

TRAINING FOR FIELD CONSERVATION STAFF IN INDOCHINA

Lessons Learned

► By **RAMESH BOONRATANA**

Over the last decade, the Lao People's Democratic Republic, the Socialist Republic of Vietnam, and the Kingdom of Cambodia have experienced significant gains in the conservation of wildlife habitats and biodiversity. A number of concerned government and non-government individuals and agencies has endeavoured to address the issue, but given the constraints in human and financial resources, efforts have focused on the declaration of protected areas. Many more areas are in the process of receiving similar status. However, conservation efforts should not end there. There are other

issues to be resolved, including continued biodiversity loss, illegal trade in wild flora and fauna, need to balance development with conservation, management of communities within protected areas, low national capacity and capability in protected area management, and conservation education and awareness.

A successful protected area depends on the effective management of its wildlife, its habitats and the people who use it (Boonratana, 1998b, c & d; 1999a). Despite the number of protected areas in Laos, Vietnam, and Cambodia, most of these often lack management plans or the qualified staff to implement them. When these do exist, management plans are frequently not

workable. Still, measures to protect such critical areas have to be set in place. Thus appropriate management plans have to be developed, qualified staff provided, and other issues properly addressed.

The training of field conservation staff is one of several approaches being used to promote effective management (Boonratana, 1998b & c; 1999a). Since rural or ethnic communities are found in most protected areas in the region, and depend on the area's natural resources for subsistence (Boonratana, 1998b & d; 1999a & d), they must be encouraged to participate in conservation and management efforts. Successful integration of local communities' needs and the objectives of protected area management are critical to both the areas and the communities (Chape, 1996).

This article highlights the experiences and lessons learned from training field conservation staff in some of the region's protected areas. The trained staff have a wide



Photo by R. Boonratana/LDCN

Participatory conservation means involving the local communities and winning their support. A reception ceremony for the field team in a village that requires two full days hiking to access, Nakai-Nam Theun NBCA, Lao PDR.

range of educational backgrounds, and include protected area, wildlife and forestry staff; members of the militia, military and police; villagers (mainly from ethnic minorities), graduate students, and extension staff. Their primary responsibility is to protect and manage natural resources that includes conducting surveys, monitoring, patrolling and other law enforcement activities, and establishing local conservation rules and regulations (Boonratana, 1997; 1998a, b, c & d; 1999a & d; 2000; 2001). These field-based management activities are the minimum requirements to ensure that natural resources within any protected area are effectively protected and conserved.

The Training Programme

Preparing field conservation staff for future responsibilities did not follow any rigid curriculum, given the trainees' varying professional and educational backgrounds. The training programme (Boonratana, 1997; 1998a, b, & c; 1999a, c & d; 2000; 2001) had been highly flexible and tailored to the target group(s), the individual trainee's aptitude, available resources, and to meet the objectives of the project. The programme had intensive, progressive, and well-defined classroom-based theory and field-based on-the-job components. The duration of the training programme varied but was usually over a three-month period. The training had been repeatedly conducted in the same protected area, and was adapted and strengthened accordingly (Boonratana, 1998b; 1999d; 2000; 2001).

The training programme started with a main classroom-based theory session, lasting about eight days. The topics and skills imparted in the classroom are summarised in **Table 1**. Some topics such as reporting and filing were briefly covered during the initial classroom-based session, but were subsequently discussed in ses-

