A Monitoring and Evaluation System for Forest Landscape Restoration in the Central Truong Son Landscape, Vietnam

A report for the Central Truong Son Initiative

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Credits etc

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Executive summary

The Central Truong Son is an incredibly diverse landscape of moist evergreen forests, karst limestone forests, open grasslands, upland plateaus and wetlands. These ecosystems support a variety of wildlife species, some abundant and others already extremely rare. The area is also home to thousands of upland and lowland human communities, who cultivate the land, utilize forest products and depend on water resources. The **Central Truong Son Initiative** was established to address the urgent threats to biodiversity in the region. It is a joint project between the government, NGOs and donors and covers eight provinces in central Vietnam.

One important element in the *Central Truong Son Action Plan* is development of a monitoring and evaluation system to measure progress on the action plan and in terms of key outcomes. The following report describes a framework for this monitoring and evaluation system. We hope that it will:

- **Monitor progress on the *Central Truong Son Initiative Action Plan*** and also –
- Measure trends in environmental and social factors
- Help in communicating the Initiative's achievements
- Provide information to help with adaptive management
- Give early warning of potential problems
- Lead to greater understanding what local people want from the landscape
- Supply data for long-term research

Vietnam has a comprehensive and regularly maintained information system on many issues relating to agriculture, population, economic status and some aspects of natural resources. On the other hand, few other institutions outside the government collect information on a national scale. Some serious gaps in information remain, particularly on the issues most specific to conservation. There is virtually no information on forest quality, approach to forest management, natural regeneration, protected area effectiveness, or on status of biodiversity including threatened mammals and birds. Existing surveys tend to be of measurable *facts* rather than of *opinions* of stakeholder, yet both are important to management.

Development of the Central Truong Son monitoring and evaluation system has been a cooperative exercise. Over 60 meetings have taken place with stakeholders at national, provincial, district and commune level to identify a small number of **core indicators**, which will form the backbone of the system. Indicators measure progress on four different issues, against the context of threats to the Central Truong Son and its biodiversity:

- Forest condition and biodiversity
- Forest ecosystem services
- Livelihoods
- Capacity for good management of natural resources
- Threats

In addition to the core indicators, a smaller number of **flagship indicators** have been suggested to provide key ways of measuring progress over time and the annual analysis will also include **additional information** on key research and surveys undertaken during the previous year.

Many indicators come from existing government statistics, sometimes with extra analysis, and some additional indicators will be monitored by WWF and other stakeholders. WWF will monitor stakeholder attitudes to conservation for instance and perhaps progress in sustainable forest management while the World Bank is monitoring management effectiveness of protected areas. Indicators are classified according to the ease of collection: some imply a level of capacity-building and resources and may not be possible immediately. The project has been in discussions with the Forest Sector Support Programme to see if the work could be applicable on a wider scale in Vietnam.

Proposed **core indicators** include the following:

Area of natural forest
Forest quality
Area of plantations
Timber products (legal and illegal)
Non-timber forest products
Sustainable forest management
Amount of certified forest
% of reforestation budget for natural regeneration
Number of natural forest regeneration projects
Area judged to need restoration
Number of forest fires
Extent of forest fires
Number of wildlife restaurants
Wildlife trade from key ports
Population of target species in protected areas
Area of target habitat in protected areas
Protected areas (number and location)
Protected area effectiveness
Number of protected area management boards
Catchment protection
Irrigation enhancement
Life expectancy by income class
Access to family planning
Access to health centres
Access to electricity
Percentage of boys/girls in secondary school
Percentage of settled families
Local stakeholder opinions
Government PA staff attending training courses
Number of arrests for illegal hunting by guards
Number off arrests for wildlife trade by guards
Number of communes with volunteer rangers
Achievement of Central Truong Son Initiative
Kilometres of road in the 8 provinces
Total human population
Impacts of the Ho Chi Minh highway

Indicators are categorised according to whether information is already available, available with a little extra work or only available with considerable capacity building. The Initiative will coordinate data collection from these different sources, wherever possible by linking databases. Core indicators will be augmented by additional information culled from research reports and field surveys, so that trends will be set within a richer picture drawn from the increasing knowledge of the region. **Benchmarks** are also suggested for each of the core indicators, to provide a target to assess against: in some cases these require further discussion by the Central Truong Son Initiative.

Proposed **flagship indicators** include the following:

- Area of natural forest
- Sustainability of the wildlife trade
- Opinions of local stakeholders towards the Central Truong Son Initiative and conservation in general

Succinct annual *State of the Central Truong Son* reports will summarise data, trends and key issues and information emerging over the previous 12 months. A draft table of contents for the report is suggested:

- Cover: title, illustration and box with key finding from the year
- Summary table of flagship indicators, all core indicators and other key information
- Detailed analysis of the core indicators and supplementary information by section including identification of management responses and further action needed
- Key overall assessment of progress on outcomes
- Analysis of progress on the Action Plan
- Details of the Central Truong Son Initiative and monitoring system

The report also provides an implementation plan, outlining key steps that will be needed to put the monitoring and evaluation system into practice.

The aim is for a system that is not reliant on constant cash injections or large amounts of time and can continue for many decades.

The background report is supplemented by a series of annexes, which provide more detail on how some of the indicators might be measured, including draft questionnaires relating to stakeholder perceptions, poverty alleviation and biodiversity and sustainable forest management, along with a proposal for a regular transect along the Ho Chi Minh highway. These are *drafts* and may change during further development of the system.

Preface

The following report describes the results of background research to help develop a monitoring and evaluation system for the *Central Truong Son Action Plan* for conservation in a priority conservation landscape covering eight provinces of Vietnam. This phase of the project had a number of specific objectives, outlined below.

Aims of the project

- **Identify existing monitoring and evaluation systems in the Central Truong Son**: including both governments and other systems, covering social, economic, biological and ecological issues, including existing information on links between biodiversity and poverty alleviation
- **Identify other projects/processes**: (including the Forest Sector Support Programme) impacting on the landscape that could be involved in data collection for monitoring and evaluation
- **Agree a procedure for developing the monitoring and evaluation system**: including identification of the aims, scope, process and methodology
- **Identify indicators and sources of data**: a detailed stakeholder process at landscape, provincial and local level to agree on a set of indicators that best represent the various ecological and social functions of the landscape at both the level of the Central Annamites as a whole and the agreed sub-landscapes, with a particular emphasis on indicators that illustrate links between biodiversity and poverty alleviation
- **Identify potential local data collectors**: amongst local stakeholders and provide them with training and capacity building as necessary, including identification of partners to carry out training
- **Agree responsibility for data collection as relevant**: drawing on both existing and new sources
- **Agree a process for compiling data**: one suggestion is to store data electronically on a worldwide web site to increase dissemination of information and the transparency of the process

What the report contains

The main part of the report introduces the Central Truong Son, looks at previous data gathering exercises in the area and then suggests a framework for a monitoring and evaluation system. A series of indicators are proposed along with possible sources of information and, where necessary, the steps needed to build capacity to measure particular indicators. The report also outlines steps needed to analyse data and lays out a possible format for an *Annual State of the Central Truong Son* report. A final section lays out the steps needed to implement the monitoring and evaluation system.

The background report is supplemented by a series of annexes, which provide more detail on how some of the indicators might be measured, including draft questionnaires relating to stakeholder perceptions, poverty alleviation and biodiversity and sustainable forest management, along with a proposal for a regular transect along the Ho Chi Minh highway. These are *drafts* and may change during further development of the system.

This report is a supplement to the ***Central Truong Son Action Plan*** and has been produced by the Forest Protection Department and WWF for the Central Truong Son Initiative.

Introduction

The Central Truong Son is part of the Central Annamite ecoregion, which covers an incredibly diverse landscape of moist evergreen forests, karst limestone forests, open grasslands, upland plateaus and wetlands. These ecosystems support a variety of wildlife species, some abundant and others already extremely rare. Several new large mammal species – including the Saola, Large-antlered Muntjac, Truong Son Muntjac, and Annamite Striped Rabbit – have been scientifically described only in the past ten years. The area is also home to thousands of upland and lowland human communities, who cultivate the land, utilize forest products and depend on water resources.

An ecoregion planning process was used to identify the Central Truong Son landscape of Vietnam as being a priority area for conservation within the ecoregion. The **Central Truong Son Initiative**[1] was established to address the urgent threats to biodiversity in the region. It is a joint project between the government, NGOs and donors, along with literally thousands of local communities, large and small, and covers eight provinces in central Vietnam: Quang Tri, Thua Thien Hue, Quang Nam, Quang Ngai, Kon Tum, Gia Lai, Binh Dinh and Da Nang City

Although the area still contains extensive areas of natural forest and its associated biodiversity, this is currently under a high degree of threat due to factors such as legal and illegal logging, hunting and the wildlife trade, rapid infrastructure development and conversion of forests for agriculture. The construction of the Ho Chi Minh highway, which runs through a major portion of the landscape, will bring a rapid increase in the rate of development and change to the region. In response to these influences, the Central Truong Son Initiative has developed a series of activities that address the threats within the priority landscape and seek to restore the full range of forest functions at a landscape level – conservation actions therefore cover protection, sustainable management and restoration.

The approach to restoration being used in the Central Truong Son are based closely around the concepts of forest landscape restoration being developed by WWF, and encompasses a mosaic of land uses including agricultural lands and forest types ranging from plantations to natural forests. It considers both the ecological and social functions of forests and seeks to achieve an equitable balance between the two. Because some of the approaches are new, it is important to ensure that a robust monitoring and evaluation framework is in place to measure progress, identify weaknesses and allow lessons learned in one initiative to be recorded and passed on.

The Central Truong Son Initiative also needs to measure progress on its wider programme and has therefore been working with partners to develop a monitoring and evaluation system. The government is committed to maintaining ecological and cultural values in this unique area. To help achieve targets for social development and ecological protection we need high quality information on social, economic and environmental trends; the proposed monitoring system is an important step in supplying this need. ***The work has been carried out as a joint exercise between the Forest Protection Department of Vietnam and the WWF Indochina Office***. However, the monitoring and evaluation system can only be assured of long term success if it is supported by many other stakeholders in the region, and for this reason developed included a detailed series of stakeholder meetings with different government and non-governmental representatives at both national and provincial level. The following report summarises the work to date.

[1] We use the term **Central Truong Son** throughout this document. This refers to the Vietnamese part of the ecoregion covering Vietnam and Laos, known collectively as the Central Annamites – Truong Son is the preferred term in Vietnamese.

Map of the Central Truong Son

Contents

Part 1: Current state of knowledge

Summary
Vietnam already has a very comprehensive and regularly maintained database of information relating to forest cover, forest products and social conditions; this can form the backbone of a monitoring and evaluation system. On the other hand, the country is lacking some of the most basic information on some of the things that would normally be expected to form indicators for a conservation monitoring system, such as the status and numbers of main wildlife species. A sustainable monitoring system will have to be carefully devised to maximise the use of existing data and make strategic additions to this in a timely and cost-effective manner.

Domestic information sources
Vietnam has one of the world's most comprehensive and regularly maintained information systems on many issues relating to agriculture, population, economic status and some aspects of natural resources. Information on many issues is collected on a monthly basis at village level, fed up to district and then to provincial level; each province produces an annual statistical summary that has become steadily more comprehensive over time. Eventually provincial statistics become incorporated within national statistics.

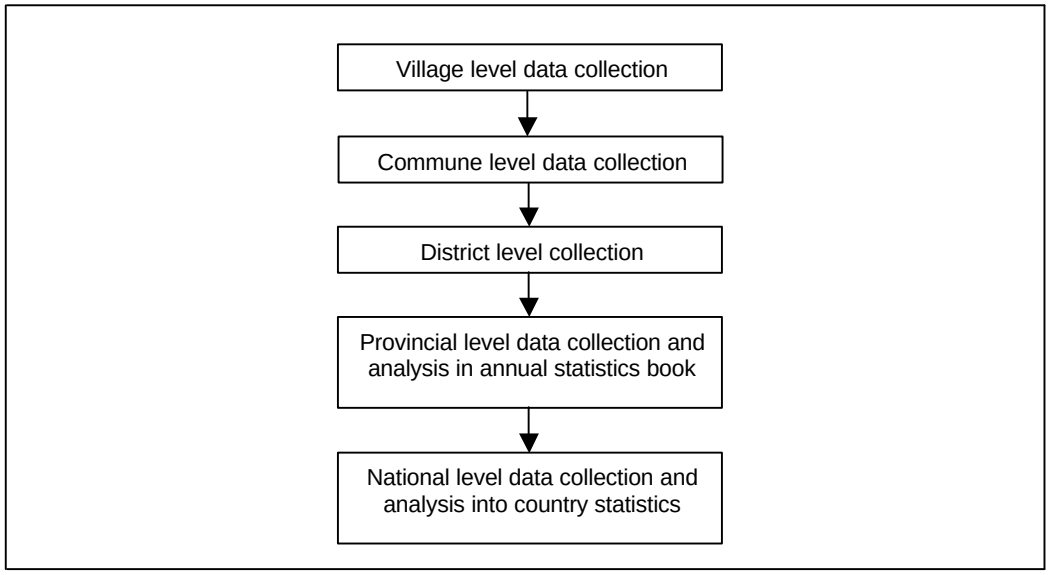


Figure 1: Process of data collection in Vietnam

Provincial level data can be quite comprehensive. For example, in 2002 the provincial government of Thua Thien Hué produced over 250 pages of statistical tables with information ranging from meteorological data to agricultural production and social and cultural indicators. Information is maintained on a database by the Department of Statistics in provincial capitals, and specific officers are also responsible for data within the districts. The Forest Protection Department has comprehensive information on plantation establishment and other forms of reforestation through the government's "661 programme". Some information is also now readily available on the web, for example that relating to forest fires.

Whilst the accuracy of these data must presumably be variable, key information is generally believed to be fairly accurate.

Information on forest cover is also quite comprehensive but is collected only once every five years. Again, district and provincial data are passed up to national level and a statistical summary is produced in the form of a book. Specialists believed that the forest cover data, while not perfect, probably reflects reality more accurately than current GIS analysis.

Other information sources
On the other hand, we found few other institutions outside the government that collect information on a national scale and none of those people interviewed in Hanoi held such information or knew of other sources (see Appendices 1 and 2) One exception is the Strengthening Protected Areas Management project, attached to the Forest Protection Department, which has developed a database on protected areas. However it is planned that this should become part of the government system; information on protected areas is also held on a database by WWF and by the government at provincial level.

Remaining gaps in information
Some serious gaps remain, particularly on the issues most specific to conservation. There is virtually no information on forest quality or approach to forest management and if the Initiative wishes to measure this, then separate arrangements will need to be made to do so. International statistics, such as those relating to certification under the Forest Stewardship Council or other third party certification initiatives, are of little use because certification is only just beginning in Vietnam.

The relative infrequency of information relating to forest cover makes government statistics a fairly coarse instrument for showing rapid rates of change, through either deforestation or reforestation schemes. Information on non-timber forest products tends to relate to a few sorts and to sales and therefore trends in supply may not be so easy to obtain. Addressing this might be best tackled through more detailed surveys in areas likely to be undergoing change and this is reflected in the later proposals.

Within the specialised interests of forest landscape restoration, data on areas in need of restoration are partial and sometimes lacking. Information that does exist focuses on the forest estate – i.e. on areas that have already been identified as likely to be available for 661 budget – rather than on forest restoration needs more generally. This information will be useful from the perspective of areas where the Initiative could be working in the short to medium term, but not in terms of long-term planning for restoration. Again this issue is addressed in more detail in the main proposal. Perhaps most importantly, forest cover data is not subdivided by anything relating to naturalness (although specific data on plantations exists) so it is not easy on a national or provincial level to identify areas of, for example, remaining primary forest (although little of this exists in any case), logged over forest and degraded forest.

Opinions differ about the quality of information on Vietnam's protected areas system. Whatever the accuracy of information, there is currently no monitoring of protected area management effectiveness, making it difficult to give overall analysis about the strength of the protected areas system.

Information on biodiversity remains fragmentary and incomplete and presents a particular problem in developing a monitoring and evaluation system. Despite great efforts by the government, WWF, Fauna and Flora International and Birdlife International, much of the country has still not been surveyed. New discoveries of species are not uncommon even among mammals and birds. Population numbers for charismatic mega-fauna, such as the tiger, remain unattainable and the time and expense in collecting this information on a regular basis for a monitoring system would be hard to justify. As such information would normally be expected to form the core of a monitoring system for a biodiversity conservation project, surrogate indicators are needed.

Information on the capacity of government and others to implement conservation practice is also not collected comprehensively. As this is one of the major aims of the Initiative particular care is needed to factor this into the monitoring system.

Lastly, existing surveys tend to be of measurable *facts* rather than of *opinions*, yet both are important to management. One of the aims of the current project is to find out how local communities perceive efforts at conservation and this may have to be achieved through more in-depth surveys in particular locations within the priority conservation landscape.

Part 2: Main factors to monitor and proposed structure of the monitoring and evaluation system

Summary

The monitoring and evaluation system will measure the key goals of the Central Truong Son Action Plan and in particular progress towards forest landscape restoration in the region. It will measure against principles of forest condition and biodiversity, forest ecosystem services, livelihoods and conservation capacity. Information will be used for management, monitoring trends, communicating progress and also for finding out how local stakeholders view the work of the Initiative. The monitoring system will consist of core indicators, drawn from both government and NGO sources, backed up by occasional additional reports as necessary.

Objective

The proposed monitoring and evaluation system for the Central Truong Son landscape of Vietnam is intended to measure progress towards:

- Key goals of the *Biodiversity Conservation Strategy and Action Plan until 2015*; the strategy document of the Central Truong Son Initiative
- Forest Landscape Restoration in the region

Forest landscape restoration: is defined as: "*a planned process that aims to regain ecological integrity and enhance human wellbeing in deforested or degraded forest landscapes*". It focuses on re-establishing functions and key ecosystem processes across a whole landscape rather than at just planting or restoring individual sites. As such, Forest Landscape Restoration looks at a mosaic of land uses including agricultural lands and forest types ranging from plantations to natural forests. Key principles include that FLR:

- Is implemented at a landscape scale rather than a site
- Has both a socio-economic and ecological dimension
- Implies addressing the root causes of degradation and poor forest quality
- Uses a package of solutions including policy analysis, training, research and practical implementation
- Involves a range of stakeholders in planning and decision-making
- Relies on identifying and negotiating trade-offs

WWF has a target of establishing twenty forest landscape restoration initiatives around the world during the next five years and the Central Truong Son is likely to be one of these. Given the scale of Forest Landscape Restoration and the fact that we are trying to re-orientate thinking, planning and financing of afforestation and reforestation activities towards FLR, we need to focus on sharing lessons learned and on mobilising new partners.

The Central Truong Son Biodiversity Conservation Strategy and Action Plan until 2015: is the strategic plan of the Initiative and has as its immediate goal: "*To create the foundations for long-term conservation and remove the immediate threats to highly threatened habitats and species*". The programme focuses on four delivery areas and will be reporting against a comprehensive log-frame of activities. Among the planned activities are:

- **Protect, manage, restore**: establish a network of strictly protected areas; conservation habitat and species protection in all identified Priority 1 areas; mitigate threats in four key "hotspot" areas; eliminate unsustainable exploitation of the most threatened animals and plants; protect six groups of key species; foster understanding of ecology and threats; raise competency and skills of conservation professionals in a Priority 1 area; and implement effective conservation along one entire waterway
- **Motivation**: deliver an effective programme of conservation education; ensure that key stakeholders understand sustainable natural resource management; support major government programmes with effective environmental education activities; and ensure that provincial governments understand the importance of their resident biodiversity

- **Legal framework**: develop a strategic legal framework to guide land-use planning and control illegal and unsustainable exploitation of biodiversity; ensure that all provinces have a comprehensive conservation plan and a plan for sustainable forest management; and attain effective governance of natural resources

- **Capacity**: ensure decision-makers are able to make sound decisions based on economic models with social and environmental criteria; ensure that stewards of forests and freshwater (particularly local communities) have the capacity to manage their land in a sustainable way and to meet conservation targets

Monitoring and evaluation principles
Both Forest Landscape Restoration and the Central Truong Son Initiative have some principles, and these have been combined below. Assessment covers four key principles, along with some assessment of possible pressures on these. A key aim of the Initiative should be that the three primary principles advance simultaneously, helped by capacity building and not overly hampered by pressures.

Principle of M&E system	FLR principles	Landscape action plan goal
Forest condition and biodiversity	"Authenticity (naturalness or ecological integrity) of forests should increase at a landscape scale"	"Remove immediate threats to highly threatened habitats and species"
Forest ecosystem services	"Environmental benefits should at least remain stable at a site scale and should increase at a landscape scale"	Ensure that conservation does not undermine human wellbeing but rather contributes positively to poverty alleviation
Livelihoods	"Livelihoods secured at a landscape scale"	
Capacity for good natural resource management		"Create the foundations for long-term conservation"
Pressures on the Central Truong Son		

Table 1: Principles for the monitoring and evaluation system

Aims
The key aim of the monitoring and evaluation system is ***to monitor progress on the Central Truong Son Action Plan***. However, in addition the system aims to supply information that will be useful in a number of other ways:

- **Trends**: in environmental and social factors to provide data to help research and to give early warning of potential problems

- **Communication**: providing timely and accurate information in a way that will help donors to report on progress and maintain funding levels

- **Adaptive management**: identifying potential problems and helping to find solutions in terms of management changes in response to lessons learned and changing conditions

- **Stakeholders**: providing specific guidance in helping to understand what local people want and expect from the landscape and how they perceive conservation efforts

- **Poverty**: if possible, showing links between conservation and poverty alleviation

- **Integration**: of projects within and beyond the Central Truong Son landscape

Fitting so many overlapping goals into one monitoring system is clearly a challenge and priorities may have to be set during final agreement of the indicators.

Proposed structure
It is neither practical nor desirable for the Initiative to run a monitoring system by itself. Assessment must include a wide range of ecological, social and economic factors, some of which are outside our expertise. We have worked with partners to agree a **common suite of indicators with data collection to be divided between different institutions** in government, non-governmental organisations and the private sector. Ideally, the management of such a system would rest with a government department or an independent body such as a university, perhaps helped by a management board made up of some key partners. The system is only worth establishing if it is sustainable and therefore independent of external funding. We are hoping that most of the information will already be available from partners and that the monitoring and evaluation framework will collect and assess carefully selected data from existing surveys, with limited collection of new data only where essential.

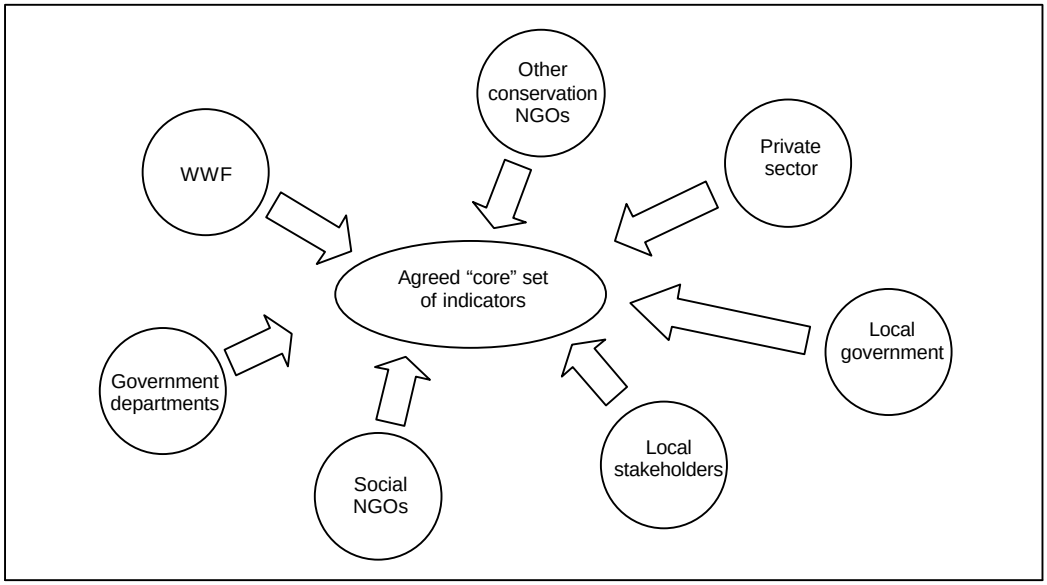


Figure 2: A model of the monitoring and evaluation system

In practice, our research to date shows that the main sources of information are likely to come from government departments and that few NGOs collect information on a regular enough basis to contribute to the "core" data set. However, NGOs and donors may play a key role in providing additional information to augment and expand on the core indicators each year, and this role is examined in more detail below.

Relationship with the Forest Sector Support Programme
A multi-donor Forest Sector Support Programme (FSSP) has been launched to help develop sustainable forest management in Vietnam. The FSSP secretariat has suggested that the system developed for the Central Truong Son will, with modifications, become part of the M&E system to be developed by the FSSP, and this has been echoed by several important FSSP donors. If this occurred, indicators identified in the current process would eventually be applied more generally throughout Vietnam. This would be a positive benefit to the current project, in that it would mean that FLR values were applied to the whole of Vietnam, and it would also add important additional political momentum to the collection of indicators. A link to the FSSP would also add an important extra dimension to the kind of information collected. The project will maintain links with the FSSP secretariat and meet with the consultants employed to develop an M&E system for FSSP.

Scope and reporting
The main monitoring system will be based around an agreed and concise set of core indicators, which partners would commit to measuring regularly over the long term, and which would be stored in a central database. However, given the limitations on data outlined in Part 1, we believe that the data set should not be limited just to the core. Instead, these key indicators could be augmented by occasional, more in-depth studies by partners or others,

which would also be accessible through the database and which would be reported alongside core indicators in the annual report of the monitoring system.

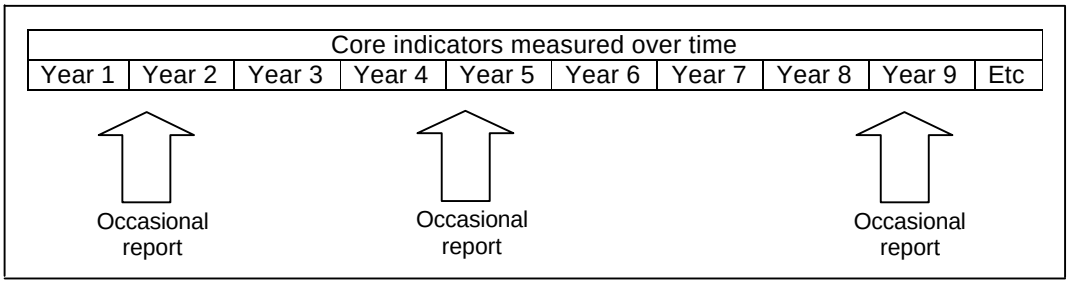


Figure 3: Relationship between core indicators and occasional information

We suggest that the partners collaborate on an annual ***State of the Central Truong Son Report*** of progress towards forest landscape restoration in the Central Truong Son, giving the data, analysis and boxes including extra information (based on occasional reports or surveys that are outside the core indicators). The report should be brief (8-12 pages) and published in Vietnamese and English.

Part 3: Some questions regarding monitoring and evaluation systems

What are we monitoring for?
There are many different audiences within the Central Truong Son:

- Those interested in the Central Truong Son Initiative ecoregion vision
- Those interested in government targets for forest management and special use forests
- Those interested primarily in social progress or economic progress

Other partners will have different priorities; fitting all these into one practical monitoring and evaluation system is a challenge. However, the key purpose of this monitoring and evaluation system is to ***measure progress on the Central Truong Son Initiative and to support adaptive management aimed specifically at this initiative***.

Are we measuring progress in vision, strategy or tactics?
An important decision is whether the monitoring and evaluation system is a ***neutral measurement of progress*** or a ***tactical tool that can help to drive that progress***. Getting agreement from other stakeholders on measurement of a particular indicator can be a factor in making sure that the indicator is fulfilled.

How long is the monitoring and evaluation system expected to last?
Most M&E systems flounder quickly due to lack of funds or support. If we are aiming for long term monitoring (10 years, 50 years) we need both widespread support and feasible indicators. Most indicators will probably need to draw heavily on data that are already collected and existing statistics will need to be analysed and moulded to give information useful to the Initiative; collection of new data should be limited to things that are currently unknown and are also vital to measuring progress.

Who owns the monitoring and evaluation system?
Implicit in this approach is that many institutions will be responsible for contributing information to an overall M&E system. If M&E is to be useful as a communication and advocacy tool it may well be best to house it outside the Central Truong Son Initiative, in an independent institution such as a university or within the government.

Who chooses the indicators?
Developing a system in Vietnam has involved around 60 meetings with NGOs, government officials at national, provincial and district levels, and donor bodies and a final workshop is also planned. This also implies that partners have a say in what is included – that agreement of indicators is in effect part of a wider negotiation about conservation within an ecoregion or priority conservation landscape – with the result that the M&E system may be larger than or different from one designed entirely within a government or NGO office. Individual organisation's indicators may end up being a subset of a wider M&E system.

What kinds of indicators?
The type of information available varies dramatically between ecoregions. Some of the most obvious indicators (populations of top predators for example) are for practical purposes currently impossible in much of Indochina, because surveys have not yet been completed and would in any case be prohibitively expensive to carry out on a regular basis for monitoring. Building capacity to monitor such indicators is an essential part of the Action Plan but it is not possible to start monitoring immediately. Any standardised list of indicators needs to be extremely general and to allow proxy measures where necessary. Monitoring systems should also be constructed to allow inclusion of occasional information sources as well as regular indicators, to include both trends in core indicators and "special reports" on information collected on an occasional basis (the WRI *World Resources* report uses this approach).

Part 4: Suggested indicators and related capacity-building issues

Summary
A set of around 30 possible core indicators are suggested, along with a smaller number of "flagship indicators", drawing on information from government sources and suggesting some new data to be collected by NGOs and others.

Given the limitations outlined above, we suggest that indicators should, as far as possible, be culled from the rich dataset already run by various government departments, augmented where necessary by:

- A limited number of additional indicators with information supplied directly by partners
- Occasional information from specialised surveys or research that feeds into the overall picture of progress in the Central Truong Son but are not monitored on a regular basis
- Specific monitoring of key areas – for example the Ho Chi Minh Highway – and incorporation of the results of this in the monitoring and evaluation system

The following are a draft list of core indicators, drawing mainly but on government statistics and information collected by partners in the Central Truong Son Initiative. In each case we suggest

- A likely source of the information
- Frequency with which indicators would be needed
- Accessibility of data (three categories: data already **available**; data **possible** to collect although not yet collected and collection implies some additional costs; and data currently unavailable and would need funding and/or **capacity building** to develop

By including indicators that are currently unavailable we are giving recognition to the importance of building monitoring and evaluation capability within the Central Truong Son. Some of these indicators may only be accessible on a regular basis after the Initiative has already helped develop capacity.

No	Issue	Indicator	Source	Timing	Collected?
Forest condition and biodiversity					
1	Forests	Area of natural forest	FIPI and provinces	5 years	Available
2		Forest quality		?	Capacity building
3		Area of plantations	FIPI and provinces	5 years	Available
4		Timber products ▪ Legal ▪ Illegal	FPD and DARD in the provinces	Annual	Available
5		Non-timber forest products ▪ Rattan ▪ Bamboo ▪ Medicinal products ▪ Cinnamon ▪ Firewood ▪ Charcoal ▪ Bark ▪ Others	FPD, DARD and NWFP Research Centre	Annual	Available (although amount and accuracy of information varies)
6		Sustainable forest management	Tracking tool	?	Capacity building
7		Amount of FSC certified forest	FSC	?	Possible
8		Proportion of 661 budget allocated to natural regeneration	FDD	Annual	Possible?
9		Number of projects involved in natural regeneration	FDD, WWF and UNEP-WCMC?	Annual?	Capacity building
10		Areas needing restoration	FPD, DARD, FDD	Annual	Available
11		Number of forest fires	FPD	Annual	Available
12		Extent of forest fires	FPD	Annual	Available

No	Issue	Indicator	Source	Timing	Collected?
13	Wildlife	Number of wildlife restaurants	TRAFFIC and WWF survey	Annual	Possible
14		Customs statistics for key ports	Customs service, FPD, TRAFFIC	Annual	Capacity building
15		Population of key target species in protected areas	PA authorities and partners	5 years	Capacity building
16		Population of critical target habitat in protected areas		5 years	Capacity building
17	Protected areas	Number, location and area of protected areas ▪ National park - Existing and proposed ▪ Nature reserves - Existing and proposed ▪ Species protection area - Existing and proposed	FIPI, FPD and WWF	Annual	Available
18		Protected area effectiveness	Tracking tool in World Bank project	Annual	Possible
19		Number of PA management boards	FPD	Annual	Available
Forest ecosystem services					
20	Water	Catchment protection ▪ Existing ▪ Proposed	FPD, FDD	Annual	Available
21	Irrigation	Area of irrigation (change in area of wet rice grown)	DARD	Annual	Available
Socio-economic and livelihood values					
22	Poverty alleviation	Life expectancy by income class	Economic and planning department at district level and provinces	Annual	Available
23		Access to family planning – rate of population change		Annual	Available
24		Access to health centres – percentage of families		Annual	Available
25		Access to electricity – percentage of communes		Annual	Available
26		Percentage of boys and girls attending secondary school		Annual	Available
27		Percentage of families settled		Annual	Available
28	Stakeholder opinions	Local stakeholder opinions of the Central Truong Son Initiative	WWF questionnaire	Annual?	Possible
Capacity to manage for conservation					
29	PA staff	Government/PA staff attending training courses	FPD	Annual	?
30	Enforcement	Arrests and ratio of arrests for illegal hunting to successful prosecutions	Calculated from provincial FPD data	Annual	Possible (needs calculating)
31		Arrests and ratio of arrests for illegal wildlife trade to successful prosecutions		Annual	Possible (needs calculating)
32		Number of communes with voluntary forest rangers	FPD	Annual?	?
33	Truong Son Initiative	Achievement of *Central Truong Son Action Plan*	Assessment of the log frame	Annual	Possible
Key pressures on the Truong Son					
34	Development pressures	Number of kilometres of road	Provincial Transportation Dept	Annual	Possible?
35		Total human population	Provincial data		Possible?
36		Status of the Central Truong Son	Transect along the highway	Annual	Possible

Table 2: Core indicators

Indicators in more detail

Many of the indicators listed above are available from government statistics and access to these data will mainly be a case of locating a source and, in some cases, getting permission to use this information. Others will have to be collected, either by government or by NGOs – in some cases this implies a certain amount of training or capacity building and the implications of this are discussed.

Some of the indicators are time limited, either because they are not yet capable of being recorded or in some cases because their usefulness will come to an end. In the latter case, for example, percentage of settled families could be a useful indicator at the moment but will cease to give additional information as soon as all or virtually all families are settled. A ***periodic review*** of the indicators will therefore be required.

Indicator	**Details**
Area of natural forests	This information is currently collected and reported every five years
Forest quality	Many stakeholders have called for information on forest quality. Currently forests are divided into rich, medium and poor classes but this is a simple measure of stand density and does not distinguish, for example, near natural forests. Development of capacity to measure this would be extremely useful, and perhaps could be a medium term aim of the M&E system, but is not yet available.
Area of plantations	Information is collected every five years. The proposal is to record new area of plantations established on an annual basis
Timber products	Data are collected in provinces on an annual basis and provincial offices can also give an indication of the volume of illegal trade
Non-timber forest products	Detailed statistics can be calculated from provincial data on an annual basis although the scope and accuracy of this information is likely to vary depending on how much of the collection is official and part of trade. Statistics are likely to understate the collection because they will generally not include information from subsistence collection and it is proposed that annual data be augmented by more detailed information from individual studies, perhaps in association with the new IUCN project
Sustainable forest management	There is a wide question about the sustainability of forest management and WWF has talked for some time about options for tracking steps towards certification, or progress in sustainability in areas where certification is not an option. Currently there is no agreed means to do this and as part of this project some initial ideas for a good forest management tracking tool have been developed and are presented in Part 9. This type of monitoring, if it were to be taken further, would presumably be used only with those forest management units where the Initiative had a particular interest, for example along the Ho Chi Minh Highway or in the Green Corridor.
Amount of FSC certified forest	Currently there is no FSC certified forest in Vietnam, but draft principles and criteria are agreed and this remains an obvious indicator. Statistics are available from the Forest Stewardship Council. If other certification schemes also take off in Vietnam, a decision will have to be taken about whether or not to include these in the monitoring system
Proportion of 661 budget allocated to natural regeneration	Although detailed statistics about the 661 programme are collected and processed, it appears that the distinction is not drawn between plantations and natural regeneration, although we know that funds can and sometimes are used for the latter. It is proposed that the Initiative works with the FDD and FSSP to see if these data could be collected in the future.

Indicator	Details
Number of projects involved in natural regeneration	The UNEP-World Conservation Monitoring Centre based in the UK is in discussions about establishing a database for forest landscape restoration projects around the world. In time, the number of such projects might be a useful measure of success within the Central Truong Son; for now it is proposed that a list of suitable projects is maintained by the Initiative
Areas judged to need restoration	At present, this information can be obtained from government statistics but only with respect to officially designated areas. We are discussing with the World Resources Institute options for getting a more general assessment of restoration need through mapping with Global Forest Watch
Number of forest fires Extent of forest fires	Information on both of these indicators is collected on an annual basis and is publicly available, including through a web site
Number of wildlife restaurants	Currently this is one possible surrogate for species and hunting. Measure would have to be along some transect, such as the Ho Chi Minh Highway. However there are dangers in its application: a decline in number of restaurants could for example mean several different things: better enforcement of laws, better concealment of the illegal trade or a decline in wild game.
Wildlife trade through key ports	TRAFFIC has been working with the Government to investigate options for monitoring wildlife trade through key ports of entry and exit. The government is reducing wildlife legal wildlife trade to around six ports, two of which are in the Central Truong Son region. Although it is currently not possible to monitor this indicator, a relatively small investment in training for customs authorities, and agreement on the process to be followed, would render this both possible and useful.
Population of key target species in protected areas	This indicator is currently not recorded. It is proposed that it be agreed as an aim of the Initiative to develop the capacity for carrying out surveys of key species, at least within protected areas, on a five-year basis so that this information can gradually be built up and contribute to the monitoring system. In many cases, basic surveys will be required before monitoring. In the meantime, and in addition, whenever surveys are carried out in the Central Truong Son, a summary of salient points should be included as additional information in that year's monitoring report.
Area of key target habitats in protected areas	This indicator is currently not recorded. In addition to recording species in protected areas, it may in some cases also be important to record areas of critical habitat (e.g. primary forest, wetland etc) both as a possible surrogate for species if measurement of the latter remains unattainable or because the habitat itself was a reason for protection.
Number and location of protected areas	This is collected at a provincial level by FPD and FDD and a database also exists within WWF. The Strengthening Protected Areas Management (SPAM) project also built up detailed information on number, size and location of protected areas.
Protected area effectiveness	The World Bank is committed to using the Alliance protected area effectiveness tracking tool in all protected areas in the region through its new project: if this goes ahead it will give ample and repeated information about effectiveness
Protected area management boards	If protected areas lack a management board they in effect remain is paper parks. Although monitoring progress on this will hopefully not take many years, it is a quick and clear way of capturing information on implementation and therefore it is proposed that this be used as an additional indicator and data are available at provincial level.

Indicator	Details
Catchment protection	The area of forests managed to protect water catchments is recorded by the province
Area of irrigated land	This is suggested as a surrogate indicator for soil protection, in the absence of anything else. The government has a policy to reduce the area of dry rice in the uplands by increasing wet rice, and annual statistics about areas of wet rice provide a guide to irrigation in that any increase is likely to be achieved through increased irrigation. The limitations of this indicator are recognised but no other viable indicator for ecosystem services has yet been suggested.
Life expectancy by income class	This provides a measure of livelihood wellbeing, particularly amongst the poorer income classes, and is collected annually based on government criteria
Access to family planning	This indicator is measured through changes in population increase.
Access to health centres	Measured by percentage of families, available on an annual basis
Access to electricity	Measured by commune. The government intends to have all but the most remote villages linked to the electricity grid in the next few years, so this indicator will not necessarily be suitable in the long term, but is a quick and easily accessible way of collecting information on socio-economic progress in the interim
Percentage of boys and girls attending secondary school	More useful than primary school because families have to pay for secondary schooling and this thus also provides data on economic conditions: distinguishing between male and female students also helps to identify gender bias in education.
Percentage of families settled	The government has a policy of settling nomadic families and this in turn has an impact on forest resources. This indicator is quite easy to measure but will become less useful once the settlement programme is complete.
Local stakeholder opinions	Currently these are not monitored. A draft stakeholder survey has been prepared; further discussion is needed to see (i) if this gives good enough information and (ii) if WWF is prepared to commit time to this exercise on a regular basis.
Government and protected area staff attending training courses	Available from FPD or protected area management boards
Arrests and ratio of the arrests for illegal hunting to successful prosecutions	This information is available from government provincial statistics but would need to be calculated. Precise information would probably best include fines (on the spot punishment that does not reach court) as well as more serious prosecutions.
Arrests and ratio of the arrests for illegal wildlife trade to successful prosecutions	
Number of communes with local conservation unit	This information did not appear in government statistics and might be difficult to find, although it would be a good measure of capacity
Achievement of Central Truong Son Initiative	A way of measuring success against the log frame still needs to be developed, once the action plan is complete
Number of kilometres of road	Can presumably be calculated from maps. This would provide a more general measure of the importance of detailed transects along, for example, the Ho Chi Minh Highway (see section 8).
Total human population and population growth	Again, this would give a general measure of the pressures likely to be faced by the region
Transect along the Ho Chi Minh highway	A separate exercise would need to agree the type of indicators involved and time and money would be required to implement the transect – probably 2 days driving along the highway and recording data on a regular basis[2]

Table 3: Core indicators in more detail

[2] This indicator to some extent overlaps with the more local survey work planned for phase 2 of the project

Collecting information
Although many of the indicators are already measured by the Government of Vietnam, some require either additional recording by other stakeholders or in some cases still require capacity building amongst government staff or others.

In the case of government figures, it is hoped that the majority of the information can be collected under agreement with the various national and provincial statistics departments, which currently store information within existing databases. Alternatively, the monitoring and evaluation system will have to assemble information manually from annual reports, web sources and direct contact with provincial government staff; our research suggests that this would be a time-consuming and expensive process.

The route of data collection is illustrated in Figure 4 below.

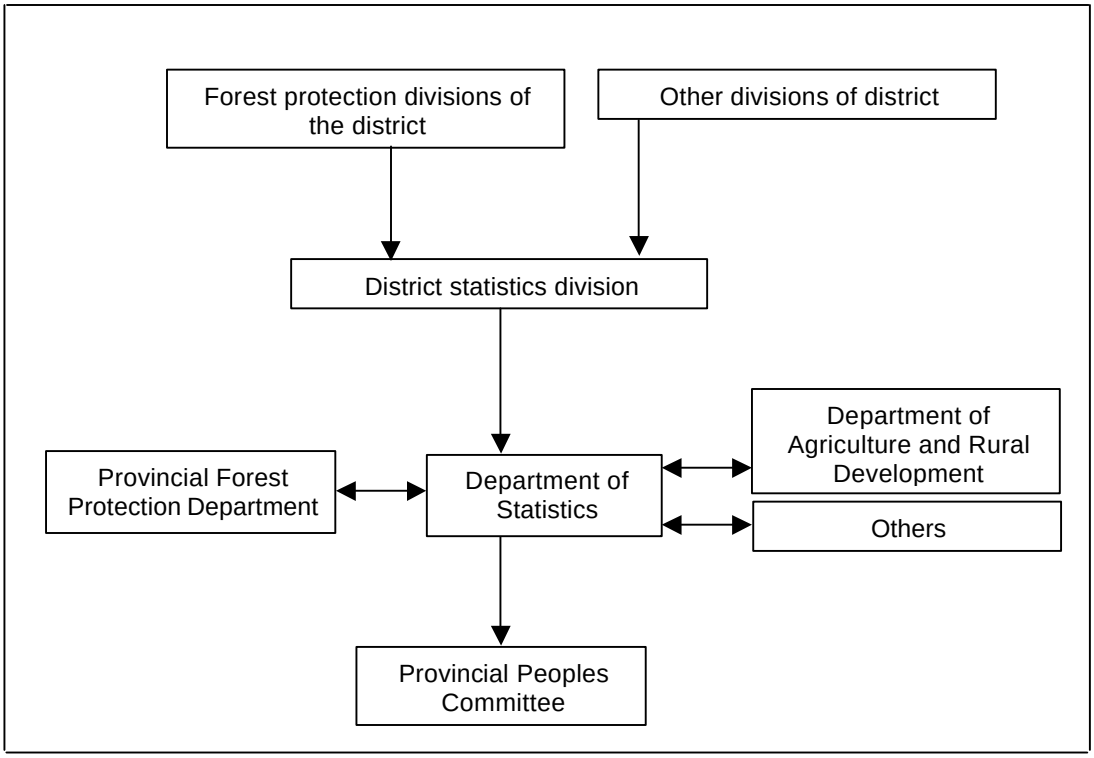


Figure 4: Route of government data collection from commune to district level

There are, in addition, to other major ways in which information can be collected

- Core indicators collected by other partners, or which could be collected by the government with some policy changes and capacity building
- Occasional survey data, research reports and other information that will be incorporate into the monitoring and evaluation system as they appear

Table 4 above has explained where some of the suggested indicators still require additional capacity building and/or financial support if they are to be implemented. The Central Truong Son Initiative will have to take some decisions about if and when these are brought into the monitoring and evaluation system: one option would be for a staged approach where some of the more complex indicators are introduced later.

Table 5 overleaf summarises capacity building still required to achieve the M&E system.

Indicator	Training needs and capacity building requirements
Forest quality	Methodologies for the assessment of forest quality would need to be modified for use in Vietnam, paid for and applied. It is possible that WWF could start this process in collaboration with the World Resources Institute.
Proportion of 661 budget allocated to natural regeneration	This information is apparently not recorded at present; the indicator will only be possible if the 661 secretariat within the FDD is prepared to and able to add this to the data already recorded. It is proposed that this issue is explored with the FDD and the FSSP
Good forest management	A tracking tool has been developed but no decisions made about how or if this is to be applied.
Natural regeneration projects	The UNEP-World Conservation Monitoring Centre is currently developing a database of forest landscape restoration projects, in cooperation with WWF's Forests for Life campaign. Once the database is operational, this is the obvious repository for such information although it will be up to stakeholders in the region to ensure that information is reported to UNEP-WCMC
Key species and key habitats within protected areas	Although those protected areas with management boards and management plans generally include monitoring and evaluation within their programmes, this element has still not been well developed. Recording of this information implies completion of baseline surveys and capacity building for regular monitoring
Monitoring of key ports	TRAFFIC in Southeast Asia has already been working with the government to limit the number of ports used for wildlife trade and is hoping to include training and capacity building for customs staff to be able to implement such monitoring; this would be an obvious place for TRAFFIC to liaise closely with stakeholders in the Central Truong Son Initiative, probably with WWF
Wildlife restaurants	Monitoring would need to be done at key points rather than for the whole area: most likely along the Ho Chi Minh highway as part of a regular transect
Protected area effectiveness	The World Bank has already written the need for monitoring of protected area effectiveness into its capacity building project for protected areas and a standardised tracking tool exists – this implies that the Bank will have to undertake a measure of training in this with protected area managers and staff
Stakeholder questionnaire	A questionnaire exists. It is proposed that this is filled in regularly by Commune Peoples Committee staff in selected communes although this itself will require a measure of training to achieve

Table 5: Capacity building required with key indicators

Flagship indicators

In addition to the core indicators, the Initiative also wants some key "flagship indicators" that can be used to encapsulate progress on the strategy. Final decision about flagship indicators will rest with the steering group, but a provisional list is suggested below.

Indicator	Explanation
Area of natural forest	A critical indicator that will need to draw on information on natural forest cover, amount of natural regeneration, transects along lines of communication such as the Ho Chi Minh Highway and, in time, increasingly sophisticated understanding of forest quality
Sustainability of the wildlife trade	Drawing on information about wildlife restaurants, trade through key ports and population levels of critical species. Can also draw on occasional status reports, attempts to introduce game management etc. Much of the capacity to collect these data are currently lacking and capacity building must therefore be a key part of implementation
Local stakeholder opinions	Based on regular and random surveys of stakeholders within the Central Truong Son and aimed at developing increased understanding of and support for conservation within the priority conservation landscape.
Protected area effectiveness	Number of functioning protected area management boards
Tiger population	Number of tigers reported by villagers
Status of critical habitats	Regular status reports from the four critical habitats identified in the *Central Truong Son Action Plan*

Table 6: Suggested flagship indicators

Part 5: Method of analysis and presentation of results

Summary
Data will be assembled at a central place by the Central Truong Son Initiative and analysed to produce an annual report. Monitoring is only as useful as the analysis that results and the way in which such information is used: we propose that the completion of the data collection is augmented by an annual meeting of an M&E steering group to analyse and draw conclusions from the assessment. The indicators will be strengthened if each has a defined benchmark – drawing on the principles outlined above, and draft benchmarks are suggested below.

The strength of monitoring and evaluation systems lies in the assessment and use of data: if partners are to maintain interest in and support for the system that have to feel that their efforts are being used. Assessment is never easy and trends in indicators are usually capable of many interpretations: decreased prosecutions for poaching could mean, for example, that law enforcement has discouraged poaching, or that police have become weaker and are not catching poachers, or that most of the wildlife has already disappeared. There are few clear rules for assessing data and this instead relies on a measure of common sense and use of other indicators to help interpret individual trends. Indicators are also more useful if they are measured against specific aims or benchmarks – i.e. of assessors are aware of what trends are expected or hoped for in the Central Truong Son Action Plan. As most data are available at a provincial level, assessment will also be able to track progress in different parts of the Central Truong Son. Indicators are also – as the name implies – only signs; one response to a sudden change in a trend might be to commission some separate research into why a change has occurred.

A steering group for the Central Truong Son monitoring and evaluation system
Once data have been assembled each year, we propose that the Central Truong Son Initiative organise a meeting of an M&E steering group to discuss this with the particular aims of:

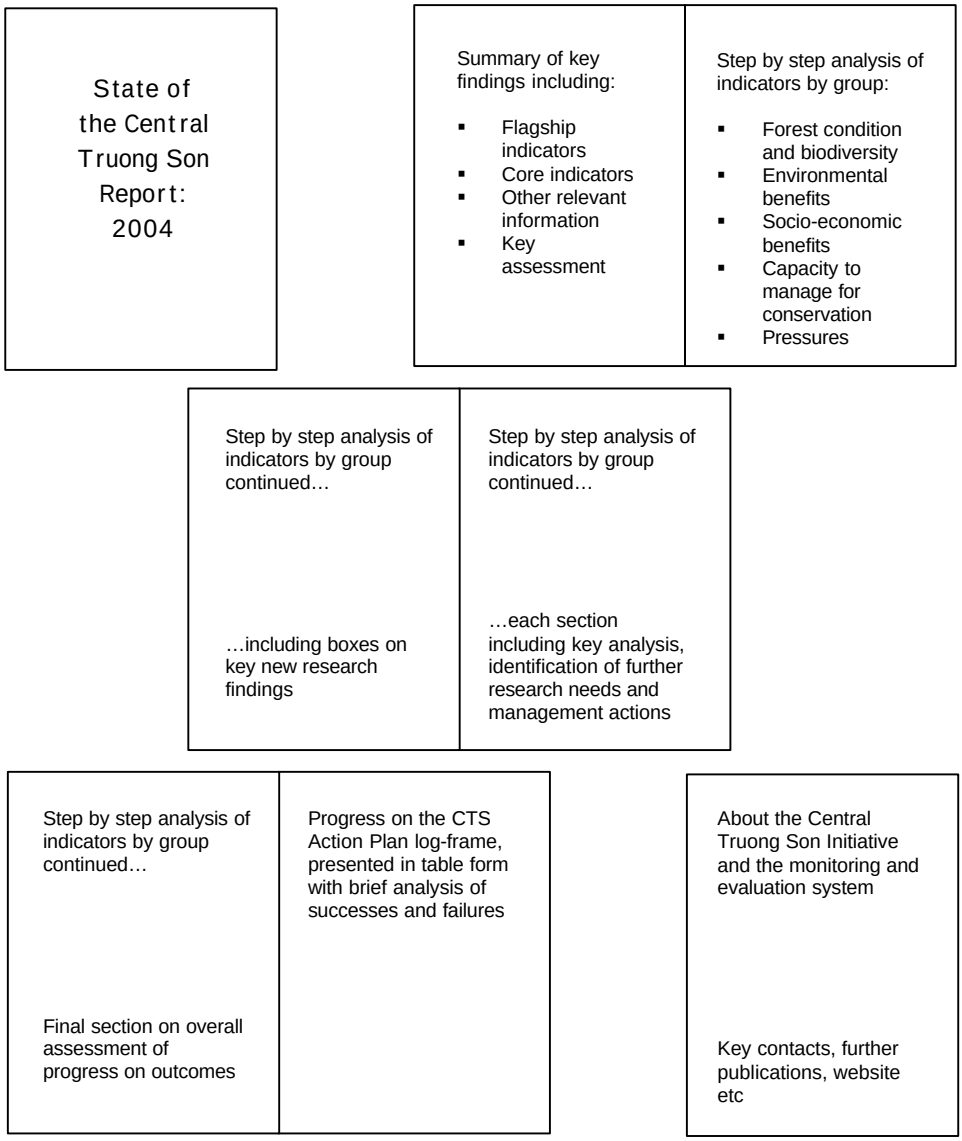
- Discussing the accuracy of information
- Comparing social, economic and environmental indicators
- Measuring expected progress on the Central Truong Son Action Plan and identifying problems and suggested solutions
- Identifying key trends, suggesting reasons for these and implications
- If necessary, agreeing on follow-up work to expand on the information (this could for example form one of the “special reports” in the following year’s assessment
- Agreeing management actions and modifications to or new priorities for the *Central Truong Son Action Plan*
- Agreeing the key conclusions and structure of the annual *State of the Central Truong Son* report

A State of the Central Truong Son report
The annual report should be short, to avoid a large cost in terms of time and money, but should be widely distributed to both government and non-governmental contacts in the eight provinces. Editions in both Vietnamese and English will be needed because of the strong interest from the donor community and the need to report progress on the Initiative beyond Vietnam itself.

We suggest a report of around eight pages, containing the key indicators, additional information emerging during the year, analysis of results and key recommendations to the Initiative. A possible layout is indicated in the following box.

***State of the Central Truong Son Report*: suggested contents and layout**

- Cover: title, illustration and box with key finding from the year
- Inside front page: summary table of flagship indicators, all core indicators and other key information (research reports, surveys etc) included in the report
- Pages 3-6: detailed analysis of the core indicators and supplementary information by section (i.e. forest condition and biodiversity; environmental benefits; socio-economic benefits; capacity to manage for conservation; and pressures) including identification of management responses and further action needed
- Page 6: second half of page, key overall assessment of progress on outcomes
- Page 7: analysis of progress on the Action Plan log frame, with intended tasks marked with either a tick or cross and brief explanation of progress
- Page 8: about the CTS Initiative and monitoring system plus key contacts (standard text to remain roughly the same each year)



Benchmarking the indicators

Indicators are stronger if they are measured against an agreed output. This should draw as much as possible from the Central Truong Son Action Plan, once it is completed and agreed. Some preliminary ideas for benchmarks are outlined below. Some of these will require figures or targets that can only be developed with further research and experience within the region and thus cannot be fixed at the start of the M&E system: this is not necessarily a disadvantage. These are either left blank or only given a general "trend" benchmark below.

Indicator	Benchmark
Area of natural forest	An increased area of natural forest
Forest quality	An increased area of high quality forest
Area of plantations	
Timber products – legal and illegal	Management of timber at levels that do not exceed maximum sustainable yields
Non-timber forest products	Management of NTFPs at levels that do not exceed maximum sustainable yields
Sustainable forest management	All forests managed sustainably
Amount of FSC certified forest	Most commercial forests eventually certified to FSC standards or equivalent
Proportion of 661 budget allocated to natural regeneration	An increase in the amount of 661 used for natural regeneration
Number of natural regeneration projects	Increasing projects
Areas needing restoration	Decreasing areas in need of restoration
Number of forest fires	Decreasing number of fires
Extent of forest fires	Decreasing extent of fires
Number of wildlife restaurants	Elimination of restaurants serving poached wildlife
Customs statistics for key ports	Wildlife trade reduced to sustainable levels
Population of target species in protected areas	Populations maintained or increased to viable levels
Population of target habitat in protected areas	Target habitat maintained or increased to viable area
Number, location and area of protected areas	Fulfilling and maintaining ecoregional vision for protected areas in the Central Truong Son
Protected area effectiveness	Increased effectiveness of protected areas
Number of PA management boards	All protected areas with active management boards
Catchment protection	All necessary catchments protected with management boards
Area of irrigation (change in area of wet rice grown) or km of irrigation system	Increase in mountain districts
Life expectancy by income class	Life expectancy reached global average
Access to family planning – rate of population change	Full access to family planning Decreasing population growth
Access to health centres – percentage of families	Full access to health centres
Access to electricity – percentage of communes	Full access to electricity
Percentage of boys and girls attending secondary school	Secondary education available to all who wish
Percentage of families settled	
Local stakeholder opinions of the Central Truong Son Initiative	Support for the Initiative
Government/PA staff attending training courses	Training at a level to meet Initiative aims
Fines and ratio of arrests for illegal hunting to successful prosecutions	
Fines and ratio of arrests for illegal wildlife trade to successful prosecutions	
Number of communes with voluntary forest rangers	All communes actively supporting conservation
Achievement of *Central Truong Son Action Plan*	Log-frame being implemented on schedule
Number of miles of road	
Total human population	
Status of the Central Truong Son	

Table 7: Benchmarks for the monitoring and evaluation system

Part 6: Implementation

The monitoring and evaluation system has been developed as a concept and agreed in principle by stakeholders; it now needs to be implemented. The following table outlines a series of steps in finalising the system and building capacity for its implementation.

Issue	Action needed
Steering group	Establish a clear terms of reference for the steering group with respect to implementing the monitoring and evaluation system,
	Appoint one person in the Initiative to implement the monitoring and evaluation system and respond to the steering group
Indicators	Agree a final series of indicators based on those suggested in the monitoring and evaluation system
Indicators drawing on government data	Agree and sign on MOU with the relevant government departments at national and provincial level to ensure that the monitoring system has access to data relating to the various indicators
	Develop proposals for building capacity for provincial and district governments to feed their data into central database, including software development and training if this is needed: the aim should be to develop one system that can be shared by the government and the Initiative rather than two parallel systems
	Liaise with officials at FPD, DARD, FIPI, Department of Statistics and Department of Planning and Investment that data identified in the report are truly available and to finalise the list of indicators
Indicators drawing on other data	Identify steps needed to build capacity for and to collect data relating to other agreed indicators, as outlined below
	Forest quality: ▪ Explore opportunities for developing capacity to measure forest quality on a regional scale, specific to the conditions in Vietnam, possibly in cooperation with the World Resources Institute and Global Forest Watch
	Sustainable forest management: ▪ Liaise with partners in completing and agreed tracking tool for sustainable forest management. ▪ Identify a series of key forest operations within priority conservation landscapes within the Central Truong Son who will agree to fill out the tracking tool on an annual basis ▪ Identify a person to ensure that the forest operations do fill out the questionnaire and to collate the results
	Proportion of 661 budget allocated to natural regeneration: ▪ Find out from FDD and the Department of Planning and Investment whether or not such data are available ▪ If not, discuss options for collecting this and develop proposal for capacity building relating to collecting data
	Number of projects involved in natural regeneration: ▪ Develop database in the Central Truong Son Initiative for recording information about forest restoration projects ▪ Liaise with UNEP-WCMC regarding the database and ways of using this to store information about Vietnam
	Number of wildlife restaurants: ▪ Include this information in the annual transect along the Ho Chi Minh highway
	Customs statistics for key ports: ▪ Work with TRAFFIC to develop a proposal for capacity-building amongst customs staff to allow regular collection of statistics relating to wildlife trade
	Population of key target species and key habitats in protected areas: ▪ Develop a proposal for monitoring species and habitats, including initial surveys, selection of indicator species, methodologies, training and capacity building and start-up
	Local stakeholder opinions: ▪ Agree on a methodology based on the draft questionnaire in the report ▪ Agree on sample size and means of collection (for example 20 villages or communes surveyed every year and a further 100 surveyed but chosen at random) ▪ Negotiate with Peoples Committees at commune level to see if they would agree to oversee collection of data ▪ If so, implement the survey, if not, possibly undertake a smaller survey directly by an NGO such as WWF

	Status of the Central Truong Son Action Plan: ▪ Draw up the log-frame into an identifiable series of targets that can be measured on an annual basis ▪ Appoint a person within the Initiative to ensure that the assessment is completed
	Transect along the Ho Chi Minh highway ▪ Identify stretch of highway to survey on an annual basis ▪ Examine the draft indicators suggested in the report and agree a final list ▪ Identify a team to carry out the transect every 6 months and implement
Assessment	Agree on an annual cycle including ▪ Data collection coordinated by the point person in the Initiative ▪ Presentation of data (including both core indicators and additional relevant research data that has emerged during the year) and initial analysis to steering group ▪ Meeting of the steering group to complete the analysis and decide on next steps relating to (1) further research needed (2) management responses within the Action Plan and (3) main topics for cover in the *State of the Central Truong Son* report
Annual report	Development of an annual ***State of the Truong Son*** report including: ▪ Agreement on size, style, content etc based around proposals within the report ▪ Agreement on an editor and compiler (ideally the point person for the M&E system) and an editorial board (some or all of the steering committee plus possibly other experts) ▪ Design for an annual report ▪ Assembling the report and publishing in Vietnamese and English ▪ Distributing the report widely throughout the provinces, Vietnam, the Indochina region and others (donors etc)
Database	A decision needs to be taken about how data are distributed beyond the annual report (for example if all core indicators should be listed on a web site). This decision should be an early task of the steering group.
Coordination	One important role of the steering group will be to coordinate information collection between different organisations, in particular to avoid duplication of data-collection

Table 8: Next steps to implementation of the monitoring and evaluation system

Annexe 1: Stakeholder questionnaire

One element in the assessment system is an analysis of stakeholder opinions, to be carried out annually. The following questionnaire has been designed to work with stakeholders in the Central Truong Son region of Vietnam, to find out how they interact with and are affected by forests and, in particular their attitudes towards the Central Truong Son Conservation Initiative. The questionnaire is aimed to be completed on a regular basis (perhaps once a year) by the Commune Peoples' Committee in the Central Truong Son, as part of a wider monitoring and evaluation system for the initiative. One option would be to have the questionnaire filled in regularly by a selected 20 villages and in addition by a further hundred villages chosen at random. Results of the analysis will be grouped to form one indicator in the M&E system.

The questionnaire consists of three parts

Datasheet: including details key information on the community being interviewed, – this helps to give context to the following questions.

Context questions: a series of 7 questions to find out how important forests and forest products are to the community. Each of the questions provides four alternative answers and a place for comments; in some cases we suggest possible issues to include in the comments section.

Assessment questions: the most important part of the assessment form includes three distinct sections, all of which should be completed:

- ***Questions and scores***: a series of 7 questions about stakeholder attitudes and opinions that can be answered by ***assigning a simple score ranging between 0 (poor) to 3 (excellent)***. A series of four alternative answers are provided against each question to help assessors to make judgements as to the level of score given. ***Questions that are not relevant to a particular community should be omitted***, with a reason given in the comments section. In addition, there are a number of supplementary questions which elaborate on key themes and provide additional information and points. This is, inevitably, an approximate process and there will be situations in which none of the four alternative answers appear to fit conditions in the community very precisely; in which case choose the answer that is nearest and use the comments section to elaborate.

- ***Comments***: a box next to each question allows for ***qualitative judgements to be justified*** by explaining why they were made. On some occasions suggestions are made about what might be covered in the comments column.

- ***Next Steps***: for each question respondents are asked to identify steps that could be taken to improve the issue covered in the question (and this could include specific time-limited targets).

Final Score: a final total of the score from completing the assessment form can be ***calculated as a percentage of scores from those questions that were relevant to a particular protected area***. (So for example if 2 questions are believed to be irrelevant (and this is justified in the comments column) then the final score would be multiplied by 7/5 to offset the fact that some questions were not applied.) If the additional questions are relevant to the community, add the additional score to the total if they are relevant and omit them if they are not.

Disclaimer: The whole concept of "scoring" progress is fraught with difficulties and possibilities for distortion. The current system assumes, for example, that all the questions cover issues of equal weight, whereas this is not necessarily the case. Accuracy might be improved by weighting the various scores although this would provide additional challenges in deciding differing weightings. In the current version a simple scoring system is maintained, but the limitations of this approach should be recognised.

Stakeholder Views in the Central Truong Son: Data Sheet

The data sheet provides context for the following questionnaire

Name of commune	
Location of community (province and if possible map reference)	
Population	
Number of families	
District Authority	
Ratio of different economic classes in the village	
Main occupations	
Presence of 661 project	
Presence of 135 and 133 projects	
Presence of other government projects	
Presence of NGO projects	
Proportion of households signing forest management and protected area management agreements	

Date of assessment: _____

Name/s of assessor: _____

Context questions

Issue	Criteria	Comments
1. **Timber sales** Is timber important to the community in terms of making money?	The community makes no money out of timber	
	The community makes a little, occasional money from the timber but this is minimal	
	Timber sales are quite important to the economics of the community but we feel it could be improved	
	Timber sales are of key importance to our community and make us a lot of money	
2. **Non-timber forest product sales**[3] Are non-timber forest products important to the community in terms of making money?	The community makes no money out of non-timber forest products	
	The community makes a little, occasional money from the non-timber forest products but this is minimal	
	Non-timber forest products sales are quite important to the economics of the community but we feel it could be improved	
	Non-timber forest products sales are of key importance to our community and make us a lot of money	
3. **Non-timber forest product use** Are non-timber forest products important to the community in terms of subsistence?	The community does not use non-timber forest products	List the main species collected List kg of fuelwood used
	The community makes a little, occasional use of non-timber forest products but this is minimal	
	Non-timber forest products are quite important to the subsistence of the community but use could be increased	
	Non-timber forest products are of key importance to the subsistence of our community	
4. **Wild meat sales** Is wild meat important to the community in terms of making money?	The community makes no money out of meat obtained by hunting	List the main species hunted
	The community makes a little, occasional money from meat obtained by hunting but this is minimal	
	Meat obtained by hunting is quite important to the economics of the community but we feel it could be improved	
	Meat obtained by hunting is of key importance to our community and make us a lot of money	

[3] Note that these may need to be listed or identified for people to make sense of this question

Issue	Criteria	Comments
5. **Wild meat use** Are wild meat products important to the community in terms of subsistence?	The community does not use meat obtained by hunting	List the main species collected
	The community makes a little, occasional use of meat obtained by hunting but this is minimal	
	Meat obtained by hunting is quite important to the subsistence of the community but use could be increased	
	Meat obtained by hunting is of key importance to the subsistence of our community	
6. **Fish sales** Is fish important to the community in terms of making money?	The community makes no money out of freshwater fish	List the main species hunted
	The community makes a little, occasional money from freshwater fish but this is minimal	
	Freshwater fish are quite important to the economics of the community but we feel it could be improved	
	Freshwater fish are of key importance to our community and make us a lot of money	
7. **Fish use** Are fish products important to the community in terms of subsistence?	The community does not use freshwater fish	List the main species collected or kg caught per year
	The community makes a little, occasional use of freshwater fish but this is minimal	
	Freshwater fish are quite important to the subsistence of the community but use could be increased	
	Freshwater fish are of key importance to the subsistence of our community	

Table 9: Stakeholder questionnaire 1

Assessment questions

Issue	Criteria	Score	Comments	Next steps
8. **Non-timber forest products** Are non-timber forest products declining?	There are virtually no useful non-timber forest products left to collect	0		
	Many of the non-timber forest products that we used to collect have declined, although we still find enough	1		
	There are generally a lot of non-timber forest products, although we have seen a decline	2		
	There are abundant non-timber forest products of all expected types	3		
9. **Timber products** Are timber forest products declining?	There are virtually no useful [or *most popular*?] timber trees left to harvest	0		
	Many of the timber trees that we used to harvest have declined, although we still find enough	1		
	There are generally a lot of timber trees, although we have seen a decline	2		
	There are abundant timber trees of all expected types	3		
10. **Freshwater fish** Are fish products declining?	There are virtually no fish left to catch in the rivers	0		
	Many of the fish species that we used to catch have declined, although we still find enough	1		
	There are generally a lot of fish, although we have seen a decline in some species	2		
	There are abundant fish species of all expected types	3		
11. **Wild species** Are wild species declining?	There are virtually no species left to hint in the forest	0		
	Many of the species that we used to hunt have declined, although we still find enough	1		
	There are generally a lot of species, although we have seen a decline	2		
	There are abundant species of all expected types	3		

Issue	Criteria	Score	Comments	Next steps
12. **Conservation** Are local people in agreement with conservation?	Wildlife conservation measures have been a bad thing for us	0		
	Some wildlife conservation measures have made life more difficult but we support others	1		
	Wildlife conservation does not really affect us one way or the other	2		
	Wildlife conservation efforts have been beneficial to us	3		
13. **Special use forests** Do local people support protected areas?	We oppose the designation of special use forests	0		
	We support the designation of special use forests in principle but think that there are too many or they are in the wrong places	1		
	We generally support special use forests but think that they could be improved	2		
	We support the designation of special use forests	3		
14. **Reforestation** Do local people support reforestation?	We oppose reforestation	0		
	We support reforestation in principle but think that it is being undertaken in the wrong places	1		
	We generally support reforestation but think that it could be improved	2		
	We support reforestation	3		

Table 10: Stakeholder questionnaire (2)

Annexe 2: Poverty Reduction and Biodiversity Conservation in Forest Communities: a possible approach and questionnaire

Showing the relationship between biodiversity conservation and poverty alleviation is critical for any conservation project with aspirations to playing a positive role in development. The section gives some background to this debate and a draft questionnaire to clarify this link. Whilst this is probably too detailed to be a regular part of the monitoring and evaluation initiative it could provide the basis for occasional more detailed surveys.

The relationship between biodiversity and poverty has become important because of the extent to which development funding is linked to Poverty Reduction Strategy Programmes. Yet much current the analysis is simplistic. Discussion has focused on the exploitation of wild species as a direct contribution to increasing wealth, although in fact other less direct links between the two are actually stronger and more plausible.

Use of wild species in poverty alleviation

Wild species are a "free" resource that can help in taking the first few steps out of poverty for the poorest members of society. While most of the profits from wild species are made by the middlemen and urban-based entrepreneurs (often operating illegally) who market and trade in wildlife products, exploitation can also provide important capital for the poorest. Direct use of wild species falls away quickly as income rises, although there are large cultural differences between countries. The danger, from a conservation perspective, is that wild species may be used unsustainably, as a finite resource by societies to work their way out of poverty. Many "successful" historical uses of biodiversity to increase wealth have been unsustainable: wild species have been exploited fast to get capital into a community, which then invests in other ways of creating wealth leaving the species decimated or destroyed. Although as societies become economically more comfortable, interest in the intrinsic value of biodiversity often increases, the risk is that by then, many of the original species may have disappeared.

Forest biodiversity that is useful to people is usually classified as a **non-timber forest product** (NTFP) and includes food (leaves, herbs, berries and fruit, mushrooