

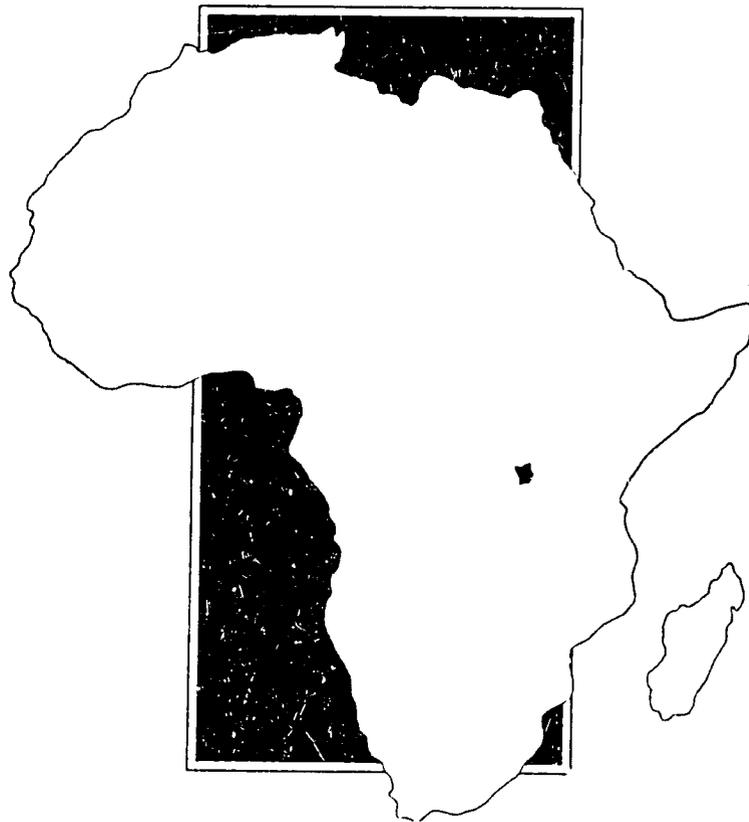
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PARCS

PROTECTED AREA CONSERVATION STRATEGY

ASSESSING THE TRAINING NEEDS OF PROTECTED
AREA MANAGERS IN AFRICA



BURUNDI

AWF



AFRICAN WILDLIFE FOUNDATION



The WILDLIFE CONSERVATION SOCIETY

**Biodiversity
Support
Program**



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PARCS

Country Report: BURUNDI

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Country Report
Burundi

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EXECUTIVE SUMMARY

BURUNDI

TRAINING NEEDS AND TRAINING OPPORTUNITIES ASSESSMENTS

Introduction

Protected Area Managers (PAMs) play a vital role in the protection and conservation of Africa's rich biological resources. Protected area management in Africa is becoming an increasingly complex task requiring technical skills relating not only to wildlife and tourism, but to management, planning, law, policies, finance and accounting as well.

Traditional training institutions and programs for PAMs in Africa generally have not kept pace with the increasing demands on effective protected area management. The PARCS project seeks ways to facilitate the process of developing training programs for skills and competencies in which PAMs themselves recognize a deficiency.

The PARCS Phase II training needs and training opportunities assessments address two questions: (i) "What training do PAMs need in order to enhance the conservation of Africa's protected areas?", and (ii) "What can be done to provide such training for PAMs?"

A questionnaire was designed to gather data on the training needs of protected area managers. The questionnaire was designed as a job description and provided a qualitative and quantitative means of assessing training needs. It assessed both the levels of skill considered necessary to satisfactorily do the job of a protected area manager, and the levels of skill currently possessed by PAMs. Differences between the level of skills needed for the job and the level of skills which PAMs currently have were recognized as a training need. Further information on training needs and training opportunities were obtained through interviews with PAMs, their supervisors and colleagues. This questionnaire was designed in such a manner that the results could be compared and analyzed across three regions of Africa.

Phase I of PARCS (Protected Area Conservation Strategy) constituted the first step in a four year project. The second step, or Phase II, will address the priority training needs in a number of pilot countries in Central, East and Southern Africa, based on the needs and recommendation identified in Phase I.

The first phase of PARCS activities was funded by the Bureau for Africa's Policy, Analysis, Research and Technical Support (PARTS) project through the Research and Development Bureau's Conservation of Biological Diversity Project. Supplementary funding was provided by World Wildlife Fund (WWF). The first year of Phase II (October '93 to October '94) is being funded by the Bureau for Africa's PARTS project.

The Biodiversity Support Program (BSP) is the implementing agent for PARCS. BSP is a USAID-funded consortium of World Wildlife Fund (WWF), The Nature Conservancy (TNC), and World Resources Institute (WRI), established to implement a Cooperative Agreement (No. DHR-5554-A-00-8044-00) between WWF and USAID.

BSP is implementing PARCS in conjunction with three U.S. conservation NGO's active in Africa: The African Wildlife Foundation (AWF), NYZS/The Wildlife Conservation Society (WCS), and World Wildlife Fund (WWF). For all PARCS activities, AWF is the lead organization in east Africa, WWF implements PARCS in southern Africa, and WCS has responsibility in francophone central Africa.

Training Needs Assessment

In Burundi, the organization responsible for protected areas and the conservation of nature is the Institut National pour l'Environnement et la Conservation de la Nature, a parastatal directly attached to the

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presidency. Within the Institut pour l'Environnement et la Conservation de la Nature (INECN) there is no specific training plan for PAMs. There is no training plan developed to programme the careers of INECN staff and to enable the acquisition of specific skills required for the job. Formal institutes used for the training of staff are predominantly the University of Burundi, Biologie Department in the faculty of Sciences, the Institut Technique Agricole, and the Institut Supérieure d'Agriculture. The Ecole des Spécialistes de la Faune in Garoua, Cameroun and the Mweka Wildlife college are the formal wildlife institutes used.

The INECN recognizes the need for the development of a training plan to better equip protected area managers for their jobs. For the purpose of this assessment, a training plan is defined as a structured programme that operates on a pre-established timetable to ensure that all protected area management staff receive adequate and equal training prior to assuming their posts as well as professional development and regular refresher courses throughout their career. Such a training plan would also include monitoring and evaluation of the training programs undertaken.

Nine PAMs and Assistant PAMs, one Field Operations Director and one Field Associate completed questionnaires evaluating PAMs, during a workshop held over in Burundi in May 1993; interviews were also held with the Field Operations Director and Field Associate.

Analysis of the questionnaire data provided the backbone of the training needs assessment. The levels of skill required for the job (as set by the PARCS team in the questionnaire) were first validated by respondents in order to ensure that the questionnaire truly reflected the scope of responsibilities held by PAMs in Burundi. The questionnaire listed the Skills/Competencies and Main divisions of the job for a typical PAM. The Skills/Competencies included: Knowledge Skills such as technical knowledge, management knowledge, planning knowledge, legal knowledge, knowledge of policies and procedures, and financial knowledge; Mental and Social skills such as comprehension, problem analysis, creativity, evaluation, oral, written and working with others. The Main Divisions of the Job included: staffing, infrastructure, accounts, tactical plans, laws and regulations, visitors, interventions, community conservation, research, public relations and resource conservation. Training needs for each skill/competency were revealed by a gap analysis which determined the difference between PAMs current skill levels (as judged by PAMs and other categories of respondent) with the levels that they considered necessary to satisfactorily do their job.

Major Training Needs

Although training needs were identified for all skills, the priority training needs included the following skills:

Policies & Procedures

Legal

Planning

Technical (this includes knowledge of both the theoretical principles of biology, ecology and tourism, as well as the practical skills necessary in the field)

Financial & Accounting

Policies and Procedures involves the knowledge of the national, and institutional, policies for protected areas and the official procedures through which these policies must be met.

Planning involves both long and short term planning skills, in project as well as protected area planning and management.

The Mental and Social Skills in which priority needs for training were identified included:

Evaluation (ability to evaluate problems and situations)

Creativity

Problem Analysis

The main divisions of the job in which additional skills (and training) were required were:

Laws & Regulations

Visitors
Interventions
Resource Conservation

Resource Conservation involves balancing human use and protection of natural resources.

Interventions includes wildlife management and control, vegetation management, human resource use management in and around protected areas.

Visitors includes tourism, managing and controlling tourist activity and developing sustainable tourism programs with a minimum of impact on the environment.

Constraints on PAMs meeting their job responsibilities include the lack of a well-structured in-service training programme, as well as other constraints such as infrastructure and budget. The major constraints are therefore imposed by limited financial resources and the lack of specific and structured in-service training opportunities.

Recommendations

Based on initiatives already undertaken in Burundi with respect to in-service training, and based on discussions with Field Operation directors and Field Associates, as well as assessment of the Protected Area Managers, it is obvious that there is much interest in the development of in-service training programs. Programs that have short, frequently repeated and refresher training courses that are developed to the specific needs of protected area staff would be the ideal. This may take the form of courses given by mobile training units, or of short courses given at the director headquarters when field staff come to the capital. The recipients of these training courses should not only be protected area managers, or "chefs de parc". They should include people at a number of different levels, so that training occurs throughout a person's career and so that people arrive at a particular level in the hierarchy already trained to the level necessary for that job.

The value of formal training in preparing people for specific positions should not be questioned. The question should be, however, how to supplement this training so that it is no longer elitist and so that everyone can profit from training. In addition, the goal should be that training is seen as available to everyone and as a means of moving forward in a career, so that it also provides pride in the work and professional satisfaction.

The kind of training that would be recommended, therefore, is training that is developed by the department and which is available to everyone in a planned progress along a career path. The training is specific to the needs of the job. The choice of protected area manager as target group for this assessment is due in part to the fact that often it is this group that is lacking, both in training and in manpower: field-based managers who are capable of carrying out the large number of functions and responsibilities attributed to the position. The target groups for training will include not only protected area managers, but also people below the level of PAM, who will need to be prepared to one day assume the position of a PAM, and people above the position of a PAM, who will need similar skills to the field-based managers, in order to supervise, coordinate and direct protected area managers.

In-service training can be used for a number of purposes. Some of the more salient uses are:

- providing people with the necessary skills in order to acquire posts with new responsibilities
- providing people with up-to-date- information or refresher courses on knowledge skills that they have not studied for a number of years
- providing people with opportunities for changing their career path, or taking a new direction
- providing specific skills which cannot be inculcated effectively in people with no experience of employment, and which cannot be included in pre-service courses

The present study recognizes the need in both the forestry and wildlife sectors for sociological skills. These skills were revealed, in the knowledge skills gap analysis as contained in the main divisions of the job in which the greatest training needs occur (Resource Conservation, Laws and Regulations, Visitors and Interventions). Policies & Procedures, Legal, Planning and Technical skills come out as requiring priority training more urgently than Management Skills. These skills were also revealed in the Mental and Social skills as those requiring training, and included Evaluation, Creativity and Problem

Analysis. One of the crucial first steps in any programme addressing training needs would be the training of trainers, by the organizations responsible for protected area management (INECN), in order to provide the capacity to carry out in-service training. Expertise could come from any number of training institutions within or outside of Burundi, or from technical assistance abroad. A training programme would need to be developed within the organizations in order to plan and give direction to training for people's careers. This would demand the creation of a training officer post.

This study recommends the creation of a professional training officer post in the INECN in order to help staff career development and to provide an information base as a precursor to effective planning. One of the crucial first steps would be the training of trainers in order to provide the capacity to carry out in-service training. Expertise could come from a number of existing training institutions, or from technical assistance abroad. A training programme would need to be developed in order to plan and give direction to training for people's careers. This would demand the creation of a training officer post.

One of the objectives of the PARCS project is to assist target countries to develop appropriate and sustainable training programs for PAMs. Another objective is to promote inter- and intra-regional approaches to training by providing opportunities for contact between PAMs from different countries and for them to participate in regional training programs. The central african region, including the eastern Zaire/Nile Divide and the western Greater Congo Basin include a number of protected areas with different ecological, economic and sociological functions. PAMs from the whole region could profit from initiatives and expertise developed in different countries. PARCS could play a vital coordinating and facilitating role to this goal.

A primary recommendation of this training needs assessment is to develop and emphasize the role of in-service and on-the-job training as a means of addressing the training needs of PAMs identified. Course topics should be based on the key training needs by competencies identified by the "gap analysis" and should concentrate on the main divisions of the job requiring priority attention. Specifically, these skills include Policies and Procedures, Legal, Technical, Planning and Financial skills, and involve Laws and Regulations, Visitors, Interventions and Resource conservation. The development of the mental and social skills involved in problem solving should be a technique used in the training courses with special emphasis on the skills demonstrating the greatest gaps. PARCS involvement in the development of such a programme could consist of providing expertise in preparing a syllabus and materials for each course, developing a course schedule that would fit into a general training programme, and identifying potential course venues and instructors.

A goal of PARCS Phase II would be to assist in the development of a "training ethic", emphasizing that training is a process and not a single incident in a career. PARCS should facilitate the development of a training plan for the department, which would allow each person's career to follow a pathway based on performance and initiative. The emphasis of training programs will be as much as possible on practical, field-based training.

Country Report Burundi

Section 1: Protected Area Conservation Strategy

1.1 The Approach

Africa's system of national parks and protected areas constitutes one of the most important safeguards of the continent's rich biological diversity. Protected Area Managers (PAMs), the decision-makers in the field, play a critical role in the overall functioning of these areas. In recent years a number of observations on factors constraining effective protected area management, drawn from experiences in the field, have been made. They include:

- a The job of a PAM is becoming an increasingly complex task, requiring technical skills relating not only to wildlife and tourism, but to management, planning, law, policies, finance and accounting as well.
- b Traditional training institutions and programs in Africa generally have not kept pace with the increasing demands of the PAM's job.
- c Courses offered at leading wildlife institutions are often too theoretical, academic, broad-based, host-country specific, and habitat-specific.
- d Few PAMs have access to the formal training opportunities available.
- e Few data exist on the effectiveness, relevance, and value of traditional and non-traditional forms of training for PAMs.
- f The capacity for institutions to train and develop training programs needs to be strengthened.
- g Existing training institutions and programs need to revamp their curricula to address the specific needs of PAMs.
- h Relevant training opportunities outside the traditional conservation sector need to be identified and made available to PAMs.

1.2 The Project

In light of the above the PARCS project sought to address two questions: (i) what is needed in respect of PAM training to enhance the conservation of Africa's protected areas? and (ii) what can be done to provide such training for PAMs? PARCS attempted to do this by:

- a undertaking an assessment of training needs, priorities, constraints and opportunities for PAMs in three regions of sub-Saharan Africa (east, central, and southern)
- b establishing (pilot) training programs to implement recommendations from the project's training needs and opportunities assessments
- c developing a broad series of recommendations for training protected area management staff

The PARCS project is envisioned as a multi-year activity. During the first year (Phase I) an in-depth assessment of training needs, priorities, etc., was completed in each region. Specifically, for PAMs, the assessment was designed to:

- a assess skills needed for effective protected area management
- b assess present skill levels
- c determine the types, amount and frequency of training currently received by PAMs
- d assess training needs of PAMs
- e identify constraints to adequate and effective training
- f identify the institutions and programs presently used for training
- g identify potential opportunities for relevant training
- h identify pilot activities to test innovative training methods

1.3 Overarching Questions

Data generated by the training needs and training opportunities assessments were used to answer a suite of over-arching questions which address the main points outlined in Section 1.2 above. These questions are listed below and are divided into broad, general categories of enquiry each with a sub-set of subordinate, specific ones.

The Questions

1. **What are the responsibilities of a PAM; are they universally recognized?**
 - a What are the descriptions and understandings of the responsibilities of a PAM currently declared by resource management authorities?
 - b What are the responsibilities recognized by PAMs?
 - c How do PAMs perceptions compare with PARCS' perceptions?
 - d How do trainers' perceptions compare with PARCS' perceptions?
 - e Has the job of a PAM changed over the last 20 years?
 - f What are others' perceptions? Do they match PAMs' and/or PARCS'?
2. **What are the constraints on meeting these responsibilities? Where does training fit in?**
 - a Where are the overall constraints?
 - b What is the importance of training in overcoming constraints?
3. **Are PAMs skilled to the level necessary to do the job? If not, where are the deficiencies?**
 - a Are skills satisfactory compared to PARCS' perceptions of job skills?
 - b Are there differences between biomes in the technical knowledge of PAMs?

4. **What training has been received by current PAMs that is perceived by them as useful: how much and what kinds, and relevant to which job requirements?**
 - a What existing training has been received by PAMs?
 - b Comparisons of types of training received by PAMs (in respect of years of service) that has contributed most to gaining skills
 - c Does training received cover all major requirements?
 - d How well does existing training prepare PAMs? Does type of training received reflect the degree for preparation of job requirements?
 - e Does exposure to various conservation techniques (other than in-service training) improve PAMs skills and knowledge?
 - f What do training programs aim for?

5. **Assessment of Field Operations Directors (FODs)**
 - a What are the responsibilities of senior management positions?
 - b What kind of training has been received in these areas?
 - c What are FOD training priorities?

6. **What further training is required?**
 - a Where are the biggest gaps perceived by PAMs between self-evaluation and those required for the job?
 - b Where are the biggest gaps perceived by others?
 - c What are the constraints to training?

7. **What present programs could be enlarged/restructured to include training opportunities for PAMs?**

8. **Are there other appropriate training opportunities that have not been utilized?**

9. **What kind of training should be recommended?**

1.4 The Process

The PARCS project is managed by the Biodiversity Support Program (BSP) and implemented by a collaborative group of three NGOs: The African Wildlife Foundation (AWF), NYZS/The Wildlife Conservation Society (WCS), and World Wildlife Fund (WWF). AWF is the lead organization in eastern Africa, WWF heads PARCS in southern Africa, and WCS has assumed lead responsibility in francophone central Africa.

Funding for PARCS comes from the Bureau for Africa of the U.S. Agency for International Development (AID). Supplementary funding has been provided by WWF, with AWF, WCS and WWF contributing staff time to the project as well. Furthermore, each collaborating organization is drawing from its expertise and experience with related on-going activities in the field, to enhance the PARCS assessments.

The methodology for the PARCS assessment was developed during a four-day workshop in Nairobi in August 1992. The workshop participants included the three NGO Regional Managers (RM), the BSP core-team member, and a facilitator (training specialist) from Price Waterhouse. [For full details on the methodology see BSP 1993 "Protected Area Conservation Strategy (PARCS). The Methodology".]

Following the workshop, the methodology was reviewed by a number of key members of the conservation community in Kenya and Zimbabwe and a sampling of wardens from several African countries. The RM in southern Africa conducted a trial assessment of training needs in Malawi between 13 Sep and 2 Oct. The methodology was also reviewed by the core team in September and amended in light of those reviews.

1.5 Goal of the Methodology

The main tool of the training needs assessment was a questionnaire (Annexe 1) designed at the methodology workshop in Nairobi. A questionnaire approach was adopted for the needs assessment for the following reasons:

- a The questionnaire could be designed as a matrix and serve as an efficient and practical way to present the array of specific skills required for the job of a PAM
- b It would provide a convenient tool to compare outside assessments of the skills required of the PAM with the PAMs' own perceptions of required skills
- c It would provide a qualitative and quantitative means of assessing training needs
- d It would lend itself well to standardized data extraction, manipulation, comparison and analyses across the three regions of Africa

A strength of the questionnaire is that it is not just a means of gathering information, but it is a training tool in and of itself. The process of leading the PAM through the questionnaire was designed to stimulate thought and discussion on the important facets of protected area management - the questionnaire may well influence the way some PAMs look at their jobs and their role in managing those Areas.

1.6 Target Groups

The primary target group for the PARCS assessment is the Protected Area Manager (PAM), the highest ranking manager on-site in a protected area. Across the many countries in the PARCS assessment, a wide variety of individuals with a multiplicity of titles may act as PAM (e.g., regional officers, warden, senior warden). In order to identify the appropriate individuals for the assessment in each country, it is necessary to carefully examine organizational structures and job descriptions.

In some countries problems in protected area management may result from the placement of higher level staff who have little, if any, experience in such fields as management and planning. Hence, in countries where the PARCS RM and his/her core team representative deemed it possible and desirable, the assessment was broadened to include the level of management above the PAM, i.e., Field Operations Director (FOD) at the government's conservation authority's (CA) headquarters.

It is also recognized that in many cases the job of PAM will eventually be filled by individuals immediately below this level (depending on organizational structures and the procedures of the organization). The RM and his/her core team representative therefore also sometimes included in the assessment individuals directly below the PAM. In Tanzania, for example, there are senior wardens, wardens, and assistant wardens, so assistant wardens may be included in the assessment. In countries such as Zaire, where there are rarely managerial positions below the PAM, lower levels were not included.

The categories of people who were potentially asked to participate in the assessment are listed below:

- a Subordinates to the PAM (e.g., assistant warden) and other individuals who are likely to work as PAMs in the future
- b Protected Area Manager (PAM);
- c Officers senior to PAMs, and other individuals who have recently worked as PAMs
- d Field Operations Director (FOD)
- e Trainers/lecturers at wildlife institutions where PAMs receive training
- f Research Officers
- g Field Associates

1.7 Target Countries

The PARCS assessment was intended to cover as many countries in eastern, central and southern Africa as possible. In this way, the end product would provide a comprehensive assessment of the training needs and opportunities over a sizeable part the continent.

Practical realities, however, inevitably dictated that in-depth assessments could only be done in some countries, limited assessments in others' and no assessments in yet others. In-depth assessments involved in-country site visits and followed the methodology described in this document. Limited assessments involve more cursory assessments, often conducted from outside the country using means available (limited use of the questionnaire through selective interviews and mailings, collection of baseline data through telephone interviews, literature searches, etc.).

The practical realities that dictated where assessments were conducted included, but were not limited to:

- a government cooperation
- b USAID cooperation
- c civil war/unrest
- d relative importance placed on a country's biodiversity and protected areas vis a vis other countries in the region
- e potential for follow-on activities

The categorization of countries was as follows:

Eastern Africa

In-Depth Assessments: Tanzania (including Zanzibar), Kenya, Uganda, Ethiopia

Limited Assessments: Somalia

Central Africa

In-Depth Assessments: Cameroon, Congo, Rwanda, Zaire

Limited Assessments: Burundi, Central African Republic, Gabon

Southern Africa

In-Depth Assessments: Botswana, Malawi, Zambia, Zimbabwe

Limited Assessment: Mozambique

Special Assessment: Republic of South Africa (training opportunities only)

1.8 Preliminary Groundwork

Regional Managers arranged an initial meeting with a senior official of the appropriate government CA in each country to describe the PARCS project. In a subsequent meeting, which may have been attended by the authority's training officer as well, the following information was sought:

- a organizational structure for the whole Conservation Authority and, if available, for individual protected areas
- b minimum requirements for, and descriptions of, the job of PAM, FOD, and other positions as appropriate
- c training records
- d in-service training programs (how often provided? who plans them? numbers of staff attending courses? financing? etc)
- e formal wildlife training institutions used (who attends them? how many?)
- f other training opportunities (workshops, seminars: who attends? how many? financing?)
- g number of CA training officers (job descriptions?)
- h training programs (annual budget, evaluations, constraints)

Since PARCS is intended to be conducted in an adaptive way, reflecting the needs and wishes of government programs and interests in training, the government CAs were invited to plan how the PARCS project should be conducted.

It was explained to the CAs that the preferred (PARCS) strategy for conducting the questionnaire is for the RMs to hold interviews and discussions with PAMs and make site visits to directly observe Protected Area management. The RMs would, however, tailor their approach to individual country circumstances. Options for conducting the questionnaire were:

- a to explain the questionnaire and have the PAM fill it out with the RM nearby to assist
- b to explain the questionnaire and leave it for the PAM to fill it out on his/her own time
- c to explain the questionnaire in a workshop and have PAMs fill it out individually
- d to mail out the questionnaire
- e to use a consultant or colleague to do one or more of options a-c

The CA Director was then invited to decide which method was best for the PARCS assessment, and requested to help set up meetings and/or workshops with PAMs. The Director was also asked to recommend people to talk to about training opportunities.

RMs then arranged meetings with FODs during which they were asked to complete the needs assessment questionnaire as an independent validation of PAMs' own responses.

Where appropriate, the RM discussed the FODs' position and training needs, including such topics as:

- a Strategic planning
- b Development and compliance of policies, procedures, and standards
- c Representation of organization and public relations
- d Planning optimal deployment of well-motivated competent staff
- e Development and achievement of operational plans and budgets
- f Planning for availability and optimal deployment of technical specialist services from headquarters to protected areas
- g Ensuring availability of hardware and software necessary to achieve organization's objectives, within budget
- h Managing concessions in protected areas

The FOD was asked to: verify that these are the key aspects of the job and to comment on the list; indicate what kind of training is needed to accomplish these tasks, and what are the constraints to obtaining this training.

Section 2: Training Needs Assessment

2.1 Introduction

2.1.1. Summary of Country's Protected Area System

Burundi is located in the highlands of the eastern part of the Western Rift valley. The altitude varies between 773m along the shores of Lake Tanganyika to 2,679, along the mountain range of the Zaire-Nile divide. The country consists mainly of hills and plateaux, with a varied topography, soil and climate. As a consequence, vegetation is varied and in many of the montane areas, rich in diversity. The east is covered mainly by bushland and wooded grassland, whereas the west is mostly Afromontane vegetation. Small areas of rain forest occur in the north-west. In addition, there are numerous small wetland areas, including the shores of Lake Tanganyika and floodplains and swamps along many of the rivers. Lake Tanganyika is the second deepest lake in the world and has a very high endemism in its aquatic fauna. Molluscs in the lake appear similar to marine fossils from the Jurassic era (IUCN).

Burundi's history of protected area management is very recent. Until 1980 there was no legislation concerning protected areas, although forest land had been established as official reserves by the Belgian colonial authorities in 1933. Since 1980, however, the government of Burundi has established legislation covering national parks and nature reserves, and in 1985 a Forest Code was established, providing for protection forests, forest reserves and reforestation areas. In 1980 the Institut National pour la Conservation de la Nature (INCN) was created, which later was converted to the Institut National pour l'Environnement et la Conservation de la Nature (INECN).