Major Topics	Sub-Topics/Skills
Introduction	Introduction of the trainer, trainees, the project, and the purpose of the training
Conservation Basics	Conservation and sustainable management of natural resources Description, history and legal framework of protected areas Description, significance and benefits of protected area (where training is being held) Protected area management Conservation biology and general ecology Wildlife ecology and animal behaviour
Wildlife and Impact Surveys, and Monitoring	Introduction (semi-structured interviews/rapid biodiversity appraisal, ethics) Wildlife survey and census Wildlife identification Impact surveys Monitoring (purpose, methods, focal species and habitats, interpretation)
Recording Techniques	Note-taking, sketches and measurements Wildlife and wildlife/habitat impact activity data recording sheets Mapping trails and significant finds Photography of evidence and habitats Plaster-casting of tracks Scat analysis Collecting and labeling specimens
Map, Compass, GPS and Altimeter	Familiarity with map features (distance, directions, contours, slope and gradient, landforms, hydrographic features, travel routes, campsites) Use of compass and altimeter Use and care of GPS
Field Trips and Field Equipment	Ideal camp locations and set-up Field equipment, care and maintenance Basic first-aid and emergency evacuation Pre- and post-survey activities Ethics
Data Compilation	Compilation and tabulation of wildlife records, wildlife/habitat impact records, and unit's efforts.
Reporting and Filing	Reports should include survey objectives, schedules, significant finds, tabulation of wildlife data and human activities, and maps of routes and locations of important finds Filing by area/sub-division, trip report, wildlife data sheets, impact data sheets
Analysis, Interpretation and Presentation	Accuracy and completeness of records. Data on wildlife presence, impacts, key wildlife species, impacts and patrolling and monitoring activities by year and area/sub-division Yearly assessment of coverage in terms of time and space Trail maps for each area/sub-division and the protected area Annual thematic maps for key wildlife evidence for each area/sub-division and the whole protected area Thematic map for agricultural activities

sions that followed every field trip. Some topics (e.g., estimating wildlife density) were not discussed fully because they were then not feasible for the staff, while others (e.g., GPS) were delivered only to a specific group. Some seemingly mundane topics such as field trips and field equipment were actually essential, particularly for the government staff with little or no camping experience. Others (e.g., analysis and interpretation) were delivered only after 12 months of data had been collected (Boonratana, 1999d), or at the end of a specific project (Boonratana, 2000).

Time devoted to each topic/skill depended primarily on the trainees' aptitude. Training sessions would

progress only after participants had achieved a fair grasp of each topic or skill. This was imperative, as every topic/skill built on the earlier ones. Frequently, certain topics were emphasized for particular groups of trainees. For trainees from stakeholder communities, the sub-topic "conservation and sustainable management of natural resources" was particularly important. Understanding how their activities impact on the ecosystem, which in turn affects their lives, often draws strong support for proposed conservation measures (Boonratana, 2001) and increases environmental awareness. Where feasible, videos on habitats and wildlife were shown in the evenings.

Field-based on-the-job training immediately followed classroom sessions, as it was essential for trainees to practise acquired knowledge and skills. This training usually had three sessions, each varying from one to three weeks, depending on the objectives and accessibility to different sites. Every field session had emphasised skills development in conducting field surveys and assessing wildlife and key habitats; evaluating human impacts on wildlife and habitats; trail mapping; data gathering for inputs to land use plans and for monitoring; recording and reporting information correctly; patrolling and law enforcement; and improving field craft.

In the field, individuals and teams have been allocated responsibilities such as patrols, surveys, and monitoring on pre-determined routes, from a little after dawn to just before dusk. Night patrols and surveys have been carried out only when feasible or under specific circumstances. Each day, the trainer had to accompany each team on a rotational basis, ensuring that survey, monitoring, observation and recording skills have improved and strengthened. In addition, several field techniques, such as detecting and correctly identifying wildlife and wildlife signs, and orienteering, could only be clarified in the field.

Each night, all sub-teams had to report their observations, highlight significant finds, and plan for the following day. A three-day classroom-based session followed every field activity; the teams sorted and compiled all information, which they summarised in a report with relevant tables and maps. The field conservation staff maintained this reporting system for regular patrolling and monitoring activities.

In summary, the training has been designed to assist conservation staff in planning field trips efficiently, making and recording accurate observations, and reporting their



Photo by R. Boonratana/UCN

On-the-job-training: Trainees dismantling a cable snare in the Nam Theun Corridor, Lao PDR.

findings in a detailed format. It has also aimed to assist them in using information to monitor trends in wildlife abundance and human impacts, formulate land use plans and land allocation, and establish management zones in the protected area.

