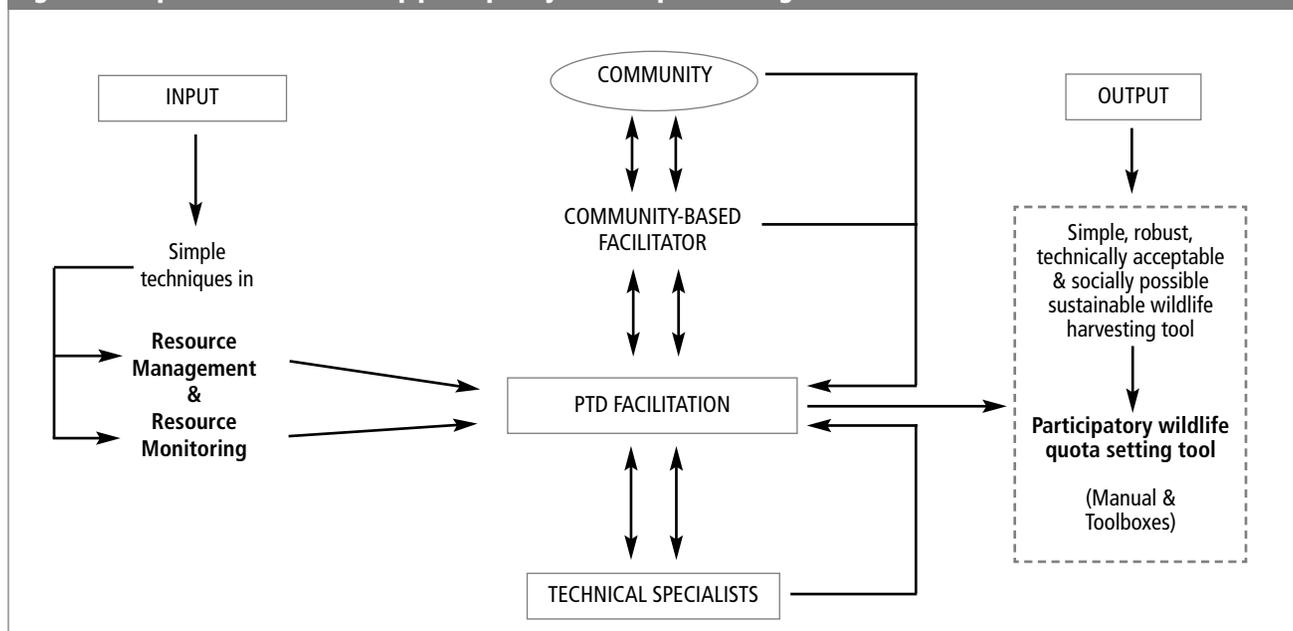
The SupCamp project experimented with wildlife resource management and monitoring techniques. We worked progressively through a number of steps, using both scientific and indigenous knowledge and genuine community involvement. The participatory wildlife quota setting

Planning for PTD facilitation: SupCamp facilitators reviewing and refining quota setting activities



Photo: Norman Rigava

Figure 1: PTD process used to develop participatory wildlife quota setting



methodology was developed through learning by doing, using PTD facilitation that brought together the community and SupCamp's technical specialists.

Developing and maintaining relationships amongst community-based natural resource management (CBNRM) support agencies and with communities was vital to the success of this initiative. This took at least as much time as the technical aspects. Right at the beginning, meetings were held to clearly define the roles and goals of these partners (Table 1).

WWF SupCamp also recognised that quota setting was far more than a technical exercise. If managed carefully, the process would give communities knowledge and skills that would empower them to make informed management decisions and take greater control over valuable resources. We placed great emphasis on working respectfully with local people.

Technically, the development of the tools took into account the cost, local-level skills, and the limited formal training of participating communities in wildlife management issues. We avoided techniques that relied on field observation and measurement requiring high levels of precision, expensive or highly technical tools and equipment, and complicated analyses.

### Rolling out the methodology

The pilot phase and the further development and refinement of participatory quota setting took place between 1996 and 1998. These experiences generated enthusiasm and demand from other CAMPFIRE districts for these techniques to be made more widely available.

In responding to this demand, the SupCamp project team adopted a dual approach. First, the team distributed the quota setting manual and toolbox to districts and participating communities and evaluated the impact of their use. Next, we held training of trainers' workshops for participatory wildlife quota setting. These were for district-level CAMPFIRE managers and for selected NGO staff involved in training at sub-district level. In addition, SupCamp and Zimbabwe Trust provided technical advice and facilitation at annual district quota setting workshops in the 12–16 wildlife-producing districts.

At a national scale, seminars and workshops were conducted for wildlife agency managers and biologists. These events raised awareness of the participatory wildlife quota setting methodology. They also helped to broaden the debate on the robustness of the methodology from an institutional and biological perspective. Getting official participation and buy-in to the process was important later for communities to gain stronger rights to setting their own quotas.

**Table 1: Participatory quota setting implementation and coordination**

Organisation	Role
Department of National Parks and Wildlife Management (DNPWLM)	Statutory agency. Responsible for wildlife conservation and management in Zimbabwe, including policy and coordination of all wildlife matters. This includes quota setting.
WWF Southern Africa Regional Programme's Natural Resource Management Support to CAMPFIRE Project (SupCamp Project)	An NGO project with a mandate to develop community-based wildlife management techniques, including participatory quota setting.
CAMPFIRE Association	A political organisation representing the interests of rural CAMPFIRE communities through their respective Rural District Councils (RDCs). Provides coordination and policy advocacy at central government level and internationally.
Zimbabwe Trust	An NGO that supported institutional development amongst CAMPFIRE communities and provided an institutional home for the Quota Setting Project.
Safari Club International (SCI) and United States Fish & Wildlife Service	Provided funding for the Quota Setting Project.
Action	An NGO that specialises in education materials, and which produced the guideline manuals, toolboxes and other training materials.

By the end of 1998, the methodology had attracted some regional attention and demand. From 1999, seminars and training workshops were held on a demand basis in Zambia, Botswana, Namibia, and Southern African Wildlife College and Gorongosa Wildlife Training School in South Africa and Mozambique respectively.

### Results and impacts

#### The participatory quota setting tool

The major outcome was a robust wildlife quota setting methodology that is captured by documents at three levels<sup>1</sup>:

<sup>1</sup> See [www.policy-powertools.org/related/campfire.html](http://www.policy-powertools.org/related/campfire.html)

**Quota setting workshop  
preparation: participatory  
field analysis of wildlife  
trend data from community  
ground counts**



Photo: Norman Rigava

#### Quota setting manual

This manual presents core content material on the theory of quota setting in an easily accessible style. It describes the steps for doing participatory quota setting.

#### Quota setting toolbox

The toolbox describes a set of participatory learning and action activities. These include games, demonstrations, simulations, and role-plays that explain and simplify complex technical issues to local communities, and guide them and facilitators in developing the quota.

Visualisation of data was an important innovation, espe-

cially for summarising and analysing wildlife trend data (e.g. aerial surveys, ground counts, trophy quality and other inputs such as incidences of poaching, problem animal information, safari operator's hunting effort, offtake rates and local community information). These activities enable community members and other key stakeholders to fully understand and participate in the quota setting process, and the resulting matrix is, in fact, an adaptive management (learning-by-doing) process (see Table 2).

#### Quota setting trainer's manual and toolbox

This is a comprehensive trainer's toolkit. Combining core

**Table 2: A section of a participatory triangulation matrix**

SPECIES	CURRENT QUOTA	GROUND COUNTS TRENDS	AERIAL SURVEY TRENDS	TROPHY QUALITY TRENDS	SAFARI OPERATOR	COMMUNITY INFORMATION	PROPOSED QUOTA FOR NEXT YEAR
Elephant (m)	7	↔	↔	↔	↓	↑	7
Buffalo (m)	20	↔	↔↓	↑	↔	↑	20
Lion	3	X	X	X	↔	↔	3
Leopard	4	X	X	↔↓	↔	↔	3

KEY TO TABLE

↑ = LOW INCREASE IN POPULATION      ↔ = STABLE POPULATION      ↓ = LOW DECREASE  
 ↑↑ = MEDIUM INCREASE IN POPULATION      ↑↔ = STABLE BUT INCREASING      ↓↓ = MEDIUM DECREASE  
 ↑↑↑ = HIGH INCREASE IN POPULATION      ↔↓ = STABLE BUT DECREASING      ↓↓↓ = LARGE DECREASE

X = INFORMATION NOT AVAILABLE/ IRRELEVANT

Source: Rigava, 2003, Taylor, 2001

technical content with the PLA techniques, the trainer's manual provides training objectives, trainer's notes, training tips, suggestions for the order and timing of activities, visual aids, handouts, other trainer's aids and, finally, course monitoring and evaluation tools.<sup>2</sup>

Using these tools in a facilitated workshop setting, the quota is adaptively determined using a participatory triangulation matrix. The underlying key principle is that of adaptive management. A matrix is developed showing key indicators for individual species, as well as the current quota. Participants collect the data needed, which is then summarised on the matrix in the form of arrows. Participants then consider (by a process of triangulation) whether the available data and information justifies a change in the quota (Table 2).