Table 1
Protected areas in Burundi

Protected Area	IUCN Category	Area (ha)	Year Notified
Parc National Kibira	II	40,000	1933/80
Parc National Rusizi	II	5,235	1974/80
Parc National Ruvubu	II	43,630	1980
Chutes de Karera	III	15	1956
Gorge de Nyakazu	III	20	1956
Réserve de Bururi/Makamba	VIII	3,300	1951
Réserve de Kigwena	VIII	360	1954
Réserve de Lac Rwihinda	VIII	425	1959
Réserve de Monge	VIII	2,000	1990
Réserve de Rumonge/Vyanda	VIII	6,000	1985
Réserve de Cendajuru	VIII	11,000	1991

A total of 111,985 ha (111.985 km²) of land benefits from protected status in Burundi, or 3% of the country. Both reserve and national park boundaries and management plans are determined by decree. In reality, however, none of the 11 areas gazetted for conservation have a conservation or management plan.

The first protected area was created in 1933, under Belgian colonial rule, and the most recent reserve is the Rwind Lake Nature Reserve, established in 1990. There is very little forest or natural vegetation cover remaining outside of the protected area system. Burundi is one of the most densely populated countries of Africa, with over 300 people per sq.km. in some areas. The country is also one of the

poorest ones in Africa, in terms of per capita GNP (IUCN,). Pressure on forests is very high and as a consequence, conservation has received low priority in the past. This seems to be changing, however, and improvements have been made to the legislation concerning conservation, the INECN was reorganized and three new national parks were created in the early 80's. There seems to be a very real effort on the part of the Burundian officials to prioritize nature conservation, educate the public in environmental matters and to encourage an appreciation for protected areas and their importance.

The montane forests of Burundi are important areas of biodiversity as well as crucial for the maintenance of the country's hydrologic regulation and for their role in water catchment. Protection of the remaining forests of Burundi is critical. Pressure on the forest for fuel and construction wood, for agriculture and for other consumptive uses is increasing, with the growth of population density.

2.1.2. Protected Area Organizations

The Institut National pour l'Environnement et la Conservation de la Nature (INECN) is a parastatal, directly attached to the Presidency. It is responsible for the creation and management of protected areas, for the organization of scientific studies, for the diversification of tree and animal species, for encouraging maximum use of tourist sites (together with the Office National de Tourisme), for the training of technicians in conservation of nature and for the creation of new protected areas as parks or reserves. One of the major problems facing the INECN is the presence of villages and settlements within the protected areas, and their lack of finance and expertise in dealing with these problems. Due to the high population pressure, there are people in all of the protected areas that must be resettled for protection to be effective.

The Institut National de l'Environnement et la Conservation de la Nature (INECN) is headed by a Directeur Générale and a Conseiller from the Ministry of the Environment. Two Departments come under the Direction Générale: the Direction de l'Environnement et Education de l' Environnement (Department of Environment and Environmental Education) and the Direction Technique pour Aménagement et Gestion (Department for Development and Management). National parks and reserves fall under the jurisdiction of the Direction Technique, and Accounting, Personnel and Projects fall under the jurisdiction of the Direction de l'Environnement et Education de l'Environnement.

The Forest Service falls under the jurisdiction of the Ministère de l'Agriculture et de l'Elevage (Ministry of Agriculture and Stock Farming, Département des Eaux et Forêts (Department of Water and Forests) and is responsible for managing the State Forest Domain. Within this domain there are also Forêts de Protection (Protected Forests) and Réserves Forestiers(Forest Reserves). The Forest Code, established in 1989, provides for laws and penalties for infractions within the forest domain. The Forest Code also provides for compensations to be paid for owners of forested land in the case where land is classified as a protection forest (IUCN,).

2.1.3 National Conservation Strategy and Conservation Objectives

As mentioned in the previous section, the conservation objectives of the Institut National pour l'Environnement et la Conservation de la Nature (INECN) include: the creation and management of protected areas, the organization of scientific studies within the protected areas, fostering the diversity of both fauna and flora throughout the country, the development of tourism (together with the Office National de Tourisme) and training of technicians in conservation of nature and management of protected areas. The institute has recognized the importance of educating the general public in matters concerning conservation and nature in order to achieve these objectives, and has established the Committee on the Relative Problems of the Environment in 1982. The committee is responsible for promoting public education, making people aware of environmental degradation and the importance of protected areas in countering this degradation.

The INECN has received technical assistance in protected area management from a variety of sources in the past. These include the United States Agency for International Development (USAID), the United States Peace Corps, Catholic Relief Services (CRS), the French Caisse Centrale de Coopération Economique (CCCE) and the German Gesellschaft für Technische Zusammenarbeit (GTZ). Areas of

assistance include agroforestry and extension work in the forestry sector, infrastructure development, research and forestry, wildlife and conservation education. There is a strong emphasis on training of Burundian expertise and management, including the development of protected area management plans.

2.1.4 Existing Training Programs

At present, training of protected area technicians is occurring with assistance from the Biodiversity Project of USAID/Peace Corps. The objectives of the project include:

1. To train Burundian counterparts in park management techniques conservation education and other park-related skills. The emphasis is on guard training.
2. To assist the INECN in developing and implementing management plans for 5 parks and reserves in Burundi, with a major emphasis on tourism.
3. To prepare a program of conservation education at formal and informal levels, at primary and secondary schools and through public media.
4. To conduct basic vegetation and wildlife inventories of five protected areas.

In cooperation with the Biodiversity Project, training of technician-level staff in parks and reserves is planned and executed through the INECN. Records are kept of each individual's training history and progress through the institutional hierarchy follows a pre-established path. Training specific for the managerial level is not currently in existence, however.

There is no training plan or programme in existence at the INECN and training often occurs on an *ad hoc* basis. Individuals who happen to hear of, or be selected by donors for training are the recipients of training, but those that do not find themselves at the right place at the right time may never receive any training in addition to their pre-recruitment levels.

2.1.5 In-Country PAM Profile

In general, protected area managers in Burundi have some form of tertiary education. Many have bachelor-level degrees from the biology department at a university, or have graduated from the Agricultural Institute in Burundi and hold a degree as "agronome forestier", or forestry agronomist. A small number of individuals are graduates from either the Mweka Wildlife College in Tanzania, or the Ecole des Spécialistes de la Faune in Garoua, Cameroun. A PAM in Burundi, or Chef de Parc, can move up the hierarchy in the protected areas to this position, given that the minimum educational requirements have been fulfilled.

The personnel structure in protected areas in Burundi varies to some extent between protected areas. In general, however, a Chef de Parc is the overall manager in the field and is supported by a Chef Forestier and a Chef de Surveillance/Tourisme. The former is responsible for the forestry related activities, and the latter is responsible for protection and tourism. Each park is divided into sectors, with in general 4 sectors, each headed by a Chef de Secteur in each protected area. In the sectors are a number of guards, as well as guides where there is tourism, and "moniteurs" where there are agroforestry related activities. The chefs de secteur receive training through an in-service training programme in the department. Each newly recruited chef de secteur is sent to the field to work alongside an established chef de secteur as an apprentice, to observe and learn first hand how the protected areas are managed. The guards and guides are also recipients of in-service training developed through the INECN with the Biodiversity Project of the PeaceCorps.

2.2 Methods

Results from the analyses of questionnaire data were expected to provide the backbone of the training needs assessment. The following methods were developed to extract the information from the questionnaire.

2.2.1 Analysis by Validation and Gap Analysis

The questionnaire was analyzed on two levels. On the first level, respondents commented on the accuracy of the questionnaire as a job description for a protected area manager based in the field. This was the Validation Analysis. On the second level, the level of skill in a number of different skills/competencies was judged for PAMs, by different categories of respondents. The level of skill was then compared to the level of skill considered necessary for the job. The size of the "gap" between required skill level and actual skill level was the training need. This gap analysis indicated which skills/competencies had the greatest priority training needs. The following discussion of methodology describes the different ways in which the analyses were conducted.

Validation Analysis for Knowledge, relative to PARCS score

The validation analysis refers to the analysis of the level to which respondents felt the questionnaire accurately described the job of a PAM. In this analysis comparison is made between the level of knowledge respondents considered necessary to satisfactorily do their job and the level PARCS considered necessary. The level PARCS considered necessary was established by the three regional managers, based on their experience in a number of African countries, and their collaboration with both African and expatriate colleagues. Any variance between the two levels would indicate a difference in how the job was perceived. For this reason, the smaller the difference in scores (i.e. scores of 0, -1 or +1), the greater the similarity in the perception of the job. Positive scores indicate that the respondents consider the necessary level to be lower than that set by PARCS, as the level they consider necessary is subtracted from the PARCS level, and negative scores indicate that respondents consider the necessary level to be higher than that set by PARCS. A score of zero indicates total agreement.

This analysis is necessary to determine whether or not the level set by PARCS is considered accurate and whether it can be used as the standard of comparison for the analysis of training needs, or whether another standard of comparison needs to be found. The following piece by piece discussion of the results will show that in general, with a few exceptions, the level set by PARCS is considered accurate (see also 2.3.4.c). As a consequence, the PARCS level was used for analysis of training needs (gap-analysis 2.3.5).

The responses could include four skill levels, as described in detail in the methodology. The highest skill level possible was "in-depth knowledge", followed by "working knowledge", "some knowledge" and lastly by "no knowledge".

Comparison of PAM and Assistant PAM Validation Analysis of Knowledge Scores with Target Validators (average scores)

This analysis compares all the average validation scores for each category of respondent (position). The comparison will show whether or not the different categories of respondents agreed with PARCS, in general, with respect to the levels of skill required to fulfill the position of PAM successfully. The average country/organization score is an average score of all the PAMs and Assistant PAMs combined, and represents the general level considered necessary by PAMs and Assistant PAMs. The greater the difference in scores, the greater the difference of perception in the required skill level.

Overall, the level set by PARCS can be considered the lowest acceptable level, as all validators considered slightly higher levels of knowledge necessary. Overall agreement was high, however, as variation from the PARCS level was slight.

Gap Analysis of Training Needs for Knowledge Relative to PARCS/Respondent's Validation Score

In this analysis, the skill level required in each competency set by PARCS will be used as the standard of comparison. The level considered by each respondent to best reflect their actual skill level is compared to the level considered necessary by PARCS, to measure the gap and possible training need. Only when the difference results in a positive score (meaning that PARCS set the level higher than the respondent) is the score considered in the analysis below. Negative scores mean that respondents have a higher level than considered necessary and a score of 0 means that the actual level reflects the level required. As respondents tended to agree with PARCS as to the level of skill required, there is not much variation between measuring the gap using the PARCS standard and using the respondents own set standard. What variation did occur between the two standards, however, tended to indicate higher levels of skill considered necessary by PAMs than considered necessary by PARCS. The gaps identified when compared to respondents' own validation score, therefore, tended to be somewhat greater than when compared to PARCS.

Comparison of Average PAM and Assistant PAM Gap Analysis of Knowledge Scores with reference to PARCS score with Target Validators

The scores in the gap analysis (indicating the difference between the level of knowledge considered necessary by PARCS and the actual level of PAMs and Assistant PAMs) are calculated for all categories of respondents, and presented in a table. Categories of respondents other than PAMs still evaluated the level of skill attained by an "average" PAM. This enables comparison of the training needs for PAMs identified by each category, using the same standard of comparison. The greater the score, the larger the gap in knowledge. Only positive scores are considered in this analysis, as a negative score would indicate overtraining which is not of interest in this exercise.

Validation Analysis of Social and Mental Skills

The extent of agreement with the mental and social skills considered necessary for PAMs to do their job by PARCS is measured, to derive an overall percentage of agreement. Where respondents agreed with PARCS, the response was "yes". The amount of agreement for each skill is presented in a histogram and is considered the validation for the questionnaire. Where the answer is "no", respondents felt the skill was not relevant to the job of a PAM. Even a low skill level in such a question would not indicate a training need from their perspective, because the skill is not considered necessary.

Analysis of Current Mental and Social Skill Levels

A cumulative total of responses indicating low skills levels is calculated, and presented in a table for all competencies and main divisions of the job. Scores of 1 or 2 indicate low skills, where 1 represents no skill, and 2 represents poor skill. This allows the competency and the main division of the job in which low skills are frequently identified to be isolated as areas in which training is needed.

Analysis of Attitudes

The analysis of attitudes is linked to respondents years of service, in order to determine whether this has a bearing on the way in which they would instil work ethics, commitment to conservation and community attitudes. The responses to the three questions are demonstrated in a stacked histogram showing their years of service. The different responses given by PAMs are numbered, and the frequency in which each response is identified is shown in the histogram.

Training Received

The training which respondents have received is analyzed using histograms and tables, in order to show in which competencies they feel training has contributed to their skill levels, and which forms of training (formal wildlife, formal other, in-service and on-the-job) have contributed most to their current levels of knowledge, mental and social skills. Only training which they recognize as having contributed is listed.

Training Priorities

The three listed training priorities are fitted to the competencies and main divisions of the job to show in which part of the matrix the priorities fall. They are then linked with the training needs as demonstrated by the gap analysis, and the analysis of low skill levels in mental and social skills. This allows for comparison between the areas in the matrix in which the questionnaire has shown the greatest training needs to lie and the areas in which respondents feel their greatest training needs to occur.

2.2.2 Country Specific Methods

Burundi was originally planned to be a country in which only a limited assessment of training needs would be conducted. Due to Burundi's initiatives in both training and conservation education, and their interest and willingness to participate and cooperate with the PARCS project, a more in-depth approach was considered appropriate. As a result, although the Regional manager spent only a relatively short time in Burundi, the assessment of protected area manager training needs was an in-depth one, carried out to a large extent by Mr. Leif Davenport of the Biodiversity Project in collaboration with Mr. Mathias Wakana of the INECN. A workshop was organized with "chefs de Parcs" and assistant managers from the main protected areas of the country. Mr. Davenport conducted the workshop and collected the background information on all the protected areas in Burundi.

Burundi People contacted:

Mr. Laurent Ntega, Director General of INECN (in Nairobi)
Mr. Dean Anderson, Jane Goodall Institute
Dr. Suzanne Abilgaard, Jane Goodall Institute
Mr. Leif Davenport, Projet Diversité Biologique/ PeaceCorps
Mr. Mathias Wakana, INECN
Mr. Guy Debonnet, GTZ Projet Appui à l'INECN pour la Protection des Ressources Naturelles
USAID-Bujumbura

Table 2
IUCN Categories Present/Surveyed

IUCN Category	No. Present in Burundi	No. Surveyed for PARCS
1. Strict Nature Reserve	0	0
2. National Park	3	3
3. Natural Monument	2	2
4. Nature Reserve	0	0
5. Protected landscape	0	0
6. Resource Reserve	0	0
7. Natural Biotic Area	0	0
8. Managed Resource Area	6	3
9. Biosphere Reserve	0	0
Total	11	8

2.2.3 FODs Comments on Training Needs

Interviews were held with the following people at the departmental headquarters, for their comments on training, and the constraints on PAMs working in the field.

M. Mathias Wakana, INECN

One of the main problems with training in the INECN is the lack of a training plan allowing for all personnel to have equal opportunities and providing for the specialized skills necessary. Training tends to be on an *ad hoc* basis and not planned in any way. Although the minimum educational levels required of protected area managers are probably adequate, there is a great need for training particular skills which are not covered at the existing training institutes. These include specific technical skills, such as a more comprehensive knowledge of the biotope and ecology of protected areas. Technical training should focus on the people in the field, technician-level, to have a greater effect. Further training needs include planning and management skills, as well as administration skills. The Chef de Parc (PAM) should have decision making power and have the skills to make those decisions. Decentralization of authority is an important trend to encourage.

There are a number of constraints to effective management. One of the primary constraints is a budgetary one, as there is often a lack of equipment, infrastructure and personnel in the protected areas. In addition, there needs to be a great deal more planning in protected areas, as well as follow-up on activities. The pressure of the population on natural areas in Burundi is very high. Some of the illegal activities which are conducted in protected areas include fishing, firewood collection, cutting of trees and some poaching. The need for agricultural land is also very great and this results in increasing levels of pressure on the few remaining natural areas in Burundi. To protect these areas Burundi needs to have staff who are adequately trained and equipped for law enforcement and protection as well as education and extension work.

2.2.4 Analysis of Questionnaire

For the analysis of all the data generated by the questionnaire, a series of data sheets were devised, in which all the data could be sorted and stored, and to facilitate entry into the computer programme for the actual analysis. The following seven data sheets were created:

- Data sheet A allows the additional accountabilities and responsibilities to the job of a PAM that were identified to be compiled.
- Data sheet B focuses on knowledge skills and records both the score which respondents considered to reflect the skill level required to do the job of a PAM, and the score which respondents considered to reflect the actual skill level of PAMs. From the data sheet, the differences between the respondents scored necessary level and the PARCS score was calculated, and the difference between the necessary level (PARCS and own) and their current skill level was calculated.
- Data sheet C focuses on mental and social skills and records whether respondents agreed with the statements made by PARCS, and what their skill level is with respect to these tasks.
- Data sheet D lists the responses to the three attitudes questions.
- Data sheet E records whether respondents spoke the language of the neighboring communities, and whether they were able to use computers, and if yes, to what purpose.
- Data sheet F lists the three training priorities identified by respondents and ties them in with the 16 competencies and 11 main divisions of the job in the questionnaire. It also identifies the form which these training priorities should take, as either formal, in-

service, on-the-job and other.

- Data sheet G summarizes training already received as described in the bottom row of the questionnaire and uses the competencies 2-17 as in the questionnaire.

Two workshops were held with the regional managers, data entry and computer analysts attending. The first, held in August 1992 was to develop the overarching questions which were to be answered by the questionnaire, and to determine how those questions could best be answered using the data generated by the questionnaire. The second workshop developed the programs required to answer each question and devised the specific questions with which the computer analysts were to run the programme.

SPSS (Statistical package for the Social Sciences, PC Version 4) was used to do the analysis on most of the questions, and Word Perfect and Harvard Graphics were used to do the tables and graphics. The computer analyst, Vitalis Mbanda Wafula spent 1000 hours on PARCS, and his colleague David Sumba spent over 500 hours on data entry and on analysis as well as the presentation and graphics of the results.

2.2.5 Gender

A question on gender was included in the questionnaire in order to determine whether there was a link between a respondent's gender and the responses given. Unfortunately this question was not included in the first questionnaires used, but added at a later date. Where female respondents filled in the questionnaire, any variations in the responses were considered from this point of view. In none of the countries assessed were large enough sample sizes of women assessed to allow any link to be made.

2.3 Results

2.3.1 Data Collection Table

From the table can be seen that the method used throughout was with a consultant for PARCS holding a workshop with PAMs and FODs present and where they fill out the questionnaire with the consultant nearby. The consultant was the project director of the Biodiversity Project in Burundi, of the US Peace Corps, Mr. Leif Davenport. Previous to holding the workshop, Mr. Davenport and the Regional Manager had a meeting where the PARCS project and the methodology were discussed, to fully brief Mr. Davenport. In addition to filling out the questionnaire, background information on all the protected areas under the jurisdiction of the INECN was collected.

2.3.2 Background Information Sheets

The background information sheets on all the protected areas are annexed.

2.3.3 Respondent's years in Service/Years as a PAM

The majority of PAMs and Assistant PAMs have been in the service of the INECN for less than 5 years. Unfortunately the question how many years they had worked as a PAM was not asked. As mentioned above, the INECN is a relatively new organization and has been in existence only since 1980. Many of the people working for the INECN have been recruited in the past 2 or 3 years and are just starting in their role as a PAM or assistant PAM. Any training programs established in Burundi would be particularly effective due to the fact that many of the managers have only recently assumed their positions and would be relatively open to new ways of thinking and fulfilling those roles.

2.3.4 Validation Analysis for Knowledge

In general, respondents agreed with PARCS with respect to the level of knowledge considered necessary to do the job of a PAM.

2.3.4.a Additions and Deletions to Accountabilities and Responsibilities

There were none.

2.3.4.b Validation Analysis of Knowledge of PAMs and Assistant PAMs, Relative to PARCS' Validations

This analysis compares the level respondents considered necessary to satisfactorily do their job with the level PARCS considered necessary. Any variance between the two levels would indicate a difference in how the job was perceived. For this reason, the smaller the difference in scores (i.e. scores of 0, -1 or +1), the greater the similarity in the perception of the job. Positive scores indicate that the respondents consider the necessary level to be lower than that set by PARCS, and negative scores indicate that respondents consider the necessary level to be higher than that set by PARCS.

A score of zero indicates total agreement.

The analysis is necessary to determine whether or not the level set by PARCS is considered accurate and whether it can be used as the standard of comparison for the analysis of training needs, or whether another standard of comparison needs to be found. The following piece by piece discussion of the results indicates that in general, with a few exceptions, the level set by PARCS is considered accurate (see also 2.3.4.c). As a consequence, the PARCS level was used for analysis of training needs (gap-analysis 2.3.5).

Where there is disagreement, it is generally a higher level of knowledge that is considered necessary. The overall level of agreement was high, but unfortunately this is deceptive. When PARCS didn't set the level at "in-depth knowledge", it was frequently "working knowledge". There is only one level higher possible from "working knowledge", namely "in-depth knowledge". It would have been impossible for PAMs to respond unanimously for a higher level required and be considered significant by this analysis because a difference of -1 is not considered significant. The cut-off point taken was a difference of -2 or -3 (see 2.3.4.c). In other words, there was little option other than overall agreement, if responses varied in favour of higher levels of knowledge.

i. Technical Knowledge:

Most variation from the PARCS score tended to increase the level considered necessary. In most cases, this brought the level up to "in-depth knowledge". There was a small amount of disagreement in favour of decreasing the level considered necessary, but only in a few instances. The two areas in which respondents felt the skill level required was sometimes lower than that established by PARCS were F (Visitors) and K (Resource conservation). Given that there is relatively little tourism still in Burundi, but that tourism development is considered a priority by the INECN, these results are surprising. The level set by PARCS was "in-depth knowledge", and some respondents felt "working knowledge" to be sufficient. One respondent, however, felt that even lower skills would be sufficient. Some respondents evidently did not consider this such an important task. Looking at the gap analysis (2.3.5), however, most respondents did consider that they needed more skills in this, and identified it as a training need. Relative to their own score as standard (2.3.5.b), more than 60% considered that their skill levels were too low, even if only "some" or "working" knowledge was considered necessary.

ii. Management Knowledge:

Again, where there was variance with the PARCS score, respondents considered higher levels necessary than identified by PARCS.

In almost all questions, respondents felt that "in-depth" knowledge was required.

iii. Planning Knowledge:

Although the overall level of agreement was high, with 95.4% of responses not varying more than one point from the PARCS level, there were some interesting differences. In questions 32,33 and 34 respondents felt that lower levels of skill were required than established by PARCS. These questions refer to patrol planning, visitor planning and planning of interventions respectively. The two questions on resource conservation were also indicated as requiring slightly lower skill levels. They only brought the level down to working knowledge, from in-depth knowledge.

iv. Legal Knowledge:

Most (5 out of 9) questions were considered to require higher levels of knowledge than set by PARCS. There is only 73.4% agreement with the PARCS scores in this section (2.3.4.c). Although occasionally some individuals felt that lower levels were necessary, most respondents felt that a PAM requires in-depth knowledge about all legal matters concerning the PA. The one question in which almost 60% of respondents felt that a lower skill level was acceptable dealt with laws related to interventions.

v. Policies and Procedures Knowledge:

Where respondents did not agree with the skill level considered necessary by PARCS, disagreement very rarely exceeded one level, and overall agreement was high (98.9%). Occasionally, respondents felt that in-depth rather than working knowledge was necessary, or working rather than in-depth knowledge was required. The questions in which a slightly lower level of skill was considered necessary dealt with staffing, infrastructure, visitors and public relations. The questions in which a slightly higher level of skill was considered necessary dealt with accounting, planning and research.

vi. Financial Knowledge:

In all but one question (dealing with community conservation), most respondents felt that a PAM should have in-depth knowledge of all financial matters. PARCS felt that working knowledge would generally suffice. In the question dealing with record keeping of resource use, or resources shared, with the community, respondents felt that working knowledge was generally sufficient, and 3 felt that some knowledge would be adequate. This is probably because in Burundi this is not something which is currently being done, and some respondents did not really feel they required these skills.

2.3.4.c Measure of Agreement for PARCS Validation Score

On the whole, the measure of agreement between the level of skill considered necessary by PARCS and by respondents is very high, 91.4%. Only in Legal knowledge was there less agreement, with respondents considering a higher level of skill necessary. PARCS considered "some" knowledge sufficient in many aspects of the job, whereas respondents felt that at least "working", if not "in-depth" knowledge was required. This measure of agreement is based on variation not exceeding a score of 1 or -1. As mentioned above, this does tend to favour agreement, because if the PARCS level is set at "working knowledge", there can be no disagreement exceeding 1 or -1 unless respondents consider the skill as unnecessary, which is rarely the case. Only those skills were included in the questionnaire that are usually part of, or potentially part of a PAM's responsibility.

2.3.4.d Comparison of PAM and Assistant PAM Validation Analysis of Knowledge Scores with Target Validators (average scores)

This table presents all the average validation scores for each category of respondent (position). This shows whether or not the different categories of respondents agreed with PARCS, in general, with respect to the levels of skill required to fulfill the position of PAM successfully. The average country/organization score is an average score of all the PAMs and Assistant PAMs combined, and represents the general level considered necessary by PAMs and Assistant PAMs. The greater the difference in scores, the greater the difference of perception in the required skill level.

In general, the level of knowledge the FOD considered necessary for PAMs was slightly higher than the level set by PARCS. Variation between the three levels was not very great, and the level set by the Field Associate resembled that set by PARCS, but on the whole, they tended to consider a greater level necessary than PARCS. The level set by FODs was not unlike the level PAMs considered necessary, although the latter may have been just slightly less demanding.

Overall, the level set by PARCS can be considered the lowest acceptable level, as all validators considered slightly higher levels of knowledge necessary. Overall agreement was high, however, as variation from the PARCS level was slight.

2.3.5 Gap Analysis of Training Needs for Knowledge: PAMs and Assistant PAMs

In general, the three categories of respondents identified gaps for all knowledge skills (competencies), although the gaps were not equally large over all competencies. The competencies the PAMs identified as showing the greatest training needs were: Policies & Procedures, Legal and Technical Knowledge. FODs and Field Associates felt that PAM training needs were greatest in Planning, Technical skills. They also felt that the PAMs level of knowledge was lower, on average, than PAMs did themselves, although they all identified gaps. The Main Divisions of the Job in which training was most required were Laws and Regulations (E), Visitors (F), Interventions (G) and Resource Conservation (K). Community Conservation (H) did not figure highly, although it is considered the greatest problem facing Burundi's protected areas. This may be due to the fact that the issue is being addressed and people are being trained.

2.3.5.a/b Relative to PARCS/Respondents' Validation Score

In this analysis, the skill level required in each competency set by PARCS will be used as the standard of comparison. The level considered by each respondent to best reflect their actual skill level is compared to the level considered necessary by PARCS, to measure the gap and possible training need. Only when the difference results in a positive score (meaning that PARCS set the level higher than the respondent) is the score considered in the analysis below. Negative scores mean that respondents have a higher level than considered necessary and a score of 0 means that the actual level reflects the level required. As respondents tended to agree with PARCS as to the level of skill required, there is not much variation between a and b. What variation did occur, however, tended to favour higher levels of skill than considered necessary by PARCS. The gaps identified when compared to respondents' own validation score, therefore, tended to be somewhat greater than when compared to PARCS.

i. Technical Knowledge:

Some degree of training need was identified in all aspects of technical knowledge. The least training was determined necessary for the questions referring to knowledge of extension methodologies and the cultural and historical context for the location of the protected area. Relative to the score respondents set themselves as necessary, the gaps are larger than relative to the score PARCS considered necessary. Up to 80% of respondents identified training needs in technical knowledge for 10 out of the 17 questions. When the respondent's validation scores are also taken into consideration (2.3.4.b) it is clear that technical knowledge is considered very important and PAMs require in-depth knowledge for most of them, and their actual skill levels range between "some" and "working" for most of them.

ii. Management Knowledge:

The gaps in knowledge between what respondents feel they have compared to what they feel they ought to have are more marked when compared to the standards they set than when compared to the PARCS standard. The greatest gap using the PARCS standard of comparison was in the question dealing with protected area vs people conflict management. The greatest gap identified using the respondents' own standard of comparison dealt with the management of visitors and the management of interventions. Although both are important in Burundi, one of the greatest problems identified in protected area management in Burundi is that of population pressure on protected areas. Management of conflicts with neighboring communities is something which requires great skill and expertise.

iii. Planning Knowledge:

There were very clear training needs identified for this skill, although comparison with the ranking of training needs by other categories of respondents shows (2.3.5.d) that PAMs were perhaps less aware of the needs in this skill as the FODs and Field Associate. The greatest training needs were in planning with respect to visitors, interventions and resource conservation.

iv. Legal Knowledge:

Training needs identified in legal skills tended to be very high, with some questions identifying gaps of 3. Question 46, pertaining to the knowledge of legal aspects of collecting/exporting materials and specimens showed a very high gap in the required skill level. More than 50% of respondents had "no knowledge" of these laws. Given Burundi's history of traffic of legally protected animals and materials, this would be a very important need to address. Knowledge of laws and regulations relevant in protected areas was generally very low.

v. Policies and Procedures Knowledge:

This was the competency in which PAMs identified their greatest training needs. They frequently felt they had no knowledge, or some knowledge at best of the policies and procedures relevant in protected areas. Respondents ranked their skill levels very low, and felt also that the levels of skill required were very high. In only two questions did at least one respondent feel their skill level to be adequate, relative to the level set by PARCS. In most questions (80%), all respondents identified a training need.

vi. Financial Knowledge:

Skill levels in financial knowledge were also generally very low and in some cases (questions 61,62 and 63) respondents felt they had no knowledge of the skills. Relative to their own standard of comparison, the gaps were much more extreme, as respondents felt the level of knowledge required was considerably higher than that set by PARCS.

In summary, over all the skills combined, the PAMs felt that the greatest training was required in laws and regulations, in dealing with visitors and in interventions. Rather surprisingly, dealing with neighboring communities, or community conservation did not figure very highly in this analysis, although it is a vital problem and aspect of conservation in Burundi. Perhaps PAMs felt that as they were being trained in these areas (notably by the Biodiversity Project of the Peace Corps) their skills were therefore, if not adequate, at least better than others in this area. It is possible that the training has brought the skill levels up and that community conservation can no longer be considered the greatest training need. The FOD and the Field Associate also did not feel that community conservation showed the greatest training need for PAMs (section 2.3.5.d).

Table 3 demonstrates that the skills in which respondents felt their training needs were the greatest (percentage of questions in which at least 60% of respondents felt training was needed) are Policies & Procedures, Technical ar ' Financial knowledge.

Table 3
 Percentage of Questions in which at least 60% of Respondents Identified a Training Need, using the PARCS Standard of Comparison

Skill	Percentage
Technical Knowledge	82
Management Knowledge	20
Planning Knowledge	75
Legal Knowledge	55
Policies & Procedures Knowledge	100
Financial Knowledge	83

2.3.5.d Comparison of Average PAM and Assistant PAM Gap Analysis of Knowledge Scores with reference to PARCS score with Target Validators

The target validators are those individuals that completed the questionnaire to indicate the skill level of the "average" PAM employed in the department. They ranked the level of skill they felt was required for PAMs, and they ranked the level of skill of the average PAM. This enabled comparison of the levels of skill that PAMs felt they had with the levels of skill people responsible for PAMs (FOD) or working with the PAMs (FA) felt they had.

On average, the target validators agreed with the levels of skill PARCS considered necessary for PAMs, although where there was variation they tended to favour higher levels of skill. The FOD felt that the levels of skill of the "average" PAM were closer to the levels of skill required than the PAMs did themselves, and often the gaps were lower. The Field Associate generally felt the gaps were higher and that training was needed throughout, and they felt that PAMs tended to overestimate their skill levels. The FOD and the Field Associate did agree, however, that Planning skills required a great deal of training, as well as Technical skills and Legal skills.

From Table 2.3.5.d can be seen that the PAMs generally felt that the gaps were greater than the Assistant PAMs. This is probably not due to the Assistant PAMs being better trained, but because PAMs, having greater responsibilities, being more aware of the needs and demands of the job than the Assistant PAMs.

Table 4 presents a gap analysis of all categories of respondents (positions) with respect to the PARCS score (which is considered to accurately reflect the job of a PAM). This will enable comparison of the training needs identified by each category, using the same standard of comparison. The greater the score, the larger the gap. Only positive scores are considered in this table as a negative score would indicate overtraining, which is not the point of this exercise.

Table 4
Percentage of Questions in which an Average Gap of About 2 or more was Identified for Each Competency

Competency	PAM	FOD	FA
Technical	41	29	82
Management	0	10	40
Planning	33	42	75
Legal	44	33	56
Policy & Procedures	80	10	50
Financial & Accounting	33	0	66

The importance of Policies and Procedures, and the fact that it ranks highest as the training need for PAMs is a finding that is consistent throughout all the Central African countries assessed. The relatively low rank of management knowledge is also consistent throughout all of Central Africa. Technical skills tend to be ranked in the middle, but nonetheless have a number of questions demonstrating large gaps in knowledge. It is evident that according to all categories of respondent assessed, there are large gaps in the knowledge of PAMS that need to be assessed with training. The gaps are not necessarily in those areas which are the most obvious, nor in the areas PAMs tend to consider their greatest training needs (see 2.3.11).

Table 5 presents the gaps in knowledge by the main divisions of the job. The three divisions that have the highest training needs are E (Laws and Regulations), F (Visitors), G (Interventions) and K (Resource Conservation), for all three categories of respondent. Research (I) is also seen as requiring training.

Table 5
Percentage of Questions in which an Average Gap of About 2 or More was Identified for each Division of the Job

Main Division	PAM	FA	FOD
A. Staffing	17	33	0
B. Infrastructure	17	50	17
C. Accounting	0	50	0
D. Tactical Plans	0	0	0
E. Laws & Regulations	80	100	0
F. Visitors	71	100	57
G. Interventions	60	60	40
H. Community Conservation	25	63	12
I. Research	50	83	17
J. Public Relations	29	29	14
K. Resource Conservation	50	88	38

2.3.5.f Average Technical Knowledge Skill Level with Respect to Biome

Table 2.3.5.f in the Annexe shows that respondents in all biomes most frequently had training needs, or gaps in the order of 1. Most respondents were from savanna areas, which explains why the numbers are much greater in this column. The savanna protected area managers did also identify gaps of 2, especially in questions 2,3 (Laws and regulations), 7 (Interventions), 10 (research), 14 and 15 (Resource conservation). Questions 4 and 6 (visitors) also had gaps of 3 identified in them. These differences could be due to differences in sample size between the biomes. As more than one biome could be listed for a protected area, savannas were often listed even in a protected area that was also covered by forest, or montane forest. This is due to the patchiness of forests in Burundi and the extensive open areas between forest patches.

2.3.6 Validation Analysis of Social & Mental Skills

2.3.6.a Analysis of "Yes" Responses

This analysis shows the extent to which respondents agreed that the skills listed under mental and social skills are required by PAMs, in order to satisfactorily do their job. Where respondents agreed with PARCS, they answered "yes". The histogram presents the amount of agreement for each skill, and can be considered the validation of the questionnaire. If agreement is high, the questionnaire is validated.

The overall accuracy score was 91.53%, indicating a very high level of agreement that the questions are relevant to the job of a PAM. The questionnaire can therefore be considered to accurately reflect the needs of a PAM in Mental and Social Skills.

2.3.6.b Analysis of "NO" Responses

This analysis shows where there was disagreement, in those instances where PAMs considered the question not to be relevant to their job.

Rarely did more than one or two people disagree with PARCS as to the relevance of the question in Mental and Social skills. The exceptions to this statement are E14 and I9. The first is a question which was, unfortunately, frequently misinterpreted. Gaining cooperation of wrongdoers, or "s'acquérir la coopération des malfaiteurs" was often interpreted as cooperating with wrongdoers, rather than influencing wrongdoers to alter their behaviour and to cooperate with the protected area authorities. I9 was a question which referred to determining causes of why research programs did not follow the established timetable. A number of respondents felt that this should not be considered a requirement of their job. In general, respondents agreed with the responsibilities set out in the questionnaire with respect to their mental and social skills.

NB. In Table 2.3.6.b the percentages indicate number of "no" responses. Not all questionnaires had all the questions completed, explaining why some of the percentages (i.e. 12.5, 37.5 and 42.9) are not calculated from a total of 9 respondents.

2.3.7 Current Mental & Social Skill Level

2.3.7.a Low Skill Levels

Table 2.3.7.a presents the cumulative total of all respondents having answered 1 or 2, indicating those questions where they felt their skill level to be low (needing training). A score of 1 indicates no skill, 2 indicates poor skill.

There was not a great deal of variation in the amount of times a low skill level was identified for each competency. The only exception to this was Oral skills (competency 12) where respondents felt their skills to be generally adequate. In general, between 29 and 46% of responses identified a low skill level. The following table lists the percentage of times a low skill level was identified for each competency.

Table 6
Percentage of times a score of 1 or 2 was given for each competency

Mental & Social Skills	Percentage
8. Comprehension	36
9. Problem Analysis	36
10. Creativity	46
11. Evaluation	40
12. Oral	16
13. Written	29
14. Working with Others	34

Table 7
Percentage of times a score of 1 or 2 was given for each main division of the job

Main Division of the Job	Percentage
A. Staffing	16
B. Infrastructure	25
C. Accounting	37
D. Tactical Plans	44
E. Laws & Regulations	38
F. Visitors	37
G. Interventions	29
H. Community Conservation	33
I. Research	63
J. Public Relations	33
K. Resource Conservation	35

Again, there was not a great deal of variation in the amount of times a low skill level was identified for each main division of the job. In general, low skills were identified between 29 and 44% of the time, with the exception of staffing (16%) and research (63%). The skill levels of PAMs are low throughout the mental and social skills and they could profit from training in all of these skills.

2.3.7.b Comparison of Average PAM and Assistant PAM Gap Analysis of Mental & Social Skills with other Target Groups

The lower the average scores, the greater the need for training in these skills.

According to both FODs and Field Associates, PAMs frequently overestimated their mental and social skills. The main divisions of the job in which FODs felt PAMs needed most training in mental and social skills were F (Visitors) and G (Interventions). Field Associates felt that PAMs needed training most in A (Staffing) and I (Research), followed closely by D (Tactical Plans), F (Visitors), G (Interventions), and H (Community Conservation).

The following table demonstrates the competencies in which target validators felt the greatest gaps in mental and social skills were. The percentages represent the percentage of times a score of 1 or 2 was recorded for each competency. According to PAMs themselves, the largest training needs were in Creativity, Evaluation and Problem Analysis. Their lowest need was in Oral skills (see 2.3.7.a). According to both FODs and Field Associates, the greatest needs were in Creativity. Although the Field Associate agreed with the PAMs with respect to Evaluation and Problem Analysis being required, the FOD felt that written skills and Comprehension were more urgently required.

Table 8
Percentage of times a score of 1 or 2 was identified for each competency

Mental & Social Skills (Competency)	FOD	FA
Comprehension	33	67
Problem Analysis	27	73
Creativity	60	80
Evaluation	22	78
Oral	0	44
Written	38	63
Working with Others	30	50

2.3.8 Analysis of Attitudes

In order to effectively manage protected areas and deal with people both within and outside the department, protected area managers must have social skills which do not necessarily fall under the categories of knowledge or mental & social skills listed above. Leadership and team building are important components of a PAM's responsibility. To assess the skill levels of PAMs in these qualities, the respondents were asked to describe the methods they felt were the best suited to instil work ethics, commitment to conservation and healthy attitudes to adjacent communities in their staff. The responses to these questions fell into a number of broad categories, which were subsequently listed and numbered. Overall, the responses favored showing hard work and dedication to conservation through example and involving both staff and local communities in management of the protected areas. Participation in management and conservation is a common theme throughout most of the responses.

2.3.8.a Methods to Instil Work Ethics

The most frequently selected method to instil good work ethics was "cultivating good working relationships which creates rapport for instruction", and "showing hard work and dedication through example". There wasn't a great deal of difference between the ways in which PAMs of differing length of years of service felt good ethics should be instilled.

2.3.8.b Methods to Instil Commitment to Conservation

In general, PAMs felt that to instil commitment to conservation, explaining the value of conservation to staff, showing dedication through example, and demonstrating the importance of conservation to human needs were the most frequently selected methods.

2.3.8.c Methods to Instil Healthy Attitudes to Adjacent Communities

A large number of methods were selected to instil healthy attitudes to adjacent communities, including maintaining dialogue with communities, accepting the validity of community participation in protected area management and taking opportunities to provide employment for local communities. All of these stress the importance of involving the neighboring communities in protected area management.

2.3.9 Language Skills of PAMs and Assistant PAMs

The data show that 100% of PAMs in Burundi speak the language spoken by the local community. This is not surprising in such a small country, where everybody probably speaks (Kirundi). It is an important asset in the development of extension programs and working with neighboring communities. This question was asked in order to assess whether it was possible for PAMs to be actively involved in community extension work and whether communication problems could lie at the root of the conflict between protected areas and neighboring communities.

2.3.10 Computer Skills

Very few PAMs (11%, or one individual) are able to use computers. Most PAMs do not have these skills, and this is due to the fact that they never have access to computers or are in situations where they could have the opportunity to learn how to use them.

The PAM that did use computers used it for wordprocessing and accounting, but not for data analysis. This also means that for the research work carried out in the protected areas in Burundi, all computer analysis must be carried out by people other than PAMs.

2.3.11 Training Priorities Identified by Respondents

The three competencies that were most frequently listed for training were technical knowledge, legal knowledge and management knowledge. The main divisions of the job in which training was required, as listed in the 3 given priorities for training, involved visitors and community conservation.

Table 2.3.11. presents the training priorities PAMs and Assistant PAMs listed after having completed the questionnaire. These are listed by main division of the job, and by competency. The first row and the first column are "blank", where the response did not link a competency with a main division.

From the table can be seen that respondents feel that their greatest training needs are in technical skills, legal skills and management skills when asked to list their three priorities. These three priorities do not overlap with the three greatest training needs identified by the gap analysis, where respondents ranked their own skill levels relative to the levels of skill required for the job. This analysis ranked Policies and Procedures highest, followed by financial and technical skills. Management was the skill requiring the least training from the gap analysis, and Technical skills were ranked only third place. Policies and Procedures (competency 6) was never listed as a priority, although it was ranked as the highest training need from the gap analysis. The forms of training with which PAMs have had the most contact, and which appear the most obvious to them, and the skills which protected area managers feel they need most are technical, legal and management skills, and it is for this reason perhaps that they are always listed as priority training needs. The fact that other skills may be relatively more important in the changing job of a PAM, and that they may need to precede other forms of training is not always obvious. The value of the questionnaire as an exercises and a point of discussion (dissemination) is very clear in this instance where PAMs are not fully aware of their capabilities and of their training needs, despite the fact that they identified them themselves with the aid of the questionnaire.

Another interesting point is the fact that the main divisions of the job Laws & Regulations and Interventions were not listed as training priorities, although they frequently occurred as training needs in the gap analysis. On the other hand, community conservation was not often identified as a training

need in the gap analysis, yet it is frequently listed as a training priority. Protected area managers feel that dealing with visitors and community conservation are important aspects of their job. They have been identified as priority emphases of the INECN. The skills that PAMs possess with respect to community conservation, however, are evidently better than they think. Other divisions of the job, which they may feel are less important, require more emphasis in training. Variation between the different divisions of the job and their importance in the gap analysis as well as in the priority listings is not great, however.

2.3.12 Training Received

2.3.12.a/b/c Knowledge, Mental & Social, Attitudes

The training that was most frequently identified as having contributed to PAM's skill levels was formal wildlife training and informal on-the-job training. Interestingly in-service training was never listed, although the INECN is actively developing in-service training (at present, however, the programme is geared towards guard training as opposed to management-level training). Many respondents felt that they were learning as they were carrying out their responsibilities as PAMs. This finding opens the door to the possibility of structuring on-the-job training, and developing in-service training to formalize this form of learning. It is felt to contribute significantly to people's capacity to carry out their responsibilities and can thus easily be redirected to ensure that the proper skills are covered and that it is adequately structured.

One of the problems with in-service training is the lack of recognition it receives from authorities. It often does not figure on an individual's curriculum vitae. For this reason, it is often not seen as "real" training and is overshadowed completely by formal and officially recognized forms of training. In-service training programs must take this into consideration and in many cases it would be helpful to formalize recognition for both attendance and an evaluation of participation in-service training. Formal training in Burundi has come mainly from the Burundi Agricultural College, the University of Burundi and the Agricultural Institute. The Mweka Wildlife College in Tanzania was also listed by respondents. In the past, Burundi has sent 4 students to the Ecole des Specialistes de la Faune in Garoua, Cameroun, but this was not listed by respondents. It is possible that none of the respondents to the questionnaire had been the individuals that attended the Ecole de Faune in Garoua.

2.3.12.d Years Since Formal Wildlife Training Received

Not all respondents answered this question, but of those that answered, about half had received formal wildlife training between 0-2 years ago, and 2 had received their between 6 to 10 years ago. As the INECN is a recent organization and many of its employees are recently recruited, it is not surprising that quite a number of them have received their formal wildlife training relatively recently.

2.3.12.f Frequency of Which Training has Contributed to PAM skill Levels

From the histograms can be seen that all 9 respondents felt that some form of training had contributed to their skill levels in most of the competencies. The exceptions are in the Attitudes skills, where only a few felt that they had received any training in these skills. In Financial and Accounting skills (7), only 8 respondents felt they had received any training.

2.3.12.g Type of Training that has Contributed Most to Job Requirements, Analyzed by Respondents' Years of Service

In this analysis, an attempt is made to link respondents' perceptions of training with their years of service. The question was not always responded to. The three histograms show that the respondents having recently (between 1 and 5 years ago) been recruited by the INECN felt that formal wildlife training was the form of training that had contributed most to their current skill levels. Formal Wildlife Training could be either the Wildlife College of Mweka, in Tanzania, or the University of Burundi.

One respondent having attended the Institut Technique Agricole (ITAB) from 1979 to 1983 felt that this training had contributed most to his skills as a PAM.

2.3.12.h Training needs Identified by Gap Analysis of Questionnaire for PAMs and Assistant PAMs

This table presents the cumulative total of scores in which a gap of 2 or 3 was identified in Knowledge skills, and a score of 1 or 2 (low skill level) was identified in Mental and Social Skills as a symbol. The size of the dot is determined by the number of times a gap was identified. Large dots indicate frequently identified training needs, small dots indicate relatively rarely identified training needs. The total number of times a gap was identified in each box in the matrix is divided by the number of questions in each box, in order to evenly weigh all the boxes in the questionnaire. The table is a summary of the gap analysis for all the competencies and the main divisions. The columns, or competencies, in which a large gap was the most frequently identified are 6 (Policies and Procedures), 5 (Legal) and 4 (Planning) for knowledge, and 11 (Evaluation), 10 (Creativity), and 9 (Problem Analysis) for the mental and social skills. These results are presented separately in the previous sections 2.3.5 and 2.3.7.

2.3.12.i Measure of Agreement of Training needs of respondents' Training priorities and Questionnaire Analysis

This table merges the figures presented above (2.3.12.h) with the three priorities listed by each respondent at the end of the questionnaire (2.3.11). Where there is overlap (i.e. a training need identified both by themselves and by the gap analysis) there is an asterisk in the box. The table shows that there is a great deal of overlap, although the order of priority does differ (see 2.3.11). There is overlap in that both in the gap analysis and in the respondents own list are the same main divisions of the job considered areas for training. For technical knowledge, PAMs wanted training in Visitors (Tourism), Public Relations and Resource Conservation. In Planning knowledge respondents wanted training in Community conservation. In Legal knowledge, PAMs wanted training in Visitors and Research, and in Financial knowledge, they wanted training in Accounts.

2.4 SUMMARY AND CONCLUSIONS

The Protected Area Conservation Strategy (PARCS) was devised in order to address two important questions: 1) what is needed in respect of Protected Area Manager(PAM) training to enhance the conservation of Africa's protected areas? and 2) what can be done to provide this training for PAMs, as well as what steps can PAMs themselves take to identify and design pilot educational efforts that respond to their needs?

In order to answer the first question, and to begin to understand how to answer the second, a training needs assessment was undertaken in 15 African countries. A questionnaire general enough to be applicable in all countries was developed for this purpose, enabling comparison across regions and countries.

In addition to the training needs assessment, a training opportunities assessment was started. This assessment will continue after the needs assessment has ended, in order to develop a more thorough, and useful list of opportunities.

The results from the training needs assessment, which are summarized below, will be used in developing participatory pilot training projects in the second phase of the PARCS project.

The training needs assessment and training opportunities assessment were designed in order to generate data which could then be used to answer a number of overarching questions. The questions are relevant throughout Africa and represent the problems of training and protected area management in a wide variety of habitats and situations. The answers to these questions can be used to address some of these problems, and in many cases provide solutions to the problems.

Overarching questions

a. What are the responsibilities of a PAM? Are these responsibilities universally recognized?

It is possible to describe, in a general manner, the role of a Protected Area Manager, and have this description fit for managers all over Africa and in the variety of habitats and categories of protected areas that exist over the continent. The questionnaire, which was a job-description for a protected area manager, was used in 15 different countries and there was very little disagreement on the responsibilities listed. Within each country, a number of different people were contacted and questioned on the validity of the questionnaire as a job description. These people were not only protected area managers, they were also field operation directors at headquarters, regional managers, field associates, trainers and research officers. They all agreed to a very high degree with the description proposed by the PARCS project.

In Burundi there were very few changes made to the description of the job of a protected area manager proposed by PARCS, and the overall level of agreement was 91.4%. In other words, very few people, of all categories, queried any aspect of the questionnaire and its relevance to a protected area manager in Burundi. Although not all aspects of the job as described in the questionnaire are put into effect in Burundi, respondents did feel that they were skills required of a PAM, especially as it would be possible to include these activities in the future.

b. What are the constraints on meeting these responsibilities? Where does training fit in?

There are a number of constraints in Burundi which make it difficult for protected area authorities to carry out all their responsibilities. One of the major constraints is a budgetary one, which limits not only infrastructure and logistics, but it also limits the staffing possibilities in protected areas, and it limits the training available to staff. This is a constraint of particular importance in Central Africa where protected area management has not been a priority in the past, and where funding is often very limited. It also has bearing on all the other constraints in Burundi.

Financial constraints, however, are not the only ones. One of the major problems is the lack of adequate planning at the INECN headquarters. Training needs identified for Field Operations Directors include planning skills, both with respect to protected areas in general and with respect to specific projects.

Strategic and tactical planning are skills which need to be emphasized in training at all levels. In addition, projects and programs often do not include a follow-up phase, which severely limits their value. Monitoring and evaluation programs must also be emphasized.

One of the difficulties in Burundi, as elsewhere in Central Africa, is the lack of sufficient staff in the field. The proportion of staff to area meriting protection is extremely imbalanced. The INECN authorities pointed out that there are far too few guards to adequately cover the protected areas and to ensure their safety from encroachment. Population pressure on these areas is very great, both for agricultural land and for the resources they contain. If there are insufficient numbers of people to guard these areas, there are certainly too few people to also be involved in community education and extension work. Burundi has a good record of sending its trained staff into the field, but many more people have to be trained, and then supported by the organization to satisfy the need for trained personnel.

There are presently a number of training programs underway in Burundi, starting to address the needs of the protected area staff. The emphasis has been on guard and guide training, or technician-level training. The needs of field-based managers, and even directorate-level managers have not been addressed to date. One of the major constraints on effective use of human resources is the lack of repeated training. Training is still often seen as leading to elitist positions and is usually only a preparation for recruitment, for a specific position, and never repeated. Training is therefore not seen as part of the process of movement throughout a person's career. This form of training is very limiting, in that it is relatively inflexible and not adapted to the needs which arise during the process of a person's career. As a consequence, gaps arise in the knowledge and skills required to do the job successfully, and these gaps are not addressed. Training should be seen as periodic and repeated as frequently as possible and necessary, so that changing job requirements and responsibilities can be constantly addressed.

c. Are PAMs skilled to the level judged by this training needs assessment to satisfactorily do their job? Where are the deficiencies?

The process of filling in and discussing the questionnaire for the needs assessment already brought out some of the gaps in the skills of PAMs which limit them in their jobs. The questionnaire as a job description was a useful exercise for people who had never actually seen a description of their job. It helped them see both the complexity of the job itself and the skills, in terms of knowledge as well as mental and social skills, that were required for the job. It was clear to them that in a large majority of those skills they had never received any form of training. After filling in the questionnaire, however, they still tended to list, as their three training priorities, those competencies which were the most obvious, and frequently addressed ones. There was a considerable discrepancy between the competencies in which the greatest gaps in skill level were identified by the needs assessment, and the competencies in which respondents felt their priority training needs occurred.

The knowledge skills in which the greatest gaps occurred (in other words, in which the greatest training needs were identified), from the perspective of protected area manager, field operations directors and field associates, were similar, although there were slight differences in their order of importance. Planning skills, Technical skills, Financial/Accounting skills and Policy and Procedure skills were all considered important and requiring training. Legal skills were also listed. Management skills were rarely identified as requiring priority training by the gap analysis. The main divisions of the job in which training needs were most frequently identified were Laws and Regulations, Visitors and Interventions, as well as Resource Conservation. Research was also frequently listed. Although population pressure from neighboring communities is a major problem facing protected area management in Burundi, community conservation did not figure as a priority training need, although training was required in it. This is probably due to the fact that of all the Central African countries assessed, Burundi probably has the most advanced community conservation programme and is making a concerted attempt to address these problems. As a consequence, PAMs have acquired skills in community conservation, mostly through on-the-job training and contact with projects, during the course of their jobs.

With respect to the mental and social skills required of a PAM, the greatest gaps in skill level were identified in "Creativity" and "Evaluation", followed by "Problem Analysis" and "Comprehension".

They considered their oral and written skills relatively adequate. Although their superiors and the field associates agreed that the oral skills were adequate (or not requiring priority training), their written skills were not considered sufficient. FODs ranked written skills second as a training priority, and the Field Associate also felt that 63% of the questions in written skills demonstrated low skill levels.

d. What training has been received by current PAMs that is perceived by them as useful? How much? What kinds? Relevant to which kinds of job requirements?

The only training that PAMs regularly list as having contributed to their skill levels is formal wildlife training and on-the-job training. Other formal training, such as at one of the two agricultural schools in Burundi, has contributed to skill levels in Management and Planning, as well as Comprehension, Problem Analysis and Oral skills. Formal wildlife training (Mweka Wildlife College and the Biology department of the University of Burundi) contributed to skill levels in all knowledge, mental and social skills. On-the-job training, or informal learning while executing one's responsibilities, was also felt to be important in contributing to skill levels. In-service training was never listed as having contributed to training. This is indicative of one of the crucial problems of in-service training. Because such training courses organized by the department are not officially recognized by a certificate or diploma of some sort, or followed by a promotion, participants do not feel that they are true forms of training. This is also true of attendance at workshops, seminars, conferences, etc. The latter are more frequently listed, especially if they involve travel and per diems, due to the prestige attached to their attendance. If in-service training is to be a useful form of training, participants should receive some form of recognition for participation in them. A system of evaluating participation, and rewarding excellence should be included. One of the reasons that formal wildlife training is listed as having contributed to skill levels in all knowledge, mental and social skills is because of the value attached to such training. A diploma from a university, the Ecole de Faune in Garoua or Mweka Wildlife College is prestigious and valuable to the holder. It will make him eligible for positions he would not otherwise be able to apply for. Although these schools and universities do not necessarily contribute to all the skills mentioned, participants did list them as having done so.

Many of the protected area managers in Burundi have been recruited relatively recently and have received their formal wildlife, or other formal training less than 6 years ago. This is due to the fact that the INECN is a relatively new organization and has been recruiting staff only recently. For this reason also formal wildlife and other formal training were felt to be very important in contributing to skill levels.

e. Assessments of Field Operations Directors

Although not based in the field, the field operations director has responsibilities not unlike those of a PAM. The difference is mainly in the scale of responsibilities, which is much larger for the FOD. In other words, whereas the PAM is responsible for tactical plans and budgets and for contributing to the protected area strategic plan, the FOD is responsible for strategic planning of the whole protected area system. The FOD must also set policies, procedures and standards for the whole of the system and answer to the Ministry for all of the departments's activities.

The field operations director, in general, has a higher level of training, both in terms of formal wildlife training as well as other forms of training, such as workshops, conferences and seminars. Training needs identified for FODs include planning, computer training, personnel training and management skills, and overall management. Planning receives the major emphasis for training, for all levels of personnel.

Appointment to the position of Field Operations Director is often a political move and not necessarily based on a candidate's background. People often move from one Ministry or political position to another, and it would not be unthinkable that a person with very little wildlife training background would end up in the position of a FOD in the wildlife sector. If PAMs were trained to successfully meet the requirements of the job, and if the department was sufficiently decentralized, it would not be so important that the FOD have a wildlife background. The PAMs could provide much of the needed

expertise, and it would be possible to consult other experts for the overall system approach. At present, however, due to the lack of expertise of PAMs, FODs have to maintain a strong supervisory position and decentralization is still very difficult.

f. What further training is required?

Although the questionnaire did bring a different emphasis to the traditional description of the job of a protected area manager, and highlighted a variety of responsibilities of a PAM, there was a tendency to fall back into the traditional perspective when questioned about what the priority training needs were. The most frequently listed training priorities were technical knowledge training and legal training, followed by management training. Although technical and legal training were highly ranked in the gap analysis, management did not figure as very important at all. As PAMs are by definition managers, however, they feel that management is one of the most obvious, and therefore most important skills required of them, and one of the most important training needs. Most of the PAMs had little experience with in-service training, although this may slowly be changing in Burundi. The training that they were most familiar with was formal wildlife, or other formal training. Given the lack of in-service training programs, most PAMs had never given short courses as part of such a programme any thought. For this reason, when respondents were asked about further training requirements, they tended to list formal wildlife training in the skills mentioned above. Yet the need to take people from their jobs for prolonged periods of time, the expense of sending people to formal training institutions all make formal training an option which is not realistic, once a person has been assigned to a post. Short courses, organized by the department to specifically address needs encountered by staff would be a preferable and more realistic solution.

Further training is required in a large number of areas. The most important gaps in knowledge skills were in Policies & Procedures, Planning, Technical and Financial skills. The most important gaps in Mental and Social skills were in Evaluation, Creativity and Problem Analysis. The main divisions of the job that required training the most frequently were Laws & Regulations, Visitors, Interventions and Resource Conservation. This would indicate a need for technical training, and specifically in skills which would enable managers to make decisions on how to obtain the full potential benefits from protected areas (resource use, tourism, etc) while maintaining the optimal level of protection.

Few PAMs have profited from traditional wildlife training. Only a very small number have been either to the Wildlife College at Mweka in Tanzania, or the Ecole des Spécialistes de la Faune in Garoua, Cameroon. Most have degrees in agronomy or biology. It seems that in Burundi there is a need for specific training in the technical skills required of protected area managers. Greater attendance at traditional wildlife colleges (Garoua or Mweka) would be profitable, although the alternative of developing specific courses in-country would be preferable. Although not all the necessary skills are taught at traditional wildlife colleges, technical skills are an emphasis of these schools.

Given the extremely high population density in Burundi, and the resulting high pressure on protected areas, it would be logical to include skills in dealing with communities in any training programs to be developed for protected area managers. Skills in dealing with the community and involving them in the management of protected areas are important, as well as skills in determining their needs and cultural practices, so as to avoid conflict wherever possible, and ensure that their needs and interests are being met. An important focus is promoting local participation in protected area management through the strengthening of community rights. Social skills need to be further developed in the government services for forestry and protected areas.

g. What present programs could be restructured/enlarged to include training opportunities for PAMs?

Due to the fact that Burundi was originally intended to be a limited assessment country, no training opportunities assessment was carried out for Burundi. Only the training needs assessment was carried out. The training opportunities will need to be addressed in Phase II in order to obtain more information on how existing programs could be restructured/enlarged. Assessments were carried out on the Ecole

des Spécialistes de la Faune in Garóua Cameroun, (see Cameroun report) and the Mweka Wildlife College in Tanzania (see Tanzania report). It is probable that the existing training opportunities could be included in the development of PAM training programs, however. Development of courses using expertise at these training institutes/universities would be greatly improved by their inclusion.

h. Are there other appropriate opportunities that have not been utilized?

At present, none of the training institutes, universities and colleges mentioned are being used for any purpose other than pre-service training, preparing participants for their job. Rarely do people at managerial levels in the INECN get refresher courses or any form of repeated training. In some instances people are sent for courses abroad, or they attend seminars or conferences, but this is not part of a training programme and not all people get the same opportunities.

It is possible that there are numerous additional training opportunities in Burundi. Opportunities for training such as courses offered by banks, management schools, consulting firms, accounting bureaus, etc, on planning, management, administration, accounting, etc, were not assessed. Assessment of other training opportunities should continue in order to provide a more exhaustive list.

i. What kinds of training should be recommended?

Based on initiatives already undertaken in Burundi with respect to in-service training, and based on discussions with Field Operation directors and Field Associates, as well as assessment of the Protected Area Managers, it is obvious that there is much interest in the development of in-service training programs. Programs that have short, frequently repeated and refresher training courses that are developed to the specific needs of protected area staff would be the ideal. This may take the form of courses given by mobile training units, or of short courses given at the direction headquarters when field staff come to the capital. The recipients of these training courses should not only be protected area managers, or "chefs de parc". They should include people at a number of different levels, so that training occurs throughout a person's career and so that people arrive at a particular level in the hierarchy already trained to the level necessary for that job.

The value of formal training in preparing people for specific positions should not be questioned. The question should be, however, how to supplement this training so that it is no longer elitist and so that everyone can profit from training. In addition, the goal should be that training is seen as available to everyone and as a means of moving forward in a career, so that it also provides pride in the work and professional satisfaction.

The kind of training that would be recommended, therefore, is training that is developed by the department and which is available to everyone in a planned progress along a career path. The training is specific to the needs of the job. The choice of protected area manager as target group for this assessment is due in part to the fact that often it is this group that is lacking, both in training and in manpower: field-based managers who are capable of carrying out the large number of functions and responsibilities attributed to the position. The target groups for training will include not only protected area managers, but also people below the level of PAM, who will need to be prepared to one day assume the position of a PAM, and people above the position of a PAM, who will need similar skills to the field-based managers, in order to supervise, coordinate and direct protected area managers.

In-service training can be used for a number of purposes. Some of the more salient uses are:

- providing people with the necessary skills in order to acquire posts with new responsibilities
- providing people with up-to-date- information or refresher courses on knowledge skills that they have not studied for a number of years
- providing people with opportunities for changing their career path, or taking a new direction
- providing specific skills which cannot be inculcated effectively in people with no experience of employment, and which cannot be included in pre-service courses

The present study recognizes the need in both the forestry and wildlife sectors for sociological skills. These skills were revealed, in the knowledge skills gap analysis as contained in the main divisions of the job in which the greatest training needs occur (Resource Conservation, Laws and Regulations, Visitors and Interventions). Policies & Procedures, Legal, Planning and Technical skills come out as requiring priority training more urgently than Management Skills. These skills were also revealed in the Mental and Social skills as those requiring training, and included Evaluation, Creativity and Problem Analysis. One of the crucial first steps in any programme addressing training needs would be the training of trainers, in the organizations responsible for protected area management (INECN), in order to provide the capacity to carry out in-service training. Expertise could come from any number of training institutions within or outside of Burundi, or from technical assistance abroad. A training programme would need to be developed within the organizations in order to plan and give direction to training for people's careers. This would demand the creation of a training officer post.

This study recommends the creation of a professional training officer post in the INECN in order to help staff career development and to provide an information base as a precursor to effective planning. One of the crucial first steps would be the training of trainers in order to provide the capacity to carry out in-service training. Expertise could come from a number of existing training institutions, or from technical assistance abroad. A training programme would need to be developed in order to plan and give direction to training for peoples careers. This would demand the creation of a training officer post.

Section 3 Recommendations

Based on initiatives already undertaken in Burundi with respect to in-service training, and based on discussions with Field Operation directors and Field Associates, as well as assessment of the Protected Area Managers, it is obvious that there is much interest in the development of in-service training programs. Programs that have short, frequently repeated and refresher training courses that are developed to the specific needs of protected area staff would be the ideal. This may take the form of courses given by mobile training units, or of short courses given at the direction headquarters when field staff come to the capital. The recipients of these training courses should not only be protected area managers, or "chefs de parc". They should include people at a number of different levels, so that training occurs throughout a person's career and so that people arrive at a particular level in the hierarchy already trained to the level necessary for that job.

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direction to training for peoples careers. This would demand the creation of a training officer post.

One of the objectives of the PARCS project is to assist target countries to develop appropriate and sustainable training programs for PAMs. Another objective is to promote inter- and intra-regional approaches to training by providing opportunities for contact between PAMs from different countries and for them to participate in regional training programs. The central african region, including the eastern Zaire/Nile Divide and the western Greater Congo Basin include a number of protected areas with different ecological, economic and sociological functions. PAMs from the whole region could profit from initiatives and expertise developed in different countries. PARCS could play a vital coordinating and facilitating role to this goal.

A primary recommendation of this training needs assessment is to develop and emphasize the role of in-service and on-the-job training as a means of addressing the training needs of PAMs identified. Course topics should be based on the key training needs by competencies identified by the "gap analysis" and should concentrate on the main divisions of the job requiring priority attention. Specifically, these skills include Policies and Procedures, Legal, Technical, Planning and Financial skills, and involve Laws and Regulations, Visitors, Interventions and Resource conservation. The development of the mental and social skills involved in problem solving should be a technique used in the training courses with special emphasis on the skills demonstrating the greatest gaps. PARCS involvement in the development of such a programme could consist of providing expertise in preparing a syllabus and materials for each course, developing a course schedule that would fit into a general training programme, and identifying potential course venues and instructors.

A goal of PARCS Phase II would be to assist in the development of a "training ethic", emphasizing that training is a process and not a single incident in a career. PARCS should facilitate the development of a training plan for the department, which would allow each person's career to follow a pathway based on performance and initiative. The emphasis of training programs will be as much as possible on practical, field-based training.

Acknowledgements

I would first of all like to thank all the participants of the workshop, held on the 26th of May 1993 for their hard work and information. Mr. Leif Davenport, of the PeaceCorps Biodiversity Project, kindly led the workshop and carried out the assessment of PAMs. I would also like to thank Mr. Mathias Wakana of the INECN for his time and help in this assessment. The interest, cooperation and assistance shown by the Burundi participants of this training needs assessment was very much appreciated and has demonstrated Burundi's willingness to improve and develop the training possibilities of it's INECN staff.

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Annexes

Annexe 1: Questionnaire

Annexe 2: Data tables and figures

Annexe 3: Background Information Sheets

PROTECTED AREAS CONSERVATION STRATEGY (PARCS): TRAINING NEEDS ASSESSMENT

Four organisations, the African Wildlife Foundation, Wildlife Conservation International, World Wildlife Fund and the Biodiversity Support Program are working together on a project called PARCS. One of the main aims of the project is to identify the skills required for the job of protected area manager and to assess the training needs.

To achieve this we have developed a chart of the typical skills (competencies) required to do the job of protected area manager. We would like you to assist us by doing two things:

- to check the appropriateness of the chart to your job
- to assess your current skill level for each component of the chart

Before filling in the questionnaire please read everything through very carefully. This information will be confidential and will be used to build up an analysis of the training requirements for each country in Africa participating in the study.

The attached chart has 17 columns and 12 rows.

- Rows A-K show main divisions of the job.
- Row L will be used to identify the types of training you have already received.
- The first column shows 'accountabilities and responsibilities' associated with each division A-K. Please add any further accountabilities and responsibilities specific to your job by writing in the relevant compartment.
- Columns 2-17 show the competencies associated with your job in terms of knowledge (2-7), mental skills (8-11), social skills (12-14) and attitudes (15-17).

You will notice that some compartments are blank. These do not need to be filled in.

KNOWLEDGE (columns 2-7)

Knowledge has been grouped into four levels:	
1. None	has no knowledge of subject matter indicated
2. Some	awareness of the subject and general applicability
3. Working	sufficient knowledge to complete routine tasks
4. In-depth	a breadth and depth of knowledge which enables initiative to be taken in non-routine situations
n/a = not applicable in present job. Please indicate your knowledge level.	

We would like you to go down each column 2-7 and fill in the boxes.

In the left hand box put the number which corresponds to your view of the level of knowledge needed to do the job successfully.

In the right hand box (shaded) put the number which corresponds to your assessment of your current knowledge.

eg. in E5:

In-depth knowledge of relevant laws and regulations eg. firearms, arrest, charging and human rights	4	3
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Such an answer shows us that the person completing the questionnaire agrees that in-depth knowledge is needed (4 in the left hand box). By putting 3 in the right hand box the respondent has identified a training need.

When you come to the bottom of each column please complete the compartment (L) by showing which form of training has contributed most to your knowledge of the subject in the column. These categories could include: Formal wildlife training institutions (please specify with dates) Other training opportunities (eg. workshops, seminars), In-service formal training (organised by your department), On-the-job training (skills learnt whilst doing your job).

MENTAL AND SOCIAL SKILLS (columns 8-14)

Mental and social skills have been grouped into four levels:

1. None
2. Poor
3. Satisfactory
4. Good

We would like you to go down each column 8-14 and fill in the boxes.

First of all indicate whether each skill is appropriate to your job by circling either Yes (Y) or No (N).

Then indicate in the right hand box (shaded) your level of ability for each particular skill regardless of whether it is applicable to your present job.

eg. in F9:

determining true causes of visitor dissatisfaction & behaviour

Y N 3

Such an answer shows that this skill is required and the respondent has the required level of skill to successfully complete this aspect of the job. Therefore in this particular case there is no identified training need.

When you come to the bottom of each column please complete the compartment by showing which forms of training have contributed most to your skills in the subject of the column. Use the categories described before. Please list the most important one first.

ATTITUDES (columns 15-17)

The chart indicates the principal attitudes of the job. All we require you to do is to answer three questions.

If you do not understand any of the questions in this questionnaire please leave the boxes empty and move onto the next question.

In order for you to keep a record of your completed questionnaires we are providing two copies of each section and a sheet of carbon paper. The WHITE sheets (numbers 1, 2, 3 & 4) are to be returned after completion. You may keep all of the COLOURED sheets. Once you have completed the questionnaire please carefully tear off the four white sheets and return them in the enclosed addressed envelope.

Thank you for helping us undertake this training needs assessment. We appreciate your time and input.



**Biodiversity
Support
Program**

Main Divisions of the Job	1. Accountability and Responsibilities	KNOWLEDGE	
		2. Technical (Wildlife/Tourism)	
A Ensure availability of a competent and well-motivated staff	<ul style="list-style-type: none"> Maximizing potential of allocated staff Responsible for identifying training needs Responsible for recommendations and application of disciplinary measures 		
B Ensure appropriate infrastructure within budget	<ul style="list-style-type: none"> Responsible and accountable for maintenance, repair, rehabilitation and construction Recommending additional facilities 	Working knowledge of infrastructure, construction, sitings, materials, etc. <input type="checkbox"/> <input type="checkbox"/>	1
C Ensure financial and accounting integrity of the protected area	<ul style="list-style-type: none"> Accountable and responsible for all revenue generated and disbursement (received from headquarters and receipts) Responsible for accurate accounting 		
D Ensure development and achievement of tactical plans and budgets and contribute to protected area strategic planning	<ul style="list-style-type: none"> Accountable for development of annual plan and budget of protected area Responsible for working within the agreed plan and budget Identify strategic options in the protected area and contribute to strategic planning 		
E Ensure that all activities within the protected area comply with laws and regulations	<ul style="list-style-type: none"> Accountable for enforcement of law and regulation and ensuring safe practices throughout the protected area 	In-depth knowledge of safe practices with respect to wildlife <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of techniques of anti-poaching <input type="checkbox"/> <input type="checkbox"/>	2 3
F Ensure optimum levels of visitor satisfaction	<ul style="list-style-type: none"> Responsible for ensuring that the highest levels of visitors' services and practices under his/her jurisdiction are maintained 	In-depth knowledge of visitors' expectations <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of protected area infrastructure techniques, site design and analysis <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of interaction between tourist and local areas <input type="checkbox"/> <input type="checkbox"/>	4 5 6
G Ensure agreed Intervention (eg. early burning, problem animal control) programmes are completed to budget and timetables	<ul style="list-style-type: none"> Responsible for design, implementation, and evaluation of intervention programmes to meet conservation objectives in the protected area 	In-depth knowledge of intervention needs, techniques and implications <input type="checkbox"/> <input type="checkbox"/>	7
H Ensure harmonious relationships with neighbouring communities	<ul style="list-style-type: none"> Responsible and accountable for design and implementation of a programme to achieve harmonious relations Responsible for instilling acceptance by staff of the role of local communities in protected area management 	Working knowledge of extension methodology <input type="checkbox"/> <input type="checkbox"/> Some knowledge of cultural and historical context for the location of protected area <input type="checkbox"/> <input type="checkbox"/>	8 9
I Be aware of research activities and progress against plan	<ul style="list-style-type: none"> Responsible and accountable for ensuring that research programme is implemented according to the protected area conservation objectives and timetables 	Working knowledge of research methodologies <input type="checkbox"/> <input type="checkbox"/> Working knowledge of the role of research in meeting conservation objectives <input type="checkbox"/> <input type="checkbox"/>	10 11
J Represent the protected area and its interests in public meetings	<ul style="list-style-type: none"> Accountable for ensuring that the protected area is represented in every possible area Responsible for ensuring that the information available about the protected area is up to date 	Up-to-date working knowledge of all activities within the protected area <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of the context of the protected area in the regional/national/global arena <input type="checkbox"/> <input type="checkbox"/>	12 13
K Ensure an appropriate balance between resource conservation and use in the protected area	<ul style="list-style-type: none"> Responsible and accountable for design and implementation of resource management / protection strategies to meet protected area conservation objectives Responsible and accountable for the preparation, approval, and implementation of a resource conservation management plan for the protected area 	In-depth knowledge of types, locations, trends and requirements of important natural and cultural resources in the protected area <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of types, locations, trends and requirements of threatened and endemic fauna and flora and the key species of the ecosystem. <input type="checkbox"/> <input type="checkbox"/> Working knowledge of environmental impact analysis techniques <input type="checkbox"/> <input type="checkbox"/> Working knowledge of surveys and monitoring techniques (field data collection/analysis) <input type="checkbox"/> <input type="checkbox"/>	14 15 16 17
L Training received			

3. Management	4. Planning	5. Legal	6. Policies/Procedures	7. Financial/accounting
Working knowledge of supervisory and personnel management skills 18 <input type="checkbox"/> <input type="checkbox"/> Some knowledge of human resources techniques and their application as appropriate (e.g. job evaluation or worth of job, salary structuring, training needs analysis) 19 <input type="checkbox"/> <input type="checkbox"/> Working knowledge of managing casual labour 20 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of scheduling staff development & timetables 28 <input type="checkbox"/> <input type="checkbox"/> ↓	Some knowledge of employment laws 40 <input type="checkbox"/> <input type="checkbox"/> ↓	In depth knowledge of staff policies, procedure, and practices 49 <input type="checkbox"/> <input type="checkbox"/> ↓	↓
Working knowledge of principles of stock control and procurement 21 <input type="checkbox"/> <input type="checkbox"/> Working knowledge of how to apply preventative maintenance 22 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of job planning 29 <input type="checkbox"/> <input type="checkbox"/>	Some knowledge of contract law (for writing contracts to subcontractors) 41 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of maintenance / construction policies, procedures and standards and procurement procedures 50 <input type="checkbox"/> <input type="checkbox"/>	
22	Working knowledge of financial planning 30 <input type="checkbox"/> <input type="checkbox"/>		Working knowledge of accounting policy and procedures 51 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of accounting and principles of internal control 59 <input type="checkbox"/> <input type="checkbox"/>
	Working knowledge of planning, budgeting and control 31 <input type="checkbox"/> <input type="checkbox"/>		Working knowledge of overall strategies and direction of his/her organisation (national conservation policy) 52 <input type="checkbox"/> <input type="checkbox"/>	
	In-depth knowledge of patrol planning needs 32 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of relevant laws and regulations (e.g. firearms, arrest, charging, human rights) 42 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of policies and procedures 53 <input type="checkbox"/> <input type="checkbox"/>	
Working knowledge of management and accommodation and catering facilities under protected area jurisdiction 23 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of techniques in developing long and short-term visitor plans 33 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of contract law as applicable to concessionaires and visitors 43 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of visitor policies and procedures 54 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of keeping records of visitor numbers and keeping receipts 60 <input type="checkbox"/> <input type="checkbox"/>
Working knowledge of project (job) management 24 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of job planning 34 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of relevant laws and regulations 44 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of policies and procedures related to intervention 55 <input type="checkbox"/> <input type="checkbox"/>	
In-depth knowledge of protected area vs people conflict management 25 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of how to develop a community conservation plan 35 <input type="checkbox"/> <input type="checkbox"/>	Some knowledge of laws related to community development 45 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of policies and procedures related to community conservation 56 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of record keeping for financial disbursements to local communities 61 <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of records of resource use or resources shared -- both financial and in-kind distributions 62 <input type="checkbox"/> <input type="checkbox"/>
	Some knowledge of development of research plan for the protected area 36 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of legal aspects of collecting/exporting materials & specimens 46 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of research policies and procedures 57 <input type="checkbox"/> <input type="checkbox"/>	Working knowledge of budget & allocations for research activities 63 <input type="checkbox"/> <input type="checkbox"/>
Working knowledge of the concept of public relations and methods of dealing with the media 26 <input type="checkbox"/> <input type="checkbox"/> Some knowledge of obligatory role (attendance) at meetings and awareness of activities around the protected area expedient to attend 27 <input type="checkbox"/> <input type="checkbox"/>		In-depth knowledge of the legislation regarding protected areas 47 <input type="checkbox"/> <input type="checkbox"/> Some knowledge of the laws of slander and libel 48 <input type="checkbox"/> <input type="checkbox"/>	In-depth knowledge of the public relations policies, procedures and practices 58 <input type="checkbox"/> <input type="checkbox"/>	
	Working knowledge of resource conservation management planning techniques and methodologies 37 <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of how to develop and implement protected area management objectives 38 <input type="checkbox"/> <input type="checkbox"/> In-depth knowledge of how to develop and maintain protected area management zoning system 39 <input type="checkbox"/> <input type="checkbox"/>			Working knowledge of how to estimate costs for implementation of resource conservation management plan recommendations 64 <input type="checkbox"/> <input type="checkbox"/>