Lessons Learned

The process of carrying out training in the region, and often under trying conditions and by trial and error, has become an opportunity to learn, improve and strengthen training. Sharing experiences and observations of other field training

programmes with colleagues also provided significant insights. This section discusses some errors that should have been avoided, obstacles that could have been prevented, as well as the elements that have contributed to a successful transfer of knowledge and skills to field staff, and their translation into meaningful field management activities.

Choice of trainer

The successful transfer of knowledge and skills to conservation staff largely depends on a competent trainer. Some trainers have delivered courses without considering the trainees' aptitude, while others have been unable to credibly discuss certain topics (e.g., conservation basics). In addition, while almost all trainers have taught map reading, compass use, and orienteering, many have not been able to determine actual locations and navigate in the field.

Some trainers who are biologists had a tendency to teach topics and skills beyond the staff's capabilities, and still expect the same level of competence and commitment. The protected area system in the region is fairly recent, and existing protected area staff generally have a background in traditional forestry. In addition, the staff in some areas in-



Photo by R. Boonratana/UCN

Trainees in Nam Poui NBCA, Lao PDR recording evidence of wildlife poaching.



Photo by R. Boonratana/UICN

The field conservation team comprising Protected Area staff, Forestry staff, District and Provincial Police, Militia and Village Forestry Volunteers. Nakai-Nam Theun NBCA, Lao, PDR.

clude members of stakeholder agencies and communities, who have little or no formal education.

There have also been negative impacts on training when trainers have demonstrated unethical behavior, such as partaking of the spoils of poached wildlife or violating protected area regulations and conservation agreements.

Unfortunately, expatriate and foreign trainers had to be recruited because of a lack of qualified nationals. Some have conducted the training in the local language, but many had to rely on interpreters. This has frequently reduced effectiveness because the content is either watered down or misunderstood by the interpreter. Occasionally, misinterpretation or the interpreter's attitude can lead to animosity towards the trainer (Boonratana, 1999a). The use of interpreters also makes the training impersonal, and can distance the trainer from the trainees.

Trainee Selection

At times, selected trainees included individuals who are not from the target groups and are uninterested in the training (Boonratana, 1999c; 2000; 2001). Oftentimes, they are simply instructed to attend,

while others, particularly government staff, frequently view training programmes as opportunities for collecting allowances (Boonratana, 2001). The training neither benefits these individuals nor benefits from them. Selection of trainees using predetermined criteria can achieve expected results, and justify invested efforts and funds (Boonratana, 2001).

Most protected area staff, despite a background in traditional forestry, face major obstacles in wildlife identification. They may be able to distinguish major taxa or large species but they usually have difficulty identifying several medium-sized or closely related species, even with the aid of field guides (Boonratana, 1998a; 1999d; 2000; 2001). In contrast, field conservation staff from stakeholder communities are natural wildlife observers, although correctly identifying animals using field guides is still problematic. Also, preparing the trainees, particularly government staff, for the outdoors (camping and set-up) before field trips reduces some of the problems that could arise (e.g., flooded tents and damaged supplies). The trainees will gradually overcome their fear of the forest and related supersti-

tions only through further exposure and experience (Boonratana, 1998b, 2000).

A planned, focused and balanced training programme

Balancing theory with practice when conducting training for field conservation staff is important. Short classroom-based theory training generally does not achieve a desired level of competence (Timmins, 1998; Boonratana, 1999b). Carefully equipping the staff with appropriate knowledge and skills reduces the need to start from scratch when in the field. Similarly, extensive theory training without any practical applications (Evans & Sengsavanh, 1997) will not achieve the desired result (Boonratana, 1998b). Likewise, a poorly planned and executed on-the-job training results in unqualified staff and wasted efforts and resources (Claridge *et al.*, 1998).

Lack of information on many existing and proposed protected areas results in a tendency for field training to be carried out in conjunction with biodiversity surveys. However, one cannot be carried out without compromising the other, particularly when the surveys are of short duration and the trainees have

had no training or experience (Timmins, 1998; Boonratana, 1999b). On the other hand, biodiversity surveys are excellent opportunities for hands-on experience and additional training for those with a requisite level of competence.

Some training modules (e.g., radio telemetry) are currently not relevant given the present capacity of the field conservation staff and the regional context. Hence, trainers should develop skills in using basic, but essential equipment (e.g., compass, map, and binoculars). Likewise, some manuals tend to be too broad or too specific, and should only be used as training references. In general, trainers should rely more on their professional judgement and experience, particularly when field conservation staff have varying backgrounds. While standardising training is desirable, diversity in content and approach may be more appropriate given the current context.

Support materials

Drawing on many local and regional examples and relating these to local protected areas allow the trainees to better understand conservation basics and training objectives. Slide presentations and relevant video programmes are useful teaching aids and frequently have some impact on conservation education and awareness (Boonratana, 1997; 1998b & d). However, there is clearly a shortage of video programmes on wildlife and their habitats in the region, in a language understandable to the trainees. In the field, staff were frequently handicapped by a shortage of basic field equipment like binoculars, compass and maps (Boonratana, 1997; 1999a; 2001), or were supplied with basic field gear

that only lasted the trip (Boonratana, 1998a; 2001).

Honest evaluation

Effective training should be measured in terms of how well trainees are able to perform assigned tasks (Claridge *et al.*, 1998). Not many reports on field training in the region provide an assessment of the training's effectiveness, and only a handful (Timmins, 1998; Boonratana, 1998a; 1999a, b & d; 2000, 2001) provide unbiased evaluations of the training and the trainees. Even fewer are those that report a training programme's lack of success in achieving desired goals (Timmins, 1998; Boonratana, 1999b). Presumably, some trainers feel that such reporting would mar their capabilities. Some implementing agencies (consulting agencies and conservation NGOs) actually discourage trainers from giving honest assessments, possibly to prevent their reputation from being ruined and/or to avert risks to chances of securing funds in the future. Objective appraisals and reporting are essential to improve and strengthen trainers, trainees, and train-

ing programmes, and identify future needs at the individual or institutional level. Nevertheless, such reporting should clearly explain reasons why the training was unsuccessful.

However, in most reports, experts have described providing on-the-job training while accompanying local support staff and counterparts in carrying out biodiversity surveys. At best, this should only be called "work experience", as proper on-the-job training is a process that includes having a clear set of goals and objectives, a structured training programme, as well as proper evaluation and documentation (Claridge *et al.*, 1998).

Motivation and commitment

Experiences have shown that interest is the greatest motivation for learning and fulfilling responsibilities. Lack of interest in fieldwork among trainees especially some government staff is a major reason for failure in achieving desired results (Boonratana, 1998b; 2000). This is partly because of the hardship involved and the lack of rewards. Often, allowances of field staffs do not compensate for long hours, difficult working conditions, and the risks involved. The protected area management system is often viewed as outside the career structure, so it is common for the staff, lacking in capacity and capability (including those not favored by their superiors), to be assigned to protected areas. Frequent staffing changes also result in protected areas that are staffed with inexperienced and unqualified individuals (Boonratana, 1998a & b, 2000).

A significant achievement of the training of field conservation staff is the establishment of Village Conservation Monitoring Units in



Classroom-based theory training at the Nakai-Nam Theun NBCA, Lao PDR.

Photo by R. Boonratana/UCN

three sub-upland zones in the Nakai-Nam Theun National Biodiversity Conservation Area, in Lao PDR (Boonratana, 2001). These units, composed of villagers from the respective zones, received both classroom and field training. Soon after, one unit established simple rules and regulations regarding the management and use of terrestrial and aquatic life for its zone, which comprises 23 villages. The rules and regulations may be far from perfect, but the unit has taken a major step towards decentralized protection, conservation, and sustainable natural resource management. These rules and regulations were later extended to a military unit based in the zone. This clearly shows the value of the training, and the importance of making stakeholder communities understand their role in the ecosystem by encouraging their participation in protected area management.

The Broader Picture

Training and capacity building for protected area staff and stakeholders are important processes towards the effective implementation of conservation and management activities. The training has shown that, once equipped with the necessary knowledge, skills and tools, the staff can carry out their assigned tasks and sometimes even take conservation

efforts a step further. However, having skilled and knowledgeable staff alone is not sufficient. They need to be reinforced with strong leadership, motivation, and institutional implementing capacity. Lacking these factors will more likely constrain the implementation of field management activities than the lack of funds.

Experience has shown that training and capacity building of conservation staff can only be achieved through intensive long-term support accompanied by applied training and refresher sessions. A 'one-off' training event at this level would have limited success, as it may not be adequately absorbed or acted upon. Regular reinforcement and supervision allow the staff to further improve their skills and knowledge. Training and capacity building are likely to be significantly more effective when provided systematically over a period of several years within each protected area, rather than delivered in a centralized 'one-off' training event (Boonratana, 1998a, b, c & d; 1999a & d; 2000; 2001).

In addition, all training programmes must have equally strong components of theory and practice. Without practice under field conditions and exposure to real situations, field conservation staff would not be able to carry out designated tasks and responsibilities

(Boonratana, 1998b). On-the-job training, integrating specific requirements of the protected area, can build the capacity of the staff and simultaneously address the area's conservation needs. Hence, training programmes should be integrated into protected area management. Furthermore, skills acquired should immediately be translated into meaningful activities, carrying forward the processes initiated during the training. Otherwise, much of the efforts, despite a successful transfer of knowledge and skills, will be wasted.

Recommendations

Training activities are costly and time-consuming, but essential for building local capacity to protect and conserve natural resources and heritage. Some recommendations for the successful training of field conservation staff in the region include:

- Capacity building activities should be carried out over several years, with the first refresher session repeated six months after the initial training programme. Afterwards, it should be provided annually, with topics and skills strengthened and added accordingly.
- Training programmes should comprise both theory and practise with a right mix of knowledge, skills and attributes, and the practise component built into structured on-the-job training.
- Training can overlap with biodiversity surveys when these are conducted over several months, or when field staff have had adequate training and experience.
- Training should include potential national trainers, such as faculty members of a national university, as well as those interested in conservation, research and protected area



Photo by R. Boonratana/IUCN

Accessing remote areas allows field teams to spread awareness materials (Nam Theun Corridor, Lao PDR).

management, such as biology students from local universities.

- Trainers should possess an excellent grasp of the topics and skills to be taught, extensive field experience, and strong leadership.
- Trainers must (and should be allowed to) provide an honest assessment/evaluation of the training and the trainees, and describe their strengths and weaknesses.
- Training should be delivered in the local language. Otherwise, trainers should have a fair command of the local language should an interpreter be necessary.
- Interpreters should have a good knowledge of protected areas and field management activities, some background in relevant sciences, and a pleasant personality.
- Trainees should be selected according to predetermined criteria and qualities.
- Field conservation staff should spend at least a week (under supervision, as part of the training programme) at established zoos in the country or in the region, and carry out exercises and assignments in wildlife identification, track observation, and other related activities.
- Exchange and joint field efforts should be held between field conservation staff of different protected areas.
- Study tours (under supervision, as part of an advanced training programme) to protected areas with successful field management activities should



Photo by R. Boonratana/IUCN

Trainees, comprising military and protected area staff burying poached animal in Nam Poui NBCA, Lao PDR and witnessed by a village headman, his deputy and the leader of a local women's union.

be provided for staff that have excelled at training.

- Videos of wildlife, habitats, protected area management activities, and others should be developed or translated to the local language. These should preferably be from the region or areas with a similar context.
- Government agencies must re-evaluate the career structure in relation to protected area management and to recruit and retain qualified people in significant positions. ■

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