The completed matrix forms the basis for quota recommendations to the State wildlife regulatory authority. Ecologists responsible for approving quotas review and adjust (if necessary) the proposed quota from each district, taking into account the relationship between the district, other hunting areas and adjacent protected areas. The approved quota is then returned to the district, where contracted safari outfitters use the animals for hunting. At the local level, each hunt is monitored by the RDC. Community game guards and/or

wildlife monitors accompany the hunts. Both districts and the wildlife authority have permit systems to ensure that professional hunters work within government-approved quotas. An essential tool here is the hunt return form. This captures economic and ecological data for each hunt, provides data for subsequent quota setting exercises, and feeds into a national database for tracking quotas, off-takes, income, and trophy quality.

### Participation and empowerment

The participatory quota setting process provides a platform for continuous engagement, negotiation and consensus building between the community and key stakeholders in the wildlife sector. Full and informed participation encourages communities to:

- change their attitude towards wildlife; and
- invest time and money in resource management and monitoring.

There was a notable increase in community monitoring of wildlife resources. This was done through formal walked transects, and by including index monitoring techniques into community game guards and/or wildlife monitoring patrols. Participatory quota setting also provided the incentive and rationale for wildlife-producing communities to extend their control over external monitoring activities. These include aerial surveys (e.g. demanding timely access to results for management decision-making) and actively to monitor sport hunting – such as the numbers and species killed, location of kills, and trophy quality of the hunted animals (Bond, 1999).

<sup>2</sup> See also Tips for Trainers (this issue) which includes three extracts from the quota setting toolbox:

- Counting animals – drawing up a resource abundance matrix
- Use of the quota – examining the use of the quota
- Monitoring and evaluation – measuring and calculating trophy size

**Small group activity (in a quota setting workshop): measurement and analysis of trophy quality**



Photo: Norman Rigava

### Adopting the quota setting methodology

In Zimbabwe, wildlife quotas for communal areas have historically been set and allocated by the State wildlife authority (DNPWLM). Especially after the authority began to lose technical capacity, the decision-making process became bureaucratic. There was little or no consultation with the resource managers or end users of the quota (Taylor, 2001). The participatory quota setting process subtly challenged the status quo. Rural communities, by taking space previously occupied by DNPWLM, were shifting power away from the centre to local institutions – districts and rural communities – that were historically viewed as technically incompetent to undertake such work.

Participatory quota setting is both quantitative and qualitative. It was a radical change from conventional, highly tech-

nical and centralised quota setting approaches used by the DNPWLM's wildlife managers and ecologists. The methodology was not immediately recognised by the DNPLWM. This was because it was so different. And, perhaps more importantly, because it challenges the distribution of power.

But although the process was initially resisted, WWF played an important relationship-building role. The quality of community data kept improving. And national databases were becoming increasingly indisputable. This growing acceptance led to the formal and full adoption by the DNPWLM in the year 2000.

Because of this, the DNPWLM distributed the participatory wildlife quota setting format as the framework for community quota proposals. They instructed the CAMPFIRE districts to use this system as the basis for quota develop-

**Demystifying aerial surveys: SupCamp facilitator demonstrates the aerial survey game during a quota setting workshop**



Photo: Norman Rigava

ment and submissions to the DNPLWM.

The WWF SupCamp team worked hard to persuade DNPWLM to accept the participatory quota setting methodology. They held seminars, workshops, and involved key DNPWLM ecologists and wildlife managers at district quota setting workshops. Plus there was continuous networking and debate. This resulted in a shared understanding that participatory quota setting is a technologically robust method.

### Lessons learnt

- Capacity needs to be built at all levels (i.e. community, district, state authority) for participatory techniques to be developed and accepted.
- Participatory quota setting is technically robust. It probably represents an improvement over more 'scientific' methods. Studies of wildlife populations and trophy quality concluded that its use in CAMPFIRE is helping to achieve biological sustainability. Moreover, by using co-management and adaptive management principles, this tool strengthens the quota management capacity at all levels (for the DNPWLM, RDCs, local communities and safari outfitters). It helps to develop an organisational system capable of responding to changes in dynamic environments (Taylor, 2001; Rigava, 2003).
- In developing and facilitating the process, conflict resolution and consensus building skills are critical. The use of

multiple perspectives enriches the process. But within different groups there are wide disparities in knowledge, skills, power, and experiences. This invariably results in conflicts, communication obstacles, and domination by certain individuals or groups of individuals. Handling these group dynamics is as an important a skill as technical wildlife management.

- Managing the development process specifically to create 'institutional memory' is important once the methodology is adopted.
- Visualisation of data/information in the form of tables and charts is a powerful tool. This is not only in communities, but also at all levels. It allows equal access to information by stakeholders and provides an objective basis for discussion and collective decision-making.
- It is an expensive process that requires joint learning, careful facilitation, patience and sensitivity to community processes. But the ultimate benefits outweigh the costs. These benefits include: consensus building, conflict resolution, trust building, sharing information, co-management, sense of ownership and commitment to the outcome of process, active community participation, and contribution to biological and institutional sustainability. The process acts as a catalyst for communities to engage in other resource monitoring activities. This further enhances the quality of quota setting information, such as community wildlife census. The communities are also able to monitor wildlife revenues from sport hunting.
- For effective institutional support at local level there is need to involve not only implementers (the local communities) but upper level 'mother institutions' (at policy-making level) as well as local political and traditional leaders.

### Major challenges

There were several major challenges we faced. One was breaking the technical barriers that made effective community participation difficult. The other was providing equal opportunities for communities and others to participate in the quota development process.

Getting the tool accepted by the wildlife officials was also a challenge. Trained wildlife professionals were used to interacting with communities in an authoritarian style. Teaching them to have the patience to listen to rural people without judgement or pre-conceived notions, to respect rural people's opinions even when they disagreed with their own thinking, and agreeing to be 'taught rather than teach' required skilful facilitation. Believing in the capability of a group of people who were traditionally considered 'ignorant' when it comes

to dealing with complex technical wildlife issues such as quota setting was not easy for wildlife managers. In trying to overcome this, the SupCamp team concentrated on the process of how best to engage and involve the statutory authority. By building relationships, we succeeded in reaching a common understanding of the merits of participatory wildlife quota setting.

For the PTD facilitators, remaining calm, relaxed, composed, respectful and confident, objective, neutral and fair so as to gain the trust of local people was important. So was knowing when to drive the process from the 'front and back seats' and an ability to handle conflicts and inappropriate group behaviour (especially when 'unfairly' directed at you!) with skill and sensitivity. The facilitators need to know when to lead the process (driving from the front seat). But they must also be aware of when to just observe and participate as one of the group members, while making sure that the discussion remains focused (driving process from the rear seat). It was essential to ensure that:

- decisions were consensus-based, taken by the group, and not imposed by a few 'powerful' individuals;
- the voices of the voiceless were heard as part of the quota setting chorus;
- stakeholders feel their views have been adequately represented and that they own the final workshop output (developed quota), ensuring accountability by all stakeholders.

### Lessons to service providers and policy makers

Participatory quota setting creates a repetitive process in which communities monitor and evaluate their resources. This enhances local ownership and control (over resources) and contributes to positive institutional change at local and national levels. In CAMPFIRE, from a policy reform standpoint, demonstrating the capacity of communities to sustainably manage natural resources was an important step towards further devolution of natural resource management responsibilities from the district to local villages and wards (Rigava, 2003).

### Conclusions

The participatory quota setting tool is a practical, working example of how co-management and adaptive management can be applied in CBNRM to improve, and genuinely engage, local people in wildlife management.

The quota setting process is also very robust, despite the uncertainty and complexity of the science. It triangulates between several indices of wildlife population and quality, and recognises that the harvesting of biological resources requires broader points of view than conventional natural resources management practices. The complexity of managing wildlife increases in multi-stakeholder systems such as in CBNRM so participatory quota setting is invaluable for gluing together multiple stakeholders. And while technically specific to wildlife, this method can be easily modified for non-wildlife resource harvesting regimes.

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