SOCIAL SKILLS				
10. Creativity	11. Evaluation	12. Oral	13. Written	14. Working with others
Developing on-the-job training Y N <input type="checkbox"/> ↓ 24	Evaluating staff performance Y N <input type="checkbox"/> ↓ 34	Counselling staff Y N <input type="checkbox"/> ↓ 43	Writing staff appraisals and training briefs Y N <input type="checkbox"/> ↓ 52	Motivating staff Y N <input type="checkbox"/> ↓ 60
Creating adaptive solutions to infrastructural problems Y N <input type="checkbox"/> 25	Deciding priorities and selecting from alternative courses of action for maintenance and repair Y N <input type="checkbox"/> 35	Giving clear instructions to staff and contractors Y N <input type="checkbox"/> 44	Writing specification orders and instructions to third party Y N <input type="checkbox"/> 53	Gaining the cooperation of suppliers and subcontractors Y N <input type="checkbox"/> 61
		Explaining financial implications to senior management and junior staff Y N <input type="checkbox"/> 45		
Developing options to achieve plans and budgets in light of changing circumstances Y N <input type="checkbox"/> 20	Selecting priorities during budget preparation process Y N <input type="checkbox"/> 36	Presenting plan and budget Y N <input type="checkbox"/> 46	Preparing planning and budget briefs for manager, justifying proposals Y N <input type="checkbox"/> 54	Selling plan and budget convincingly Y N <input type="checkbox"/> 62
Having flexibility to reach compromises which respect objectives of the law Y N <input type="checkbox"/> 27	Balancing and evaluating needs of the involved parties in spirit and letter of the law Y N <input type="checkbox"/> 37	Explaining proper procedures and regulations to residents and users of the protected area Y N <input type="checkbox"/> 47	Writing clearly worded notices and instructions Y N <input type="checkbox"/> 55	Gaining cooperation of wrong doers Y N <input type="checkbox"/> 63
Developing options for improving visitor amenities within means available Y N <input type="checkbox"/> 28	Evaluating options and selecting courses of action regarding visitor services Y N <input type="checkbox"/> 38	Getting protected area's perspective across to visitors Y N <input type="checkbox"/> 48	Preparing interpretive materials Y N <input type="checkbox"/> 56	Dealing with dissatisfied visitors Y N <input type="checkbox"/> 64
Designing (contributing to design) or adapting interventions to meet specific needs Y N <input type="checkbox"/> 29	Selecting appropriate programmes and evaluating their success Y N <input type="checkbox"/> 39	Giving clear instructions on technical intervention procedures Y N <input type="checkbox"/> 49	Writing clear reports explaining intervention, its success, failure, etc. Y N <input type="checkbox"/> 57	Gaining cooperation of local communities where appropriate Y N <input type="checkbox"/> 65
Developing ideas for improving community/protected area relations Y N <input type="checkbox"/> 30	Determining why certain community-related initiatives have achieved success Y N <input type="checkbox"/> 40	Presenting information at a level appropriate to target audience Y N <input type="checkbox"/> 50		Having cultural sensitivity Y N <input type="checkbox"/> 66
Identifying opportunities for the application of research Y N <input type="checkbox"/> 31	Evaluating the results of research and their application Y N <input type="checkbox"/> 41		Ensuring research reports are comprehensible for lay people Y N <input type="checkbox"/> 58	Establishing positive relationships with researchers Y N <input type="checkbox"/> 67
Developing public relations materials (oral, written, etc.) Y N <input type="checkbox"/> 32	Selecting materials appropriate for each meeting Y N <input type="checkbox"/> 42	Making formal public presentations and respond to questions unambiguously Y N <input type="checkbox"/> 51	Preparing press releases Y N <input type="checkbox"/> 59	Building up and maintaining network of contacts for information on all important/relevant meetings and events Y N <input type="checkbox"/> 68
Developing methods to achieve management zone objectives Y N <input type="checkbox"/> 33				Working with local communities and other concerned parties during plan development and implementation Y N <input type="checkbox"/> 69

Main Divisions of the Job	I. Accountability and Responsibilities	ATTITUDES		
		15. Work Ethics	16. Commitment to Conservation	17. Community Attitudes
A Ensure availability of a competent and well-motivated staff	<ul style="list-style-type: none"> Maximizing potential of allocated staff Responsible for identifying training needs Responsible for recommendations and application of disciplinary measures 	Needs objectivity in appraisal and general staff dealings	Needs to demonstrate commitment and instill commitment in others	Needs to demonstrate and instill understanding of need for harmonious relationship
B Ensure availability of appropriate infrastructure (within budget)	<ul style="list-style-type: none"> Responsible and accountable for maintenance, repair and rehabilitation and construction Recommending additional facilities 	Honours contractual agreements in spirit and letter		
C Ensure financial and accounting integrity of the protected area	<ul style="list-style-type: none"> Accountable and responsible for all revenue generated and disbursement (received from headquarters and receipts) Responsible for accurate accounting 	Instills honesty		
D Ensure development and achievement of tactical plans and budgets and contribute to protected area strategic planning	<ul style="list-style-type: none"> Accountable for development of annual plan and budget of protected area Responsible for working within the agreed plan and budget Identify strategic options in the protected area and contribute to strategic planning 			
E Ensure that all activities within the protected area comply with laws and regulations	<ul style="list-style-type: none"> Accountable for enforcement of law and regulation and ensuring safe practices throughout the protected area 	Honesty, tolerant to others' points of view	Finding balance and understanding the needs of both conservation and the involved parties	Tolerance to others' points of view to minimize conflict between protected area and others
F Ensure optimum levels of visitor satisfaction	<ul style="list-style-type: none"> Responsible for ensuring that the highest levels of visitors' services and practices under his/her jurisdiction are maintained 		Needs to demonstrate commitment to conservation	Needs to demonstrate belief in validity of including local communities in protected area management and enterprises linked to tourism
G Ensure agreed intervention programmes are completed to budget and timetables	<ul style="list-style-type: none"> Responsible for design, implementation, and evaluation of intervention programmes to meet conservation objectives in the protected area 			
H Ensure harmonious relationships with neighbouring communities	<ul style="list-style-type: none"> Responsible and accountable for design and implementation of a programme to achieve harmonious relations Responsible for instilling acceptance by staff of the role of local communities in protected area management 			
I Be aware of research activities and progress against plan	<ul style="list-style-type: none"> Responsible and accountable for ensuring that research programme is implemented according to the protected area conservation objectives and timetables 	<p>Must have an open mind to research findings</p> <p>Must support role of research as a component of protected area management</p>		
J Represent the protected area and its interests in public meetings	<ul style="list-style-type: none"> Accountable for ensuring that the protected area is represented in every possible area Responsible for ensuring that the information available about the protected area is up to date 	<p>Honesty, Integrity</p> <p>Must make clear when representing the protected area or a personal view</p> <p>Must never criticize the organisation openly</p>	Demonstrated as absolute	Demonstrated as absolute
K Ensure an appropriate balance between resource conservation and use in the protected area	<ul style="list-style-type: none"> Responsible and accountable for design and implementation of resource management/protection strategies to meet protected area conservation objectives Responsible and accountable for the preparation, approval, and implementation of a resource conservation management plan for the protected area 	Honours conservation objectives of resource management plan		
L Training received				

The chart indicates the principal attitudes of the job. All we require is that you answer the following questions:

As a manager how do you instill:

a. work ethics?

b. commitment to conservation?

c. healthy attitudes to adjacent communities?

(If you need more space use blank sheet on the next page)

LANGUAGES

Do you speak a language understood by the local community adjacent to your protected area?

COMPUTERS

Do you use computers? If so, in what ways?

TRAINING PRIORITIES

Having completed this questionnaire and thinking specifically of the requirements of your job, what do you think are your three greatest training needs? What form of training do you think would be best to address these needs (eg. formal, in-service, on-the-job, or others)?

1.

2.

3.

This questionnaire was completed by: Title (no name needed)
..... Department/Section
..... Organisation
..... Country
Date:

How many years have you worked for your department/organisation?

If applicable, how many years have you been in charge of a protected area?

What is the conservation status of your protected area? (eg. national park, game reserve etc)

What biome is most representative of the protected area under your management? (please circle) montane, savannah, marine, aquatic, dry forest, moist forest, desert

Are you male or female ? (Please tick appropriate box)

PARCS REF NO:

Date received:

--	--	--	--	--	--	--	--	--	--

Annexe 2:

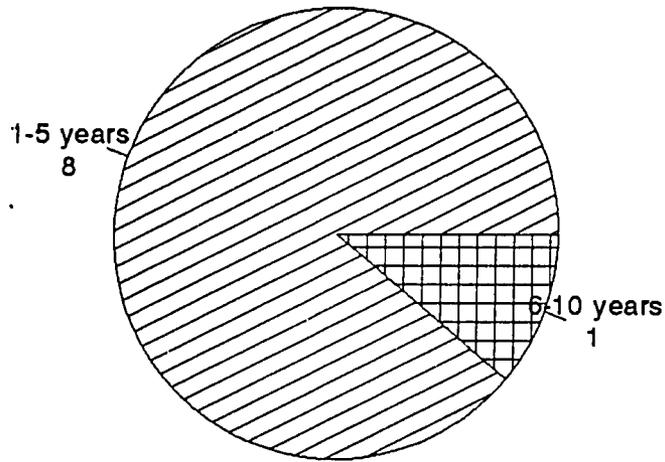
2.3.1 Data Collection Table:
Burundi:

POSITION	Interviews only	METHOD							Total
		1	2	3	4	5	6	7	
1 Asst PAM					6				6
2 PAM					3				3
3 RM									
4 FOD (for PAMs)	1				1				1
5 FOD (for own job)									
6 Trainer									
7 Researcher									
8 Field associate	1				1				1
9 Private Sector PAM									
Total	2				11				13

Total sample: n = 13

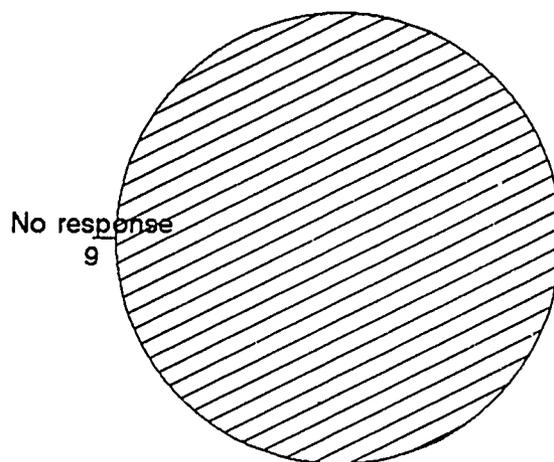
- Methods:
1. Explain Questionnaire and fill out with Regional Manager nearby
 2. Explain Questionnaire and fill out in own time
 3. Explain Questionnaire at workshop and fill out with RM nearby
 4. Consultant explain Questionnaire and fill out with Consultant nearby
 5. Consultant explain Questionnaire and fill out in own time
 6. Consultant explain Questionnaire at workshop and fill out with Consultant nearby
 7. Send out Questionnaire by mail

2.3.3.a Respondents years in service Burundi



Total Sample n = 11 (PAMS & Ass. PAMS combined: n=9)

2.3.3b Respondents years as a PAM Burundi



Total Sample n = 11 (Ass PAMs & PAMs n=9)

2.3.4c PAMs' Measure of Agreement: PARCS validation score
Burundi

COMPETENCY	Question No	Total % of combined scores of -1,0,1	
		Question	Competency average
Technical	1	100	94.8
	2	100	
	3	100	
	4	88.9	
	5	88.9	
	6	88.9	
	7	100	
	8	100	
	9	55.6	
	10	100	
	11	100	
	12	100	
	13	100	
	14	100	
	15	88.9	
	16	100	
	17	100	
Management	18	100	85.6
	19	33.3	
	20	100	
	21	100	
	22	100	
	23	88.9	
	24	100	
	25	100	
	26	100	
	27	33.3	
Planning	28	100	95.4
	29	100	
	30	100	
	31	100	
	32	88.9	
	33	100	
	34	100	
	35	100	
	36	55.6	
	37	100	
	38	100	
39	100		
Legal	40	33.3	73.4
	41	44.4	
	42	100	
	43	100	
	44	100	
	45	33.3	
	46	100	
	47	100	
48	50		
Policy and Procedures	49	100	98.9
	50	88.9	
	51	100	
	52	100	
	53	100	
	54	100	
	55	100	
	56	100	
	57	100	
	58	100	
Financial and Accounting	59	100	100
	60	100	
	61	100	
	62	100	
	63	100	
	64	100	

Overall % accuracy score

91.4

Total sample: n = 11

Asst PAMs & PAMs combined: n = 9

48

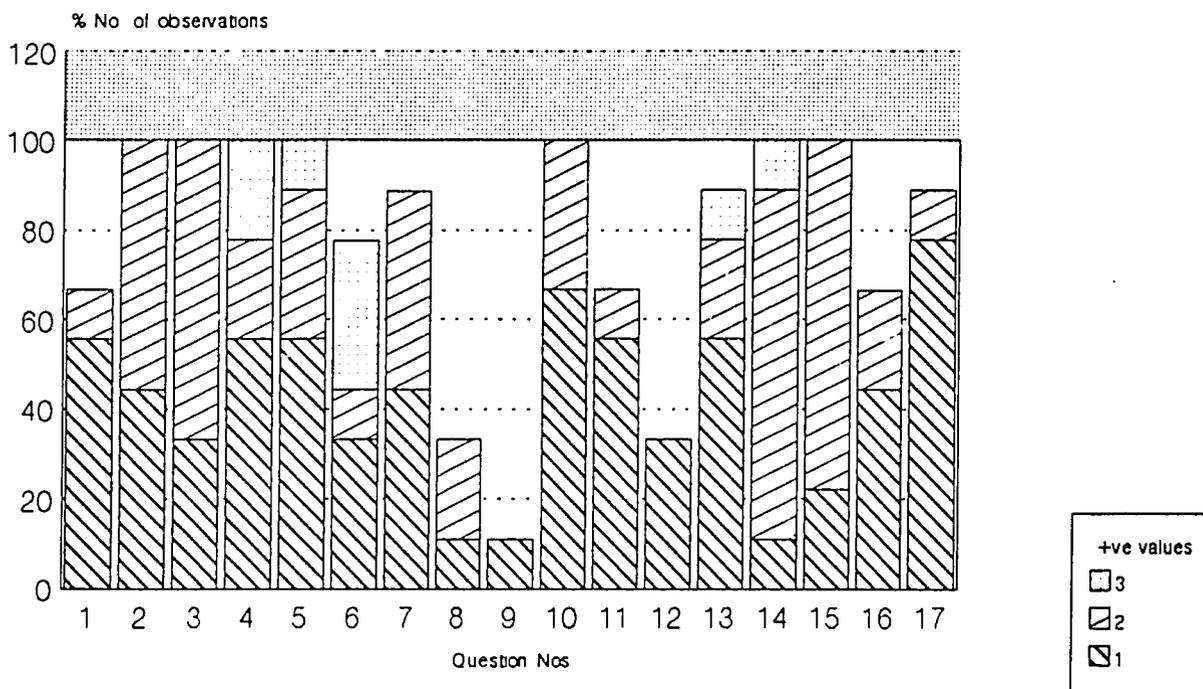
2.3.4d Own score validation analysis: Knowledge average scores
Burundi

COMPETENCY	Qs No.	Box No.	PARCS Score	Average Country / Org. Score	POSITION									
					1 n=6	2 n=3	3 n=	4 n=1	5 n=	6 n=	7 n=	8 n=1	9 n=	
Technical	1	B	3	3.7	3.7	3.7		4					3	
	2	E	4	3.9	3.8	4		4					3	
	3	E	4	3.8	3.8	3.7		4					3	
	4	F	4	3.4	3.3	3.7		4					4	
	5	F	4	3.6	3.8	3		4					4	
	6	F	4	3.4	3.2	4		4					4	
	7	C	4	3.9	4	3.7		4					3	
	8	H	3	3.7	3.5	4		4					4	
	9	H	2	3.4	3.5	3.3		4					3	
	10	I	3	3.3	3.3	3.3		4					3	
	11	I	3	3.9	3.8	4		4					4	
	12	J	3	3.6	3.7	3.3		4					3	
	13	J	4	3.9	4	3.7		4					3	
	14	K	4	3.6	3.7	3.3		4					3	
	15	K	4	3.6	3.7	3.3		4					3	
	16	K	3	3.7	3.5	4		4					4	
	17	K	3	3.7	3.8	3.3		4					3	
Management	18	A	3	3.7	3.7	3.7		4					4	
	19	A	2	3.7	3.7	3.7		4					4	
	20	A	3	3.2	3.3	3		4					3	
	21	B	3	3.7	3.7	3.7		4					3	
	22	B	3	3.8	3.7	4		4					4	
	23	F	3	3.7	3.7	3.7		3					3	
	24	C	3	4	4	4		4					4	
	25	H	4	4	4	4		4					4	
	26	J	3	3.9	3.8	4		4					4	
	27	J	2	3.7	3.8	3.3		3					2	
Planning	28	A	3	3.6	3.5	3.7		4					4	
	29	B	3	3.8	3.8	3.7		4					4	
	30	C	3	4	4	4		4					4	
	31	D	3	3.9	3.8	4		4					3	
	32	E	4	3.4	3.7	3		4					4	
	33	F	4	3.4	3.3	3.7		4					4	
	34	C	4	3.6	3.6	3.7		4					4	
	35	H	3	3.8	3.7	4		4					4	
	36	I	2	3.4	3.3	3.7		3					3	
	37	K	3	3.8	3.7	4		4					4	
	38	K	4	3.9	3.8	4		4					4	
	39	K	4	3.7	3.7	3.7		4					4	
Legal	40	A	2	3.7	3.8	3.3		3					2	
	41	B	2	3.6	3.7	3.3		3					4	
	42	E	4	3.8	4	3.3		4					3	
	43	F	3	3.3	3.3	3.3		4					3	
	44	C	4	3.4	3.7	3		4					3	
	45	H	2	3.7	3.7	3.7		3					2	
	46	I	4	3.7	3.5	4		4					3	
	47	J	4	3.8	3.8	3.7		4					3	
	48	J	2	3.5	3.4	3.7		4					2	
Policy and Procedures	49	A	4	3.4	3.7	3		4					2	
	50	B	4	3.4	3.3	3.7		4					2	
	51	C	3	3.7	3.7	3.7		4					3	
	52	D	3	3.7	3.8	3.3		4					3	
	53	E	4	3.9	3.8	4		4					3	
	54	F	4	3.4	3.5	3.3		4					3	
	55	C	4	3.7	3.7	3.7		4					3	
	56	H	4	3.8	3.7	4		4					3	
	57	I	3	3.6	3.5	3.7		3					3	
	58	J	4	3.6	3.5	3.7		4					3	
Financial and Accounting	59	C	3	3.7	3.5	4		4					3	
	60	C	3	3.8	3.8	3.7		4					3	
	61	H	3	3.6	3.5	3.7		4					3	
	62	H	4	3.7	3.7	3.7		4					3	
	63	I	3	3.8	3.8	3.7		4					2	
	64	K	3	3.8	3.8	3.7		4					3	

Total Sample n = 11

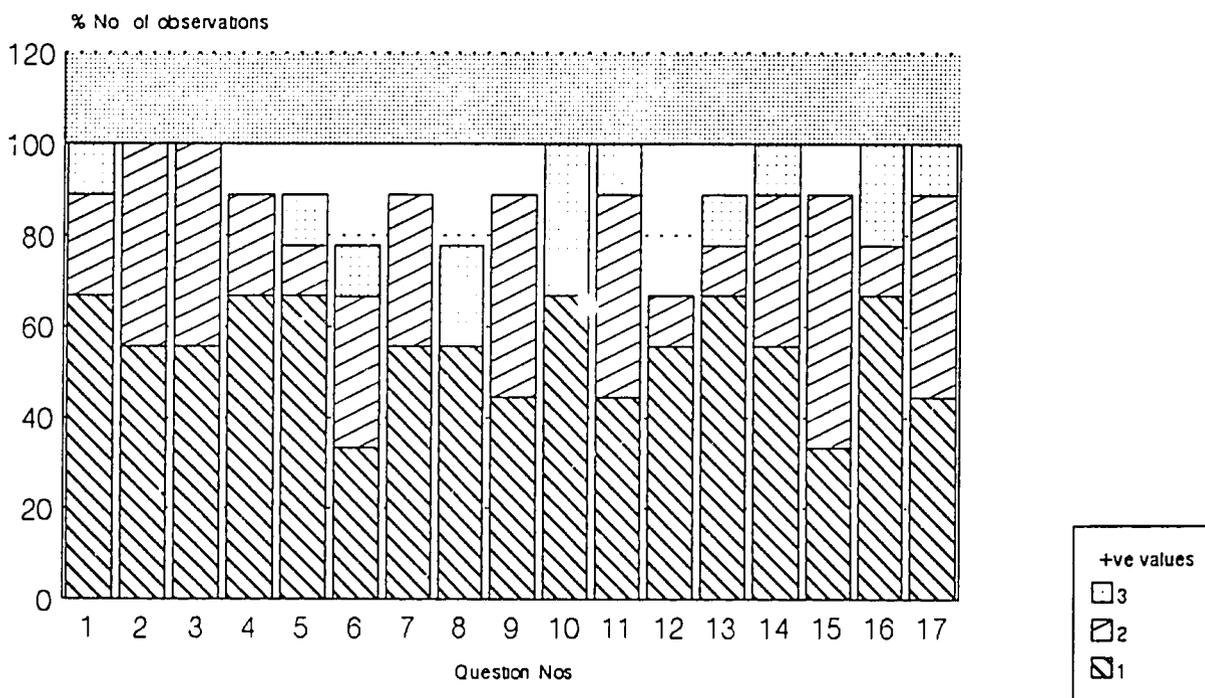
Ass PAMs & PAMs combined: n=9

2.3.5.a., PAMs gap analysis relative to PARCS Knowledge: Burundi



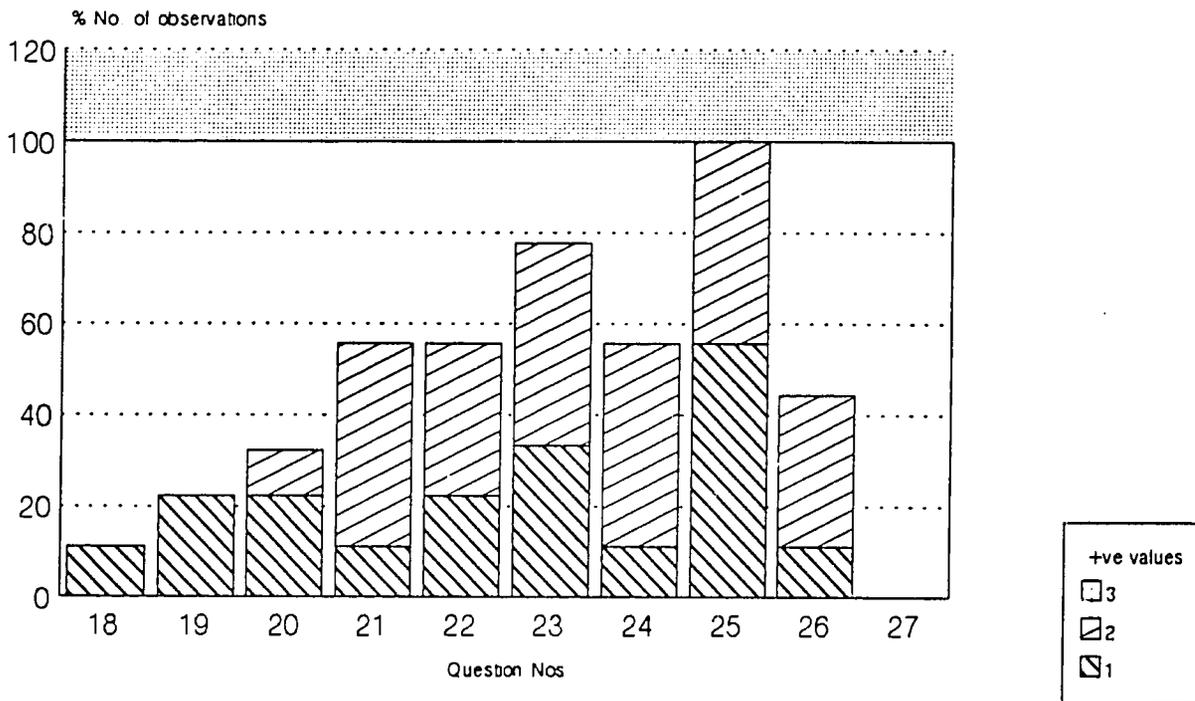
Total Sample n=11 (PAMs & Ass PAMs:n=9)

2.3.5.b., PAMs gap analysis relative to own score Technical Knowledge: Burundi



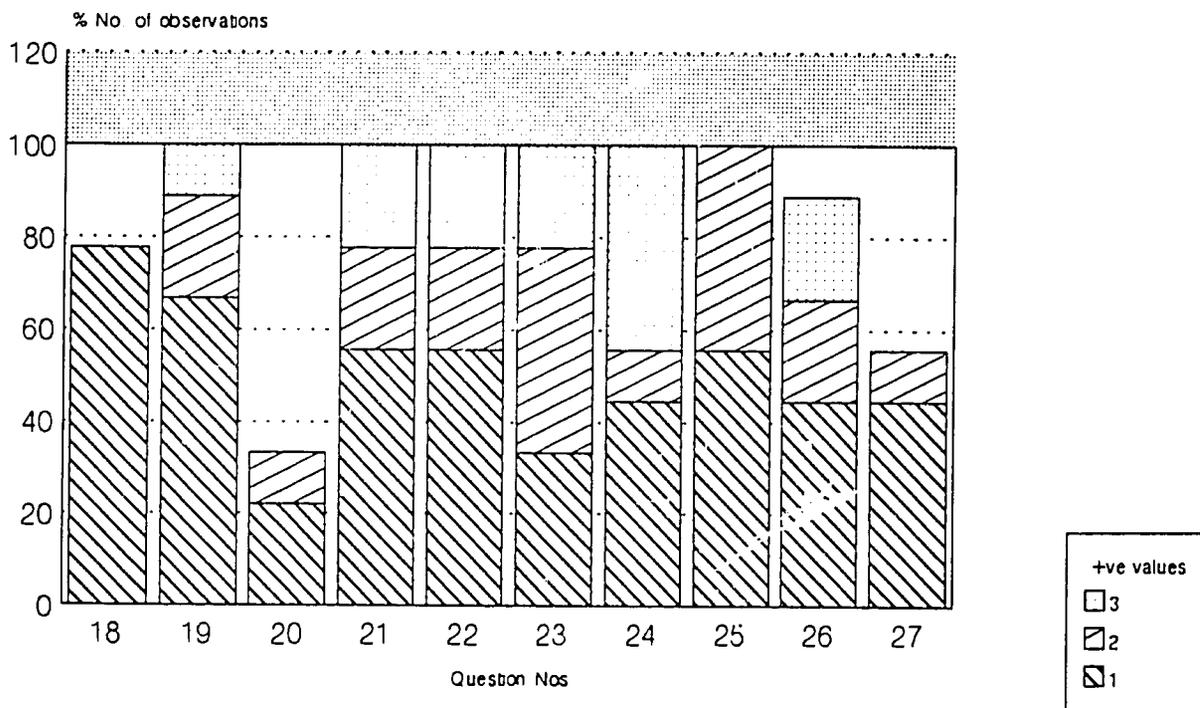
Sample n=11 (PAMs & Ass PAMs: n=9)

2.3.5.a.₂ PAMs gap analysis relative to PARCS. Management: Burundi



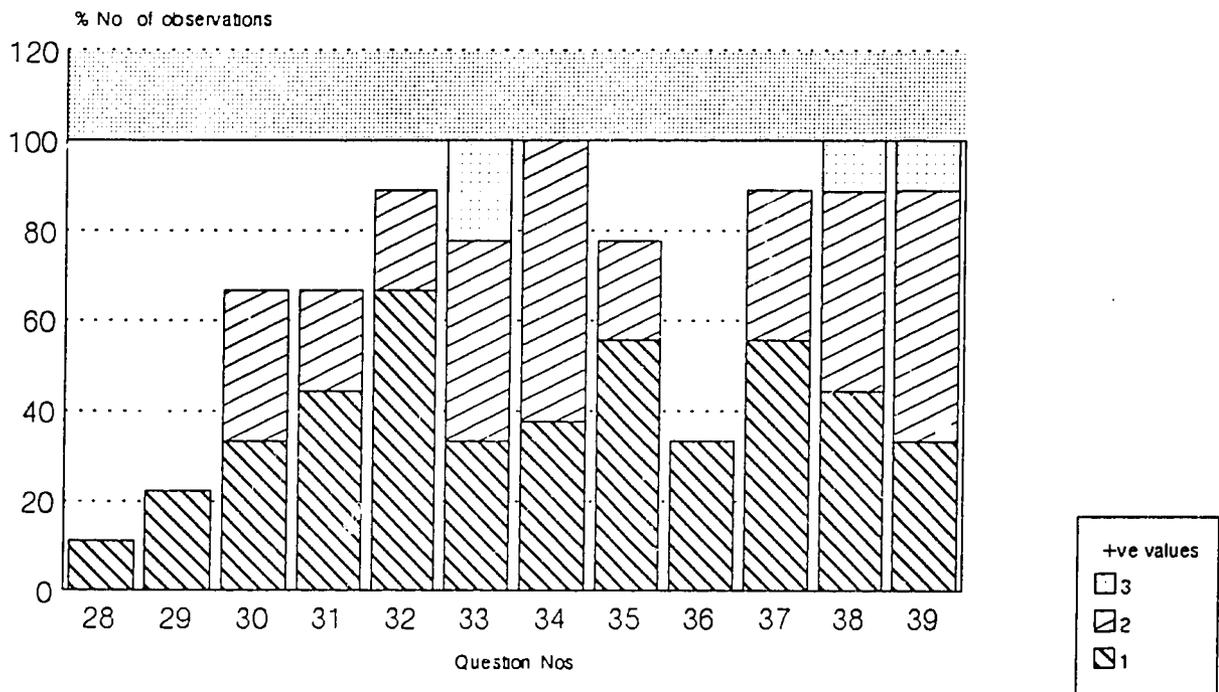
Total Sample: n=11 (PAMS & Ass PAMS: n=9)

2.3.5.b.₂ PAMs gap analysis relative to own score Management Knowledge: Burundi



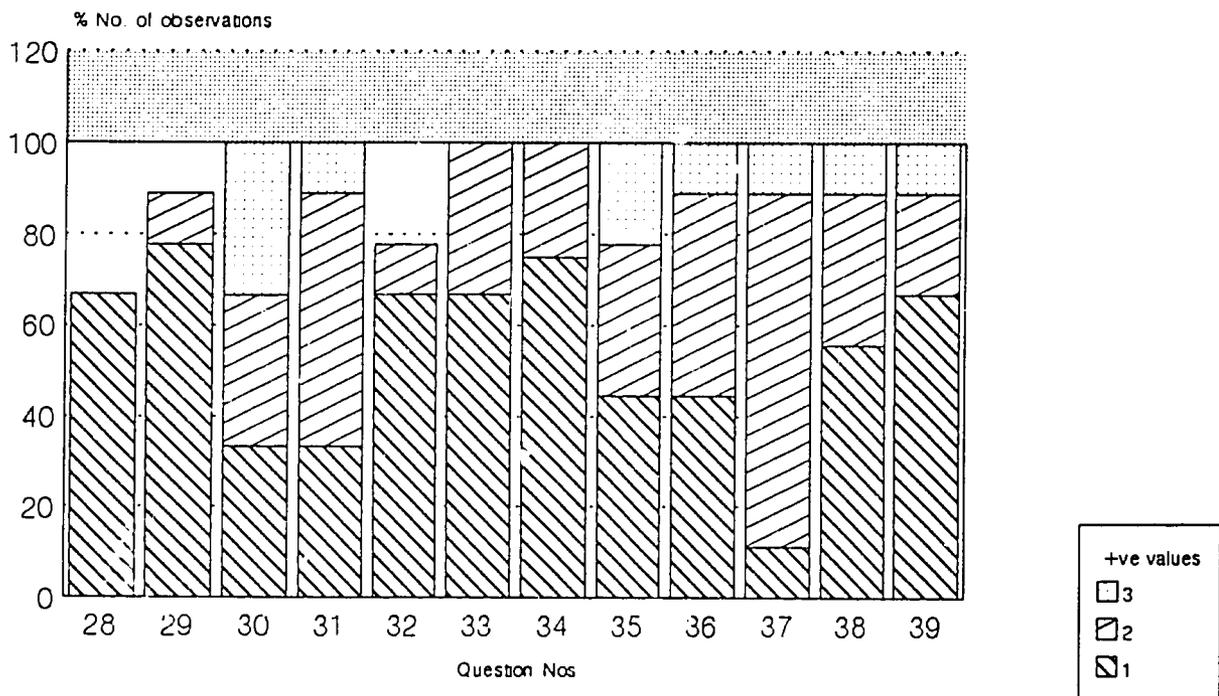
Sample n=11 (PAMS & Ass PAMS: n=9)

2.3.5.a.₃ PAMs gap analysis relative to PARCS. Planning: Burundi



Total Sample n=11 (PAMs & Ass PAMs: n=9)

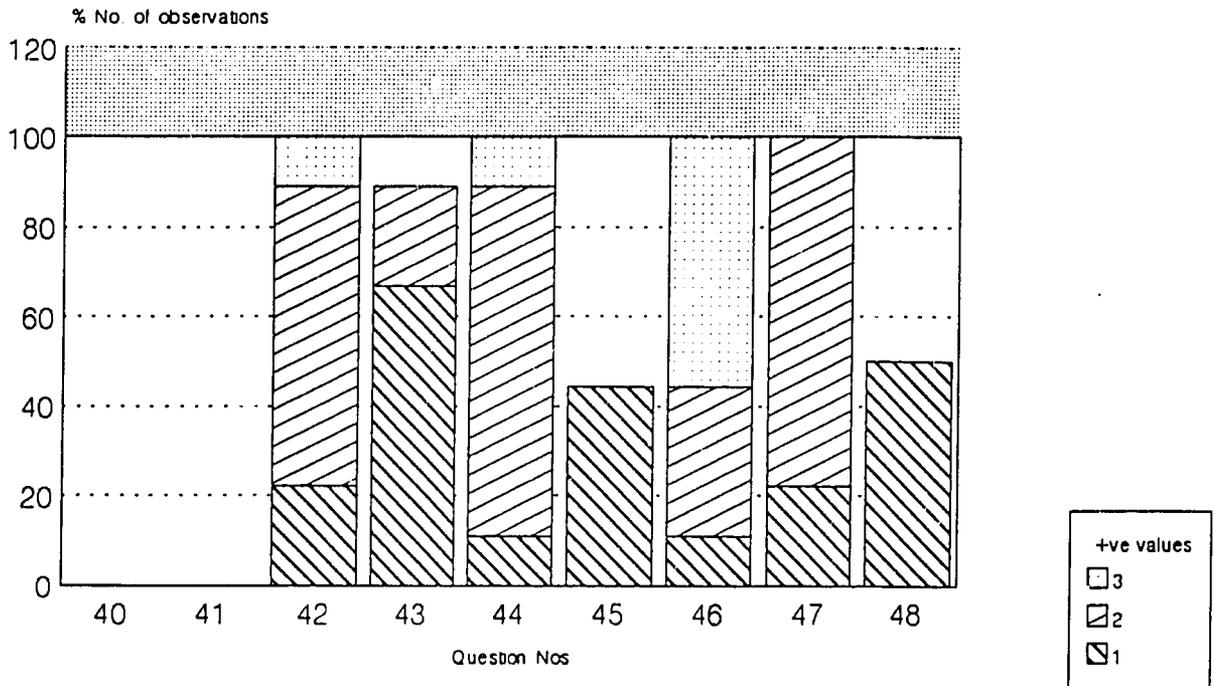
2.3.5.b.₃ PAMs gap analysis relative to own score Planning Knowledge: Burundi



Sample n=11 (PAMs & Ass PAMs: n=9)

2.3.5.a. PAMs gap analysis relative to PARCS

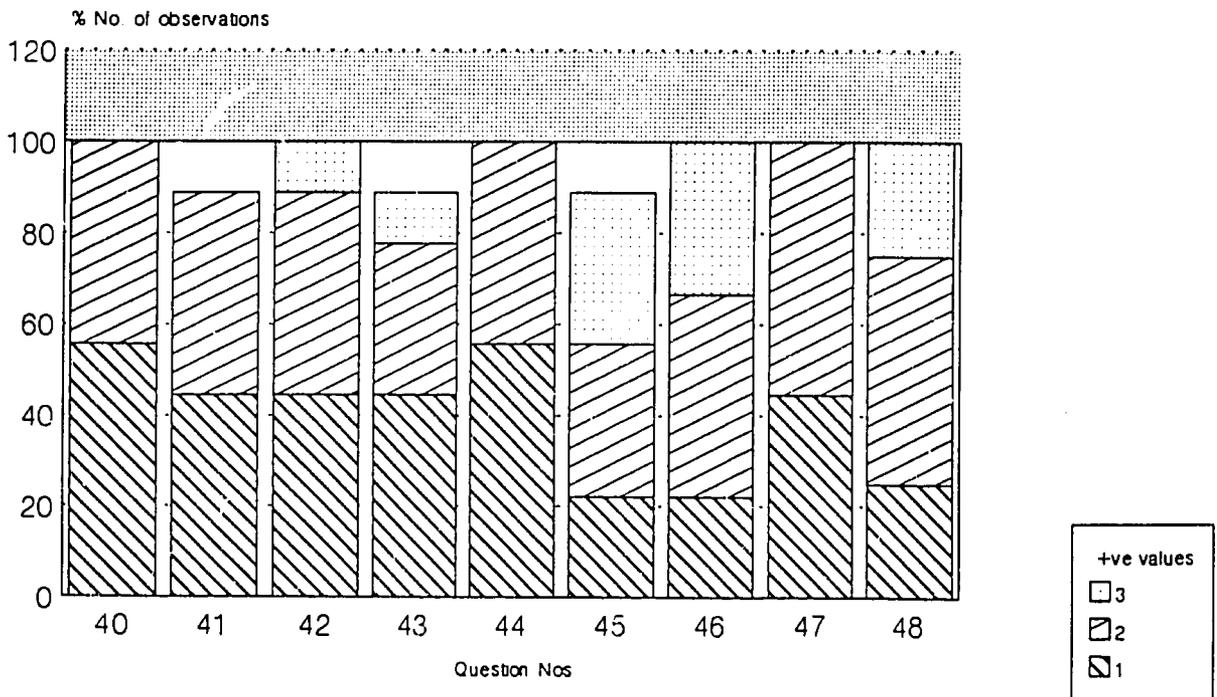
Legal: Burundi



Total Sample n=11 (PAMs & Ass PAMs: n=9)

2.3.5.b. PAMs gap analysis relative to own score

Legal Knowledge: Burundi

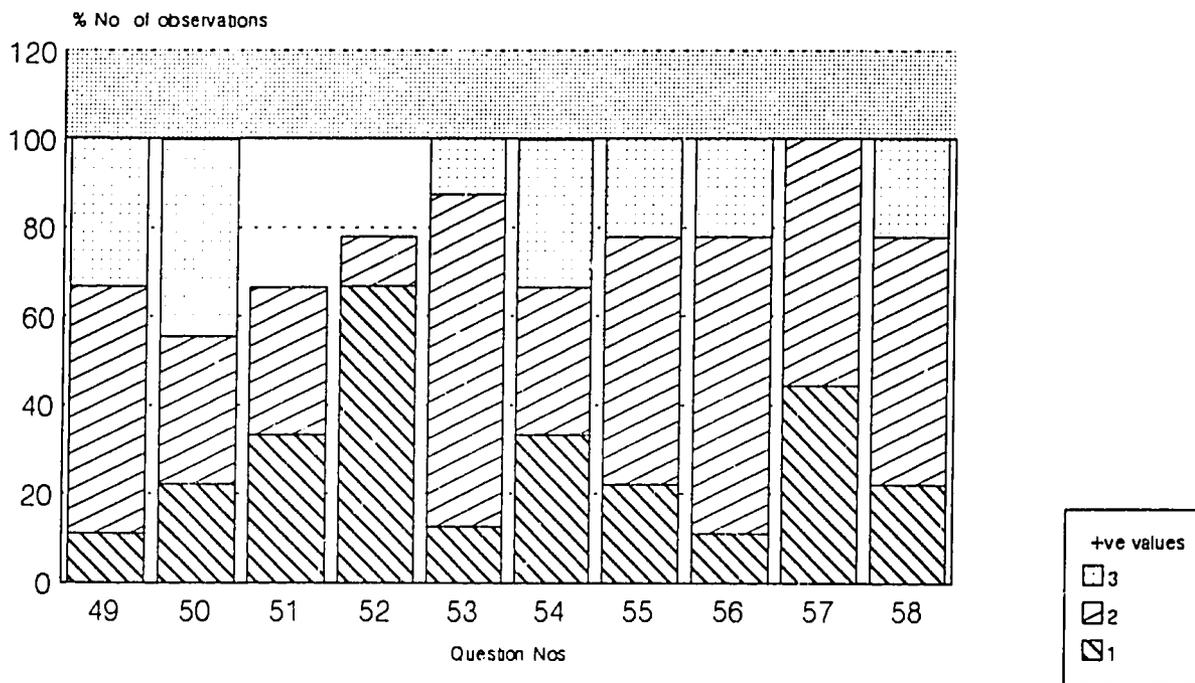


Sample n=11 (PAMs & Ass PAMs: n=9)

53

2.3.5.a.5 PAMs gap analysis relative to PARCS

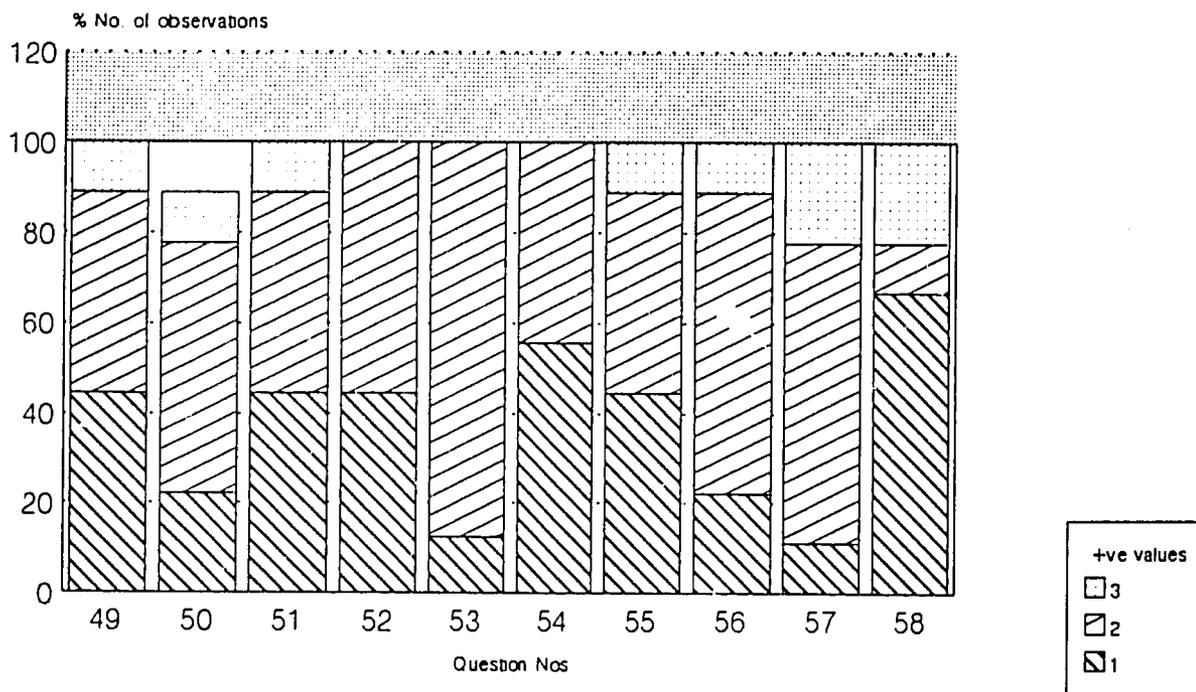
Policies & Procedures: Burundi



Total Sample n=11 (PAMS & Ass PAMs: n=9)

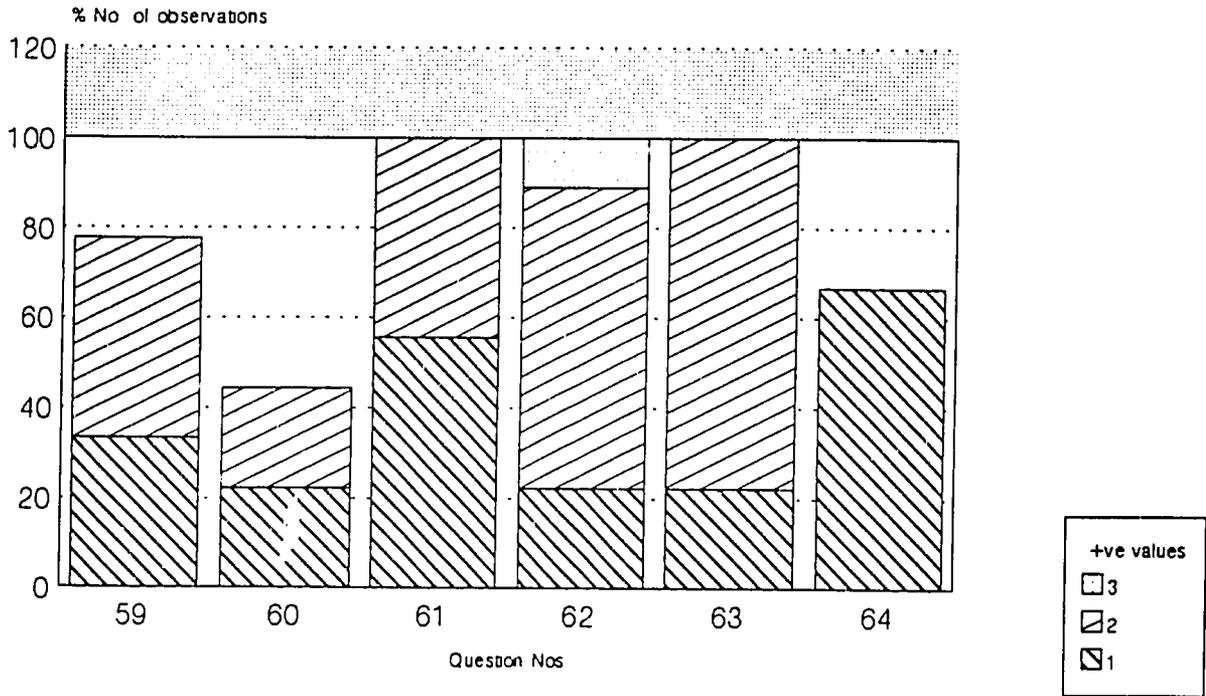
2.3.5.b.5 PAMs gap analysis relative to own score

Policies & Procedures Knowledge: Burundi



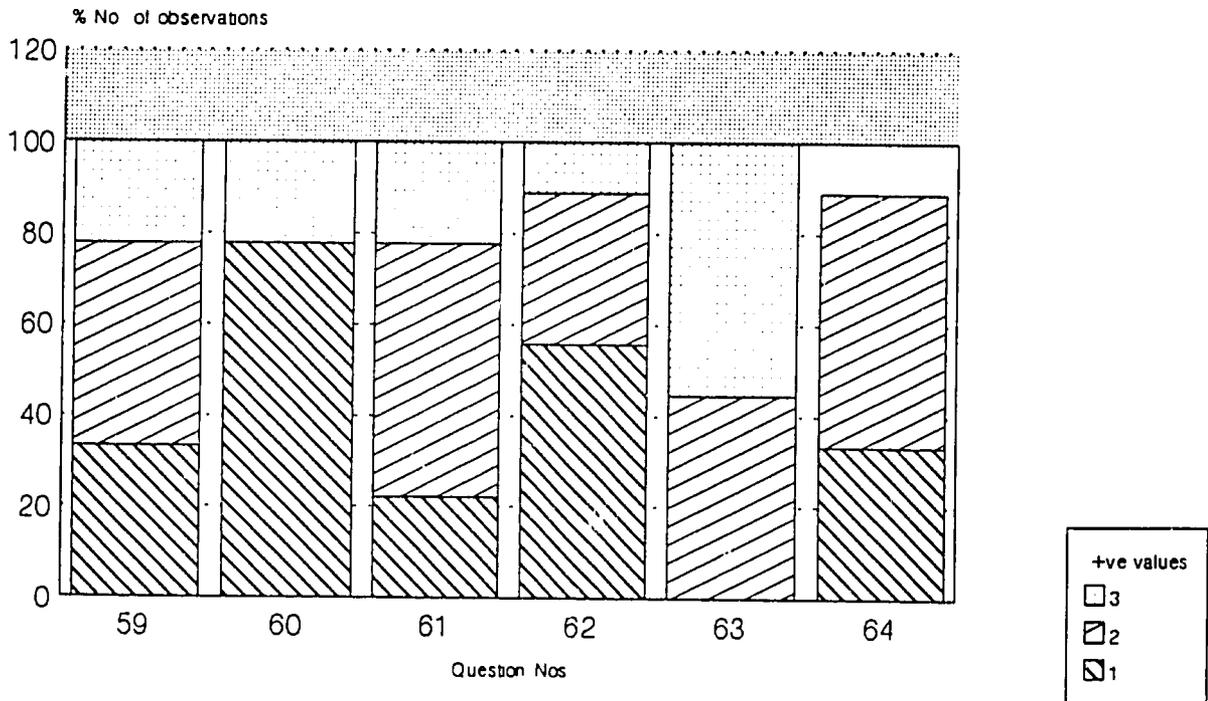
Sample n=11 (PAMS & Ass PAMs: n=9)

2.3.5.a. PAMs gap analysis relative to PARCS. Financial: Burundi



Total Sample: n=11 (PAMs & Ass PAMs: n=9)

2.3.5.b. PAMs gap analysis relative to own score Financial Knowledge: Burundi



Sample n=11 (PAMs & Ass PAMs: n=9)

2.3.5d PARCS score gap analysis: Knowledge average scores
Burundi

COMPETENCY	Qs No.	Box No.	PARCS Score	Average Country / Org. Score	POSITION									
					1 n=6	2 n=3	3 n=	4 n=1	5 n=	6 n=	7 n=	8 n=1	9 n=	
Technical	1	B	3	0.78	0.7	1		0					1	
	2	E	4	1.56	1.3	2		2					2	
	3	E	4	1.67	1.5	2		2					3	
	4	F	4	1.67	1.8	1.3		1					3	
	5	F	4	1.56	1.7	1.3		0					3	
	6	F	4	1.56	1.3	2		2					2	
	7	F	4	1.33	1	2		2					3	
	8	H	3	0.56	0.2	1.3		1					2	
	9	H	2	0.11	0.2	0		0					0	
	10	I	3	1.33	1.3	1.3		1					2	
	11	I	3	0.78	0.7	1		1					2	
	12	J	3	0.33	0.3	0.3		0					1	
	13	J	4	1.33	1.2	1.7		0					3	
	14	K	4	2	2	2		1					2	
	15	K	4	1.78	2	1.3		2					3	
	16	K	3	0.89	0.7	1.3		0					2	
	17	K	3	1	1	1		1					2	
Management	18	A	3	0.11	0.2	0		0					1	
	19	A	2	0.22	0.2	0.3		0					0	
	20	B	3	0.22	0.2	0.3		0					1	
	21	B	3	1	0.8	1.3		0					2	
	22	B	3	0.89	0.7	1.3		1					2	
	23	F	3	1.22	1	1.7		1					2	
	24	F	3	1	0.8	1.3		1					0	
	25	G	4	1.44	1.3	1.7		2					3	
	26	H	3	0.78	0.5	1.3		1					0	
	27	J	2	0	0	0		0					0	
Planning	28	A	3	0.11	0.2	0		0					2	
	29	B	3	0.22	0.3	0		0					1	
	30	C	3	1	0.8	1.3		0					2	
	31	D	3	0.89	1	0.7		0					1	
	32	E	4	1.33	1.3	1.3		2					3	
	33	F	4	1.89	2	1.7		2					3	
	34	F	4	1.63	1.4	2		2					2	
	35	H	3	1	0.8	1.3		1					2	
	36	I	2	0.33	0.3	0.3		0					1	
	37	K	3	1.22	1.2	1.3		1					2	
	38	K	4	1.67	1.3	2.3		2					3	
	39	K	4	1.78	1.5	2.3		2					3	
Legal	40	A	2	0	0	0		0					0	
	41	B	2	0	0	0		0					0	
	42	E	4	1.89	1.8	2		2					2	
	43	F	3	1.11	1.2	1		1					2	
	44	F	4	2	1.8	2.3		1					3	
	45	H	2	0.44	0.3	0.7		0					0	
	46	H	4	2.41	2.3	2.7		2					3	
	47	J	4	1.78	1.7	2		2					3	
	48	J	2	0.5	0.4	0.7		0					1	
Policy and Procedures	49	A	4	2.22	2.2	2.3		1					2	
	50	B	4	2.22	2	2.7		2					3	
	51	C	3	1	0.7	1.7		0					1	
	52	D	3	0.89	0.7	1.3		0					1	
	53	E	4	2	2	2		1					3	
	54	F	4	2	1.8	2.3		1					3	
	55	F	4	2	2	2		1					1	
	56	H	4	2.11	2	2.3		1					2	
	57	I	3	1.56	1.5	1.7		1					1	
	58	J	4	2	1.8	2.3		1					1	
Financial and Accounting	59	C	3	1.22	1.3	1.0		0					2	
	60	C	3	0.67	0.8	0.3		0					1	
	61	H	3	1.44	1.3	1.7		0					2	
	62	H	4	1.89	1.8	2.0		1					3	
	63	I	3	1.78	1.7	2.0		0					2	
	64	K	3	0.67	0.5	1.0		0					1	

Total sample: n = 11

Asst PAMs & PAMs combined: n = 9

2.3.5.f Frequency of which a Gap of 1,2 or 3 for Technical Knowledge was Identified with respect to Biome

57

Question #	BIOMES																										
	A			F			M			O			R			D			S			W			X		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1							1												4	1							
2	1			1			1	1											1	4							
3	1			1			1	1												5							
4	1			1			2												1	2	2						
5	1			1			1	1											2	2	1						
6	1			1			1		1											1	2						
7	1			1				1											2	3							
8																			1	2							
9																			1								
10	1			1			2												2	3							
11							1												4	1							
12				1															2								
13	1			1			1												2	2	1						
14	1				1			2												4	1						
15		1			1			2											2	3							
16	1						1												2	2							
17	1			1			2												3	1							

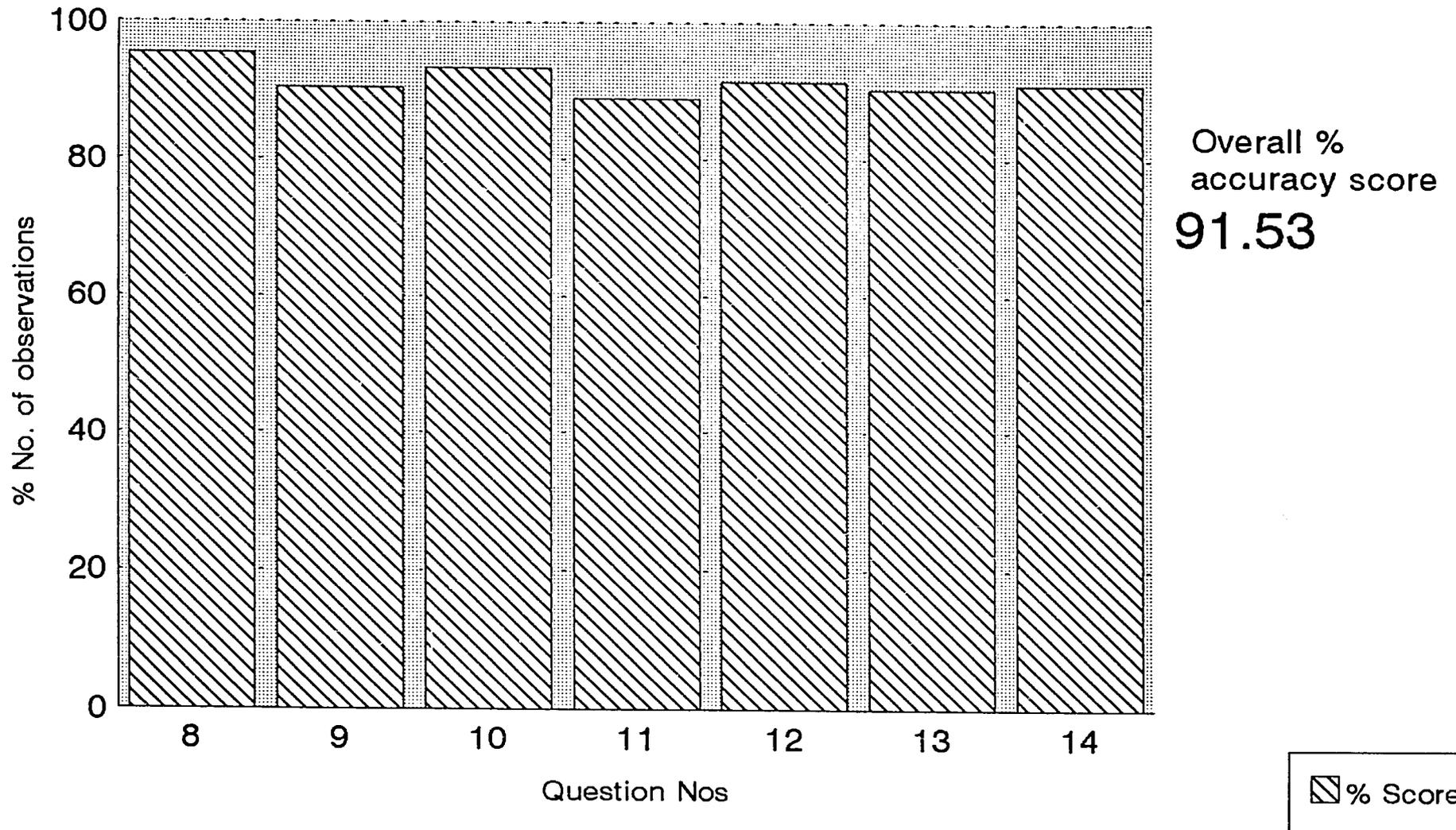
Total sample: n=11

Asst PAMs & PAMs combined: n=9

A=Aquatic F=Dry Forest M=Montane O=Marine R=Regional/National D=Desert S=Savanna
W=Moist Forest X=Trainer

2.3.6a Validation analysis of Mental and Social Skills

PAMs Yes responses: Burundi



Total Sample n=11 (Ass PAMs: n=9)

**2.3.6b Validation analysis of Mental and Social Skills
PAMs Scattergram for 'NO' responses: Burundi**

MAIN DIVISIONS	COMPETENCY (% of respondents)						
	8	9	10	11	12	13	14
A			11.1	11.1	11.1		
B	11.1	11.1	11.1	11.1	11.1	11.1	11.1
C		11.1					
D		22.2		22.2	11.1	22.2	11.1
E	11.1	12.5	11.1	11.1	11.1		42.9
F	11.1	11.1		11.1	22.2		12.5
G							
H	11.1		22.2	11.1	11.1		12.5
I	11.1	37.5		22.2		11.1	
J			11.1			11.1	
K							

Total sample: n=11

Asst PAMs & PAMs combined: n=9

2.3.7a.1 Current Mental and Social Skill Level of Asst PAMs & PAMs: Low Skill Levels Burundi

MAIN DIVISIONS	COMPETENCY (cumulative score of all 1&2 responses)							Total
	8	9	10	11	12	13	14	
A	2	4	2	1	0	1	0	10
B	6	3	3	0	0	1	3	16
C	4	4			2			10
D	5	3	4	3	4	4	5	28
E	4	4	3	6	3	0	4	24
F	5	2	4	4	0	3	5	23
G	2	2	6	4	2	1	1	18
H	2	4	4	3	2		3	18
I	5	4	7	7		5	6	34
J	1	4	4	4	0	6	2	21
K	4.5	2	4				2	12.5
Total	40.5	36	41	32	13	21	31	214.5

Total sample: n=11

Asst PAMs & PAMs combined: n=9

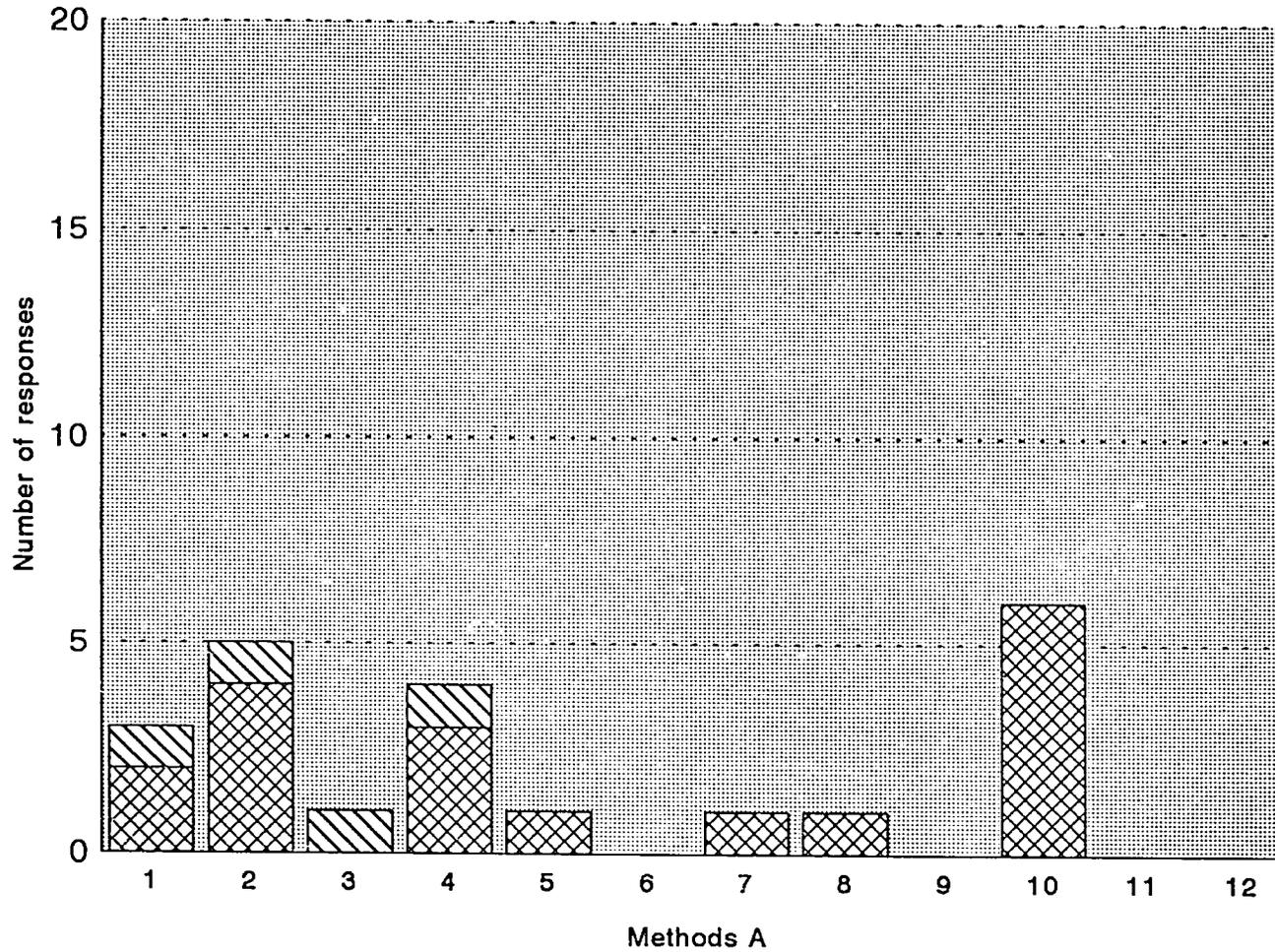
2.3.7b PAMs vs Validators Mental and Social Skills :Average scores
Burundi

COMPETENCY	Qs No.	Box No.	Average Country / Org. Score	POSITION									
				1 n=	2 n=	3 n=	4 n=	5 n=	6 n=	7 n=	8 n=	9 n=	
Comprehension	1	A	2.8	2.8	2.7		3				2		
	2	B	2.3	2.3	2.3		3				2		
	3	C	2.4	2.5	2.3		3				3		
	4	D	2.4	2.7	2.0		2				1		
	5	E	2.9	3.3	2.0		2				3		
	6	F	2.2	2.3	2.0		3				3		
	7	G	2.9	3.0	2.7		2				1		
	8	H	2.9	3.2	2.3		3				1		
	9	I	2.4	2.5	2.3		3				1		
	10	J	2.9	2.8	3.0		3				3		
	11	K	2.4	2.5	2.3		3				1		
	12	K	2.6	2.5	2.7		3				1		
Problem analysis	13	A	2.4	2.5	2.3		3				1		
	14	B	2.5	2.3	3.0		3				2		
	15	C	2.5	2.4	2.7		3				2		
	16	D	2.7	2.5	3.0		3				1		
	17	E	2.6	2.8	2.3		2				3		
	18	F	2.7	2.7	2.7		2				2		
	19	G	2.9	2.8	3.0		3				2		
	20	H	2.7	2.7	2.7		2				1		
	21	I	2.5	2.4	2.7		3				2		
	22	J	2.7	2.7	2.7		3				3		
	23	K	3.0	3.0	3.0		3				3		
	Creativity	24	A	2.9	2.8	3.0		3				1	
25		B	2.7	2.8	2.3		2				2		
26		D	2.7	2.8	2.3		2				3		
27		E	2.7	2.7	2.7		3				3		
28		F	2.6	2.7	2.3		2				2		
29		G	2.3	2.4	2.0		2				2		
30		H	2.7	2.8	2.3		3				2		
31		I	2.1	3.0	2.3		1				2		
32		J	2.6	2.7	2.3		2				2		
33		K	2.6	2.8	2.0		3				2		
Evaluation		34	A	3.2	3.2	3.3		4				2	
		35	B	3.1	3.0	3.3		4				3	
	36	D	2.8	2.7	3.0		4				2		
	37	E	2.3	2.5	3.0		3				2		
	38	F	2.6	2.2	2.0		3				1		
	39	G	2.6	2.8	2.0		2				2		
	40	H	2.9	3.0	2.7		4				1		
	41	I	2.1	2.2	2.0		1				1		
	42	J	2.6	2.8	2.3		3				3		
	Oral	43	A	3.7	3.8	3.3		4				3	
		44	B	3.3	3.3	3.3		3				2	
		45	C	2.9	2.7	3.3		4				3	
46		D	2.8	2.8	2.7		3				2		
47		E	3.0	3.2	2.7		4				3		
48		F	3.2	3.3	3.0		4				3		
49		G	3.1	3.2	3.0		3				3		
50		H	3.0	3.0	3.0		3				3		
51		J	3.1	3.0	3.3		4				1		
Written		52	A	3.1	3.0	3.3		4				1	
		53	B	2.9	2.8	3.0		4				3	
		54	D	2.5	2.6	2.3		3				2	
	55	E	3.1	3.2	3.0		4				3		
	56	F	2.8	3.0	2.3		2				1		
	57	G	3.3	3.3	3.3		3				1		
	58	I	2.4	2.5	2.3		1				3		
	59	J	2.3	2.5	2.0		2				1		
	Working with others	60	A	3.2	3.2	3.3		3				2	
61		B	2.6	2.7	2.3		3				3		
62		D	2.4	2.7	2.0		3				3		
63		E	2.6	3.0	2.0		2				2		
64		F	2.1	2.0	2.3		2				3		
65		G	3.0	3.2	2.7		2				2		
66		H	2.6	2.6	2.7		3				3		
67		I	2.3	2.2	2.7		3				1		
68		J	2.9	2.8	3.0		3				3		
69		K	2.9	2.8	3.0		3				1		

Total sample: n=11

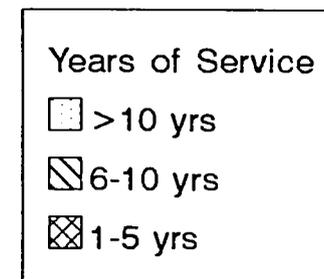
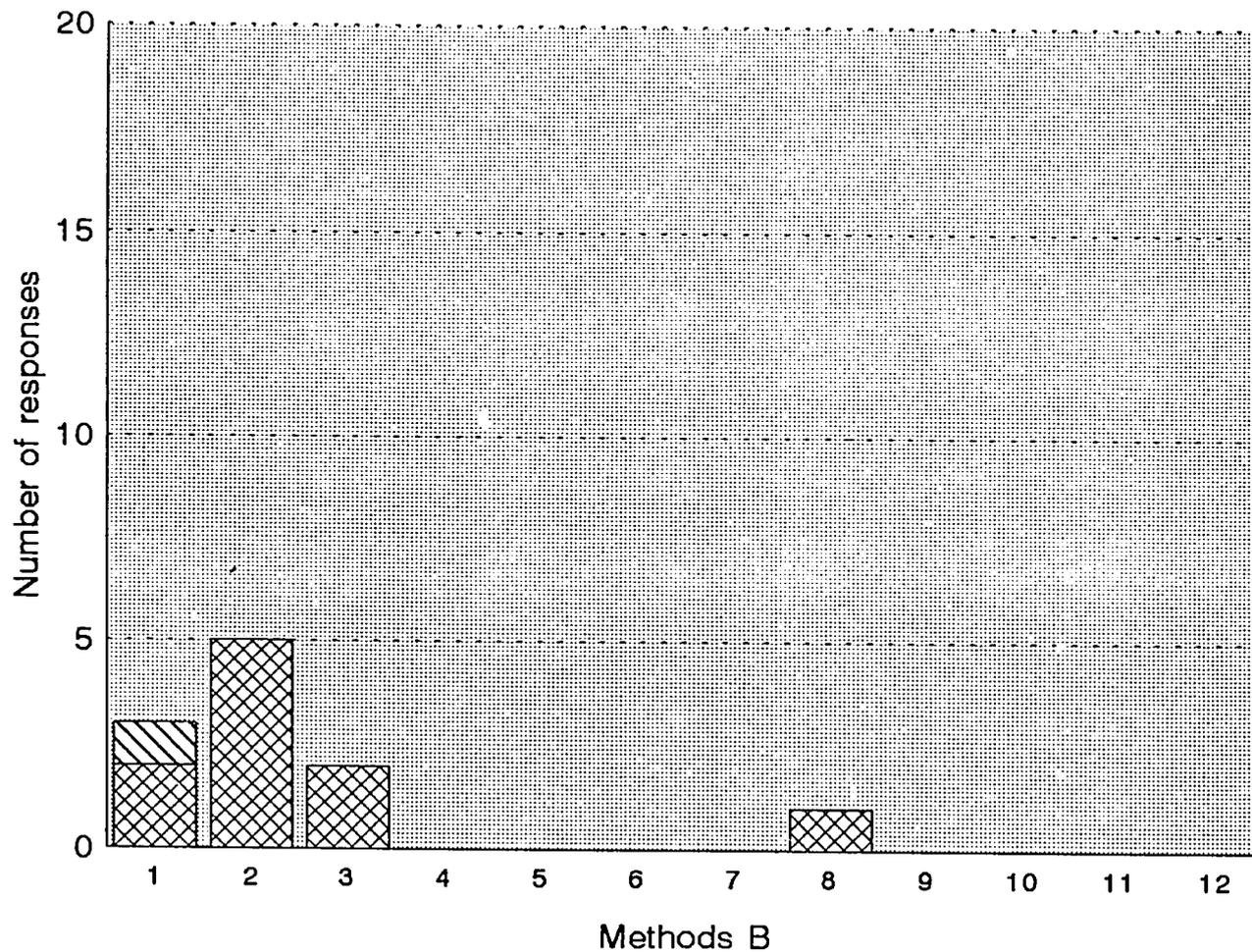
Asst PAMs & PAMs combined: n=9

2.3.8a PAMs Methods To Instill Work Ethics Burundi



Total Sample: n=11

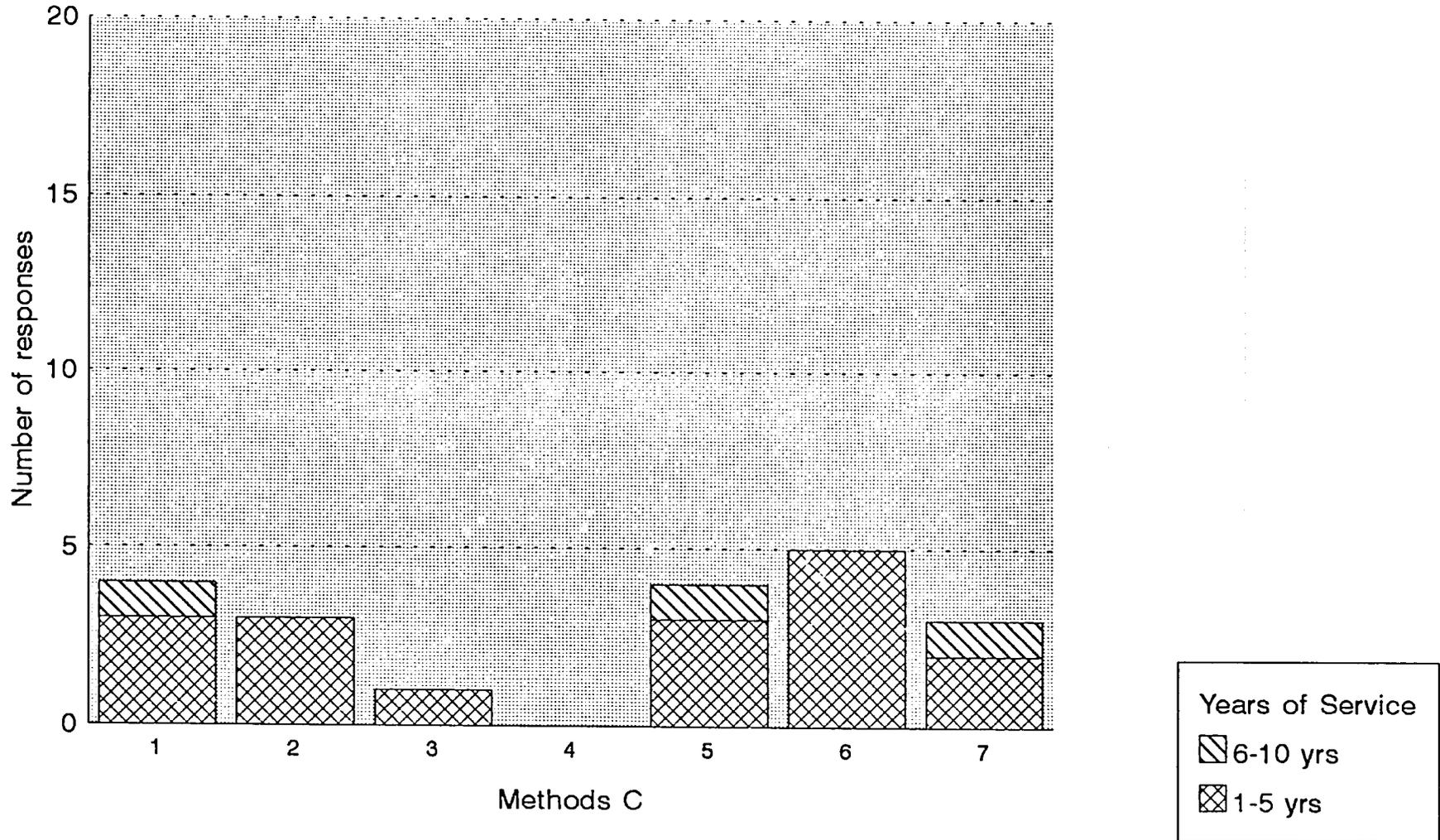
2.3.8b PAMs Methods To Instill Commitment to Conservation Burundi



Total Sample: n=11

2.3.8c PAMs Methods To Instill Healthy Attitudes to Adjacent Communities

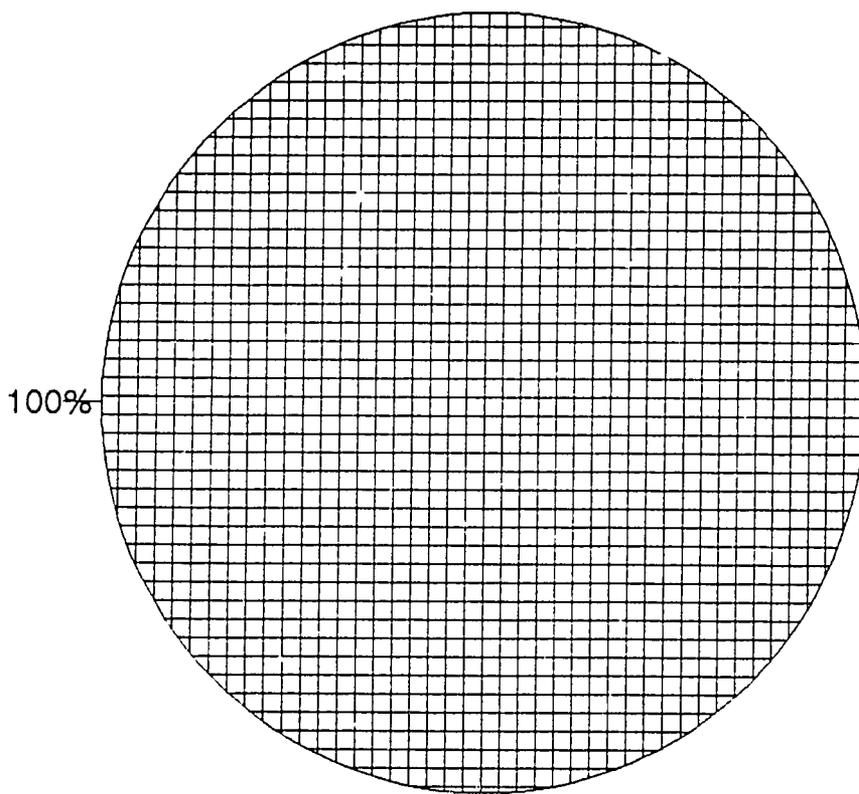
Burundi



Total Sample: n=11

2.3.9. PAMs Language Skills

Burundi

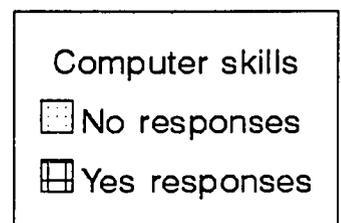
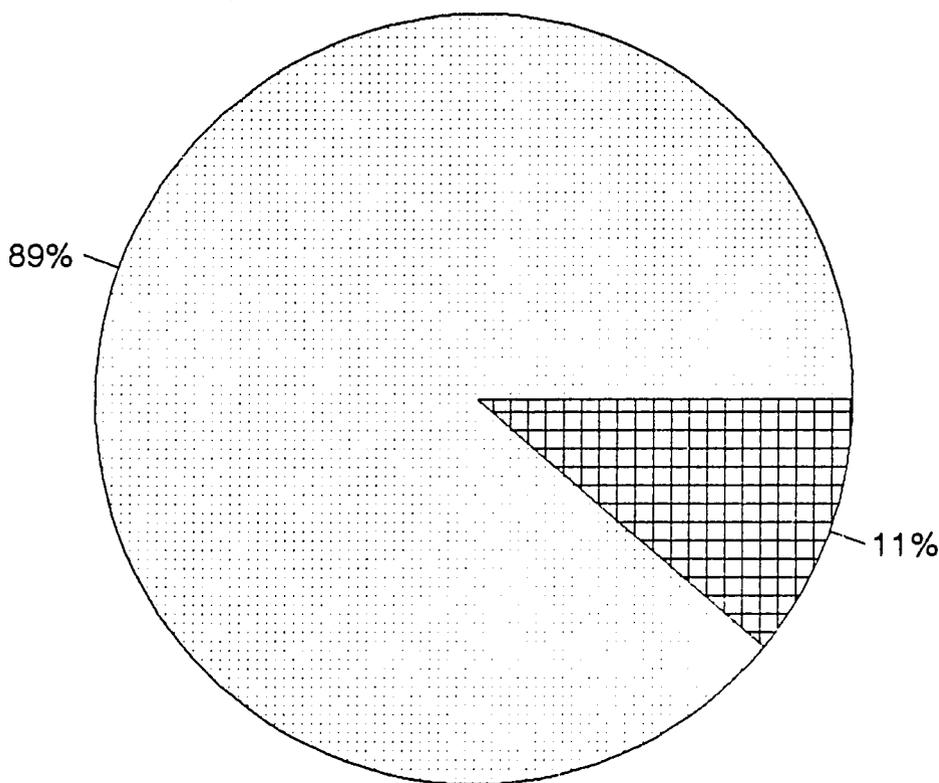


Language skills
▣ Yes responses

Total Sample:n= 11 (Ass PAMs & PAMs:n=9)

2.3.10a PAMs Computer Skills

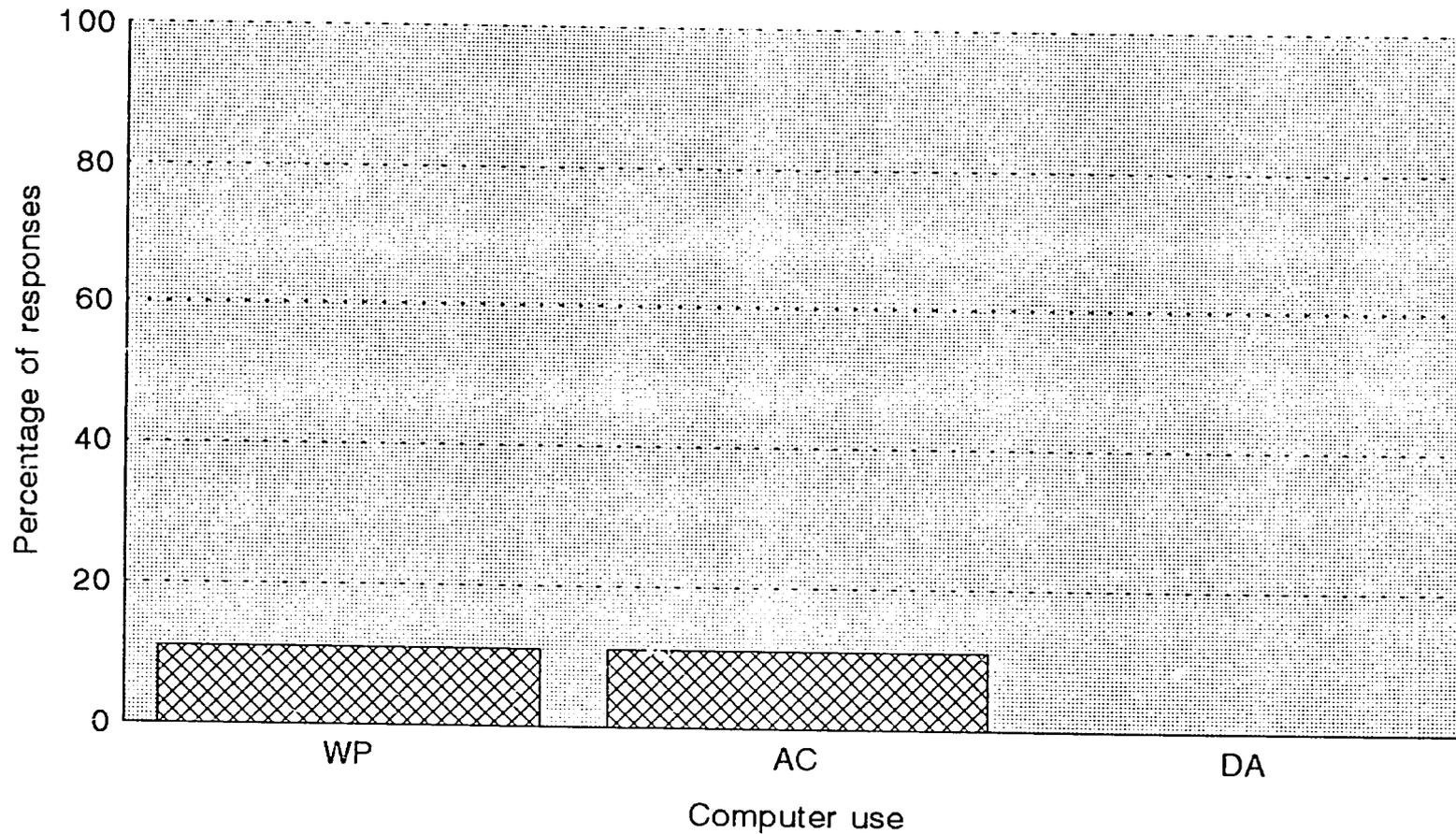
Burundi



Total Sample: n=11 (Ass PAMs & PAMs: n=9)

2.3.10.b PAMs Computer Uses

Burundi



Total Sample: n=11 (Ass PAMs & PAMs: n=9)

2.3.11 PAMs identified Training priorities:
Burundi

MAIN DIVISIONS	COMPETENCIES																	Totals
	Blank	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Blank		1	2		1		1		1						1			7
A																		
B																		
C							1											1
D																		
E																		
F		2			1													3
G																		
H				1	2													3
I			1		1													2
J		2																2
K		2																2
Totals		5	3	1	5		2		1						1			18

Total sample: n=11

Asst PAMs & PAMs combined: n=9

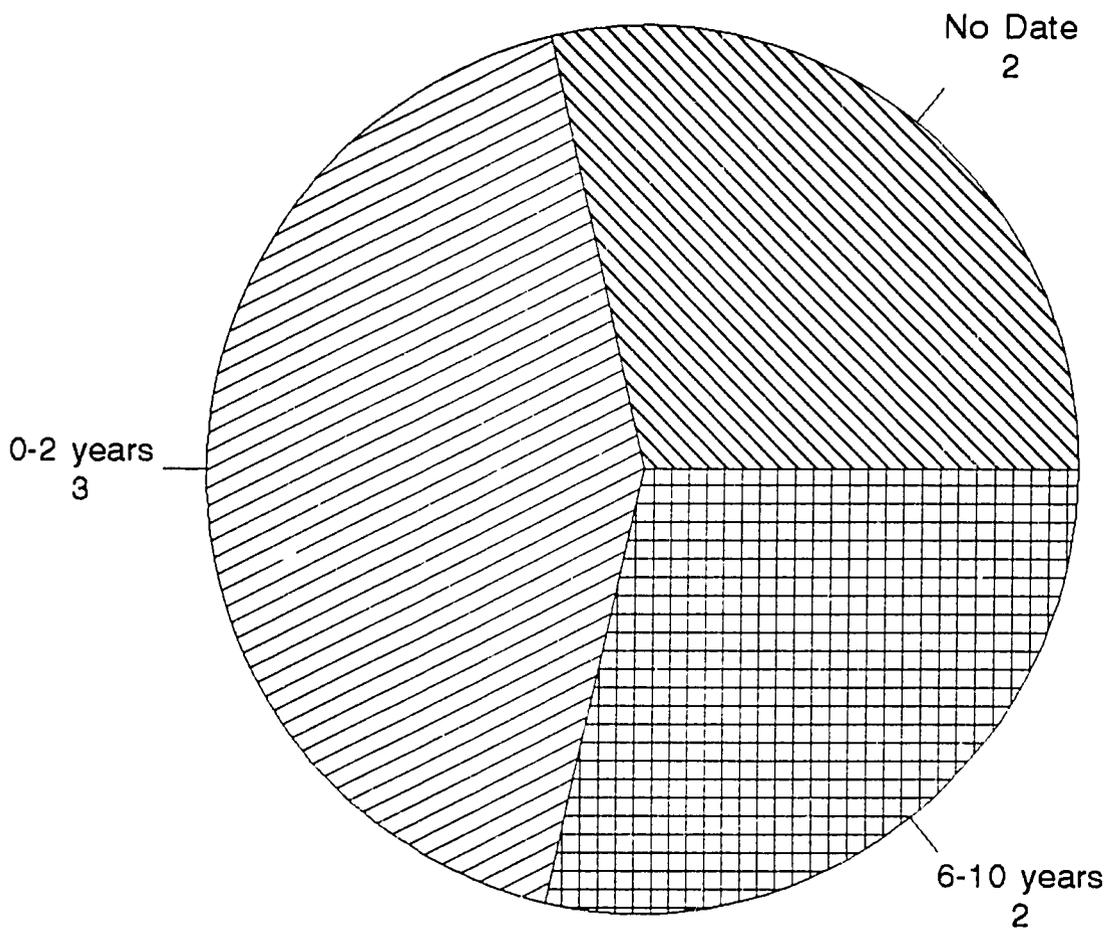
**2.3.12 PAMs training received:
Burundi**

	Competencies	TYPES OF TRAINING (Dot if training has occurred)				
		Formal wildlife	Formal Other	In Service	On- the-job	Other
(a) Knowledge	2	•				•
	3	•	•		•	•
	4	•	•		•	
	5	•			•	
	6	•			•	
	7	•			•	•
(b) Mental and Social Skills	8	•	•		•	
	9	•	•		•	
	10	•			•	
	11	•			•	
	12	•	•		•	•
	13	•			•	•
	14	•			•	•
(c) Attitudes	15					
	16					
	17					

Total sample: n=11

Asst PAMs: n=9

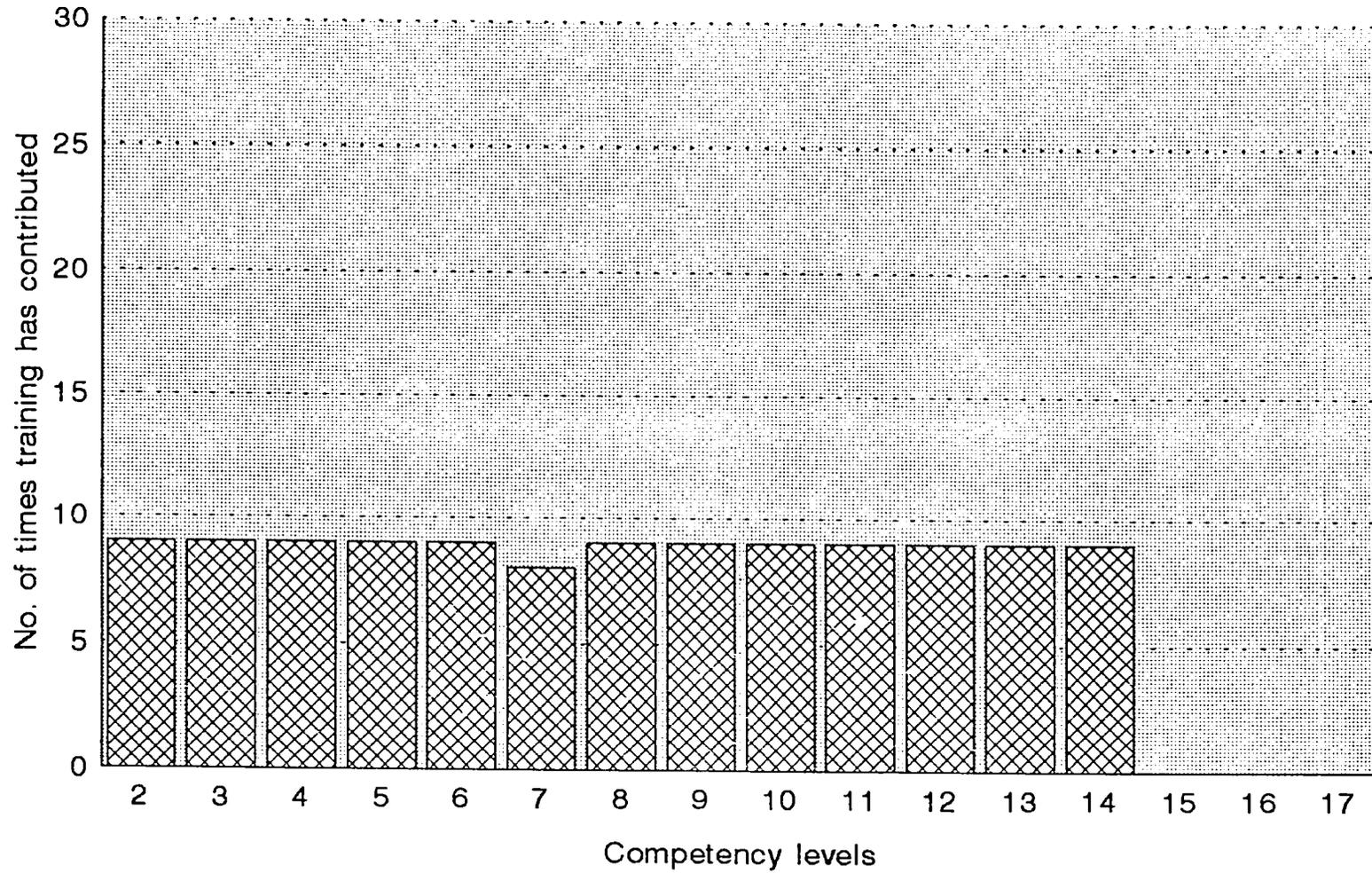
2.3.12d PAMs years since formal wildlife training received Burundi



Total Sample n = 11 (PAMS & Ass PAMS combined: n=9)

2.3.12.f. Training that has contributed most to PAMs skill level.

Burundi

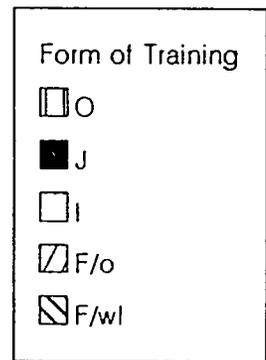
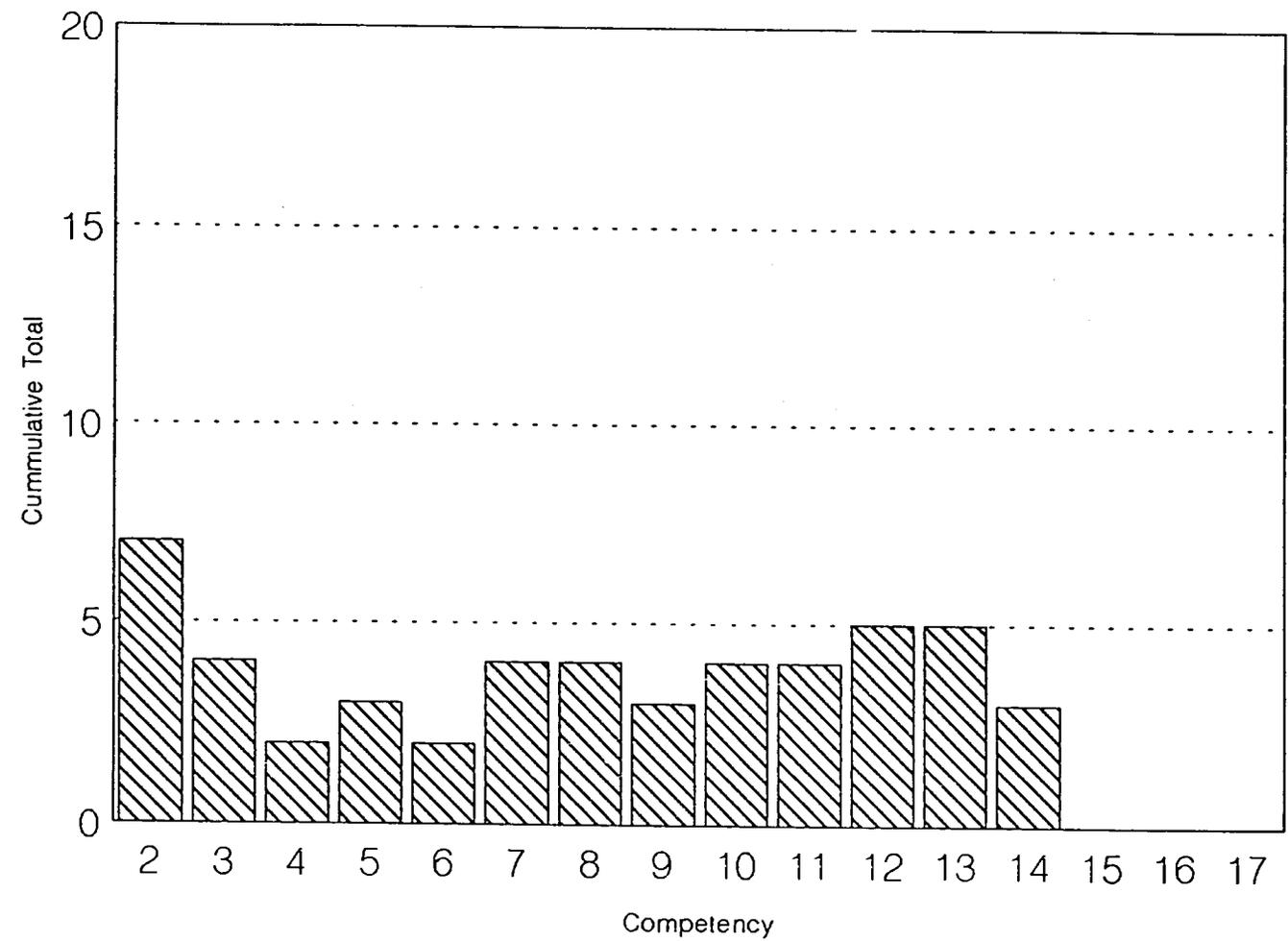


Total Sample: n=11 (Ass PAMs & PAMs: n=9)

2.3.12.g.1 PAMs training that has contributed most: n=1-5

Burundi

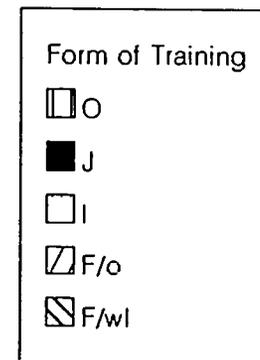
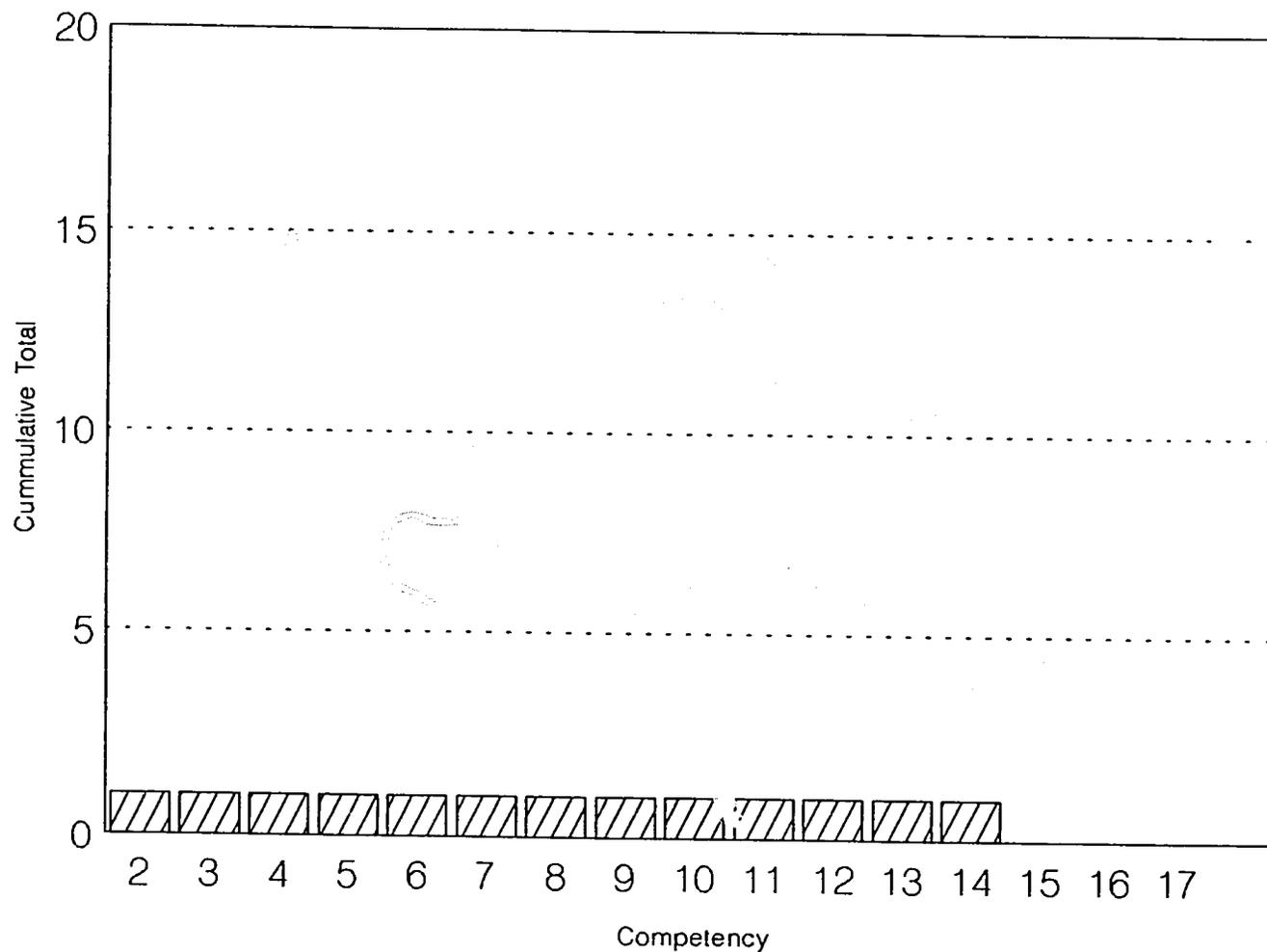
22



Total Sample n=11 (PAMs & Ass PAMs n=9)

2.3.12.g.2 PAMs training that has contributed most: n=6-10

Burundi



Total Sample n=11 (PAMs & Ass PAMs Combined:n=11)

2.3.12h Greatest training needs identified by gap analysis for PAMs & asst PAMs
Burundi.

MAIN DIVISIONS	COMPETENCIES													
	Knowledge (Gaps 2 or 3)						Mental & Social skills (Score 1 or 2)							
	2	3	4	5	6	7	8	9	10	11	12	13	14	
A Staffing					○		.	○	.	.		.		
B Infrastructure	.	○			○		○	○	○			.	○	
C Accounts			○		○	○	○	○			.			
D Tactical Plans			.		.		○	○	○	○	○	○	○	
E Laws & Regulations	○		○	○	○		○	○	○	○	○		○	
F Visitors	○	○	○	.	○	.	○	.	○	○		○	○	
G Interventions	○	○	○	○	○		.	.	○	○	.	.	.	
H Comm Conservation	.	○	.		○	○	.	○	○	○	.		○	
I Research	.			○	○	○	○	○	○	○		○	○	
J Public Relations	.	.		○	○		.	○	○	○		○	.	
K Resource Conservation	○		○				○	.	○				.	

Key:

- ≤ 2
- 3-5
- > 5

Total sample: n= 11 Asst PAMs & PAMs combined: n=9

76

2.3.12i Identified training priorities for PAMs & Asst PAMs
Burundi.

MAIN DIVISIONS	COMPETENCIES													
	Knowledge						Mental & Social skills							
	2	3	4	5	6	7	8	9	10	11	12	13	14	
A														
B														
C						1/*								
D														
E														
F	2/*			1/*										
G														
H			1/*	2										
I			1	1/*										
J	2/*													
K	2/*													

Total sample: n=11

Asst PAMs & PAMs combined: n=9

* Indicates areas of overlap with gap analysis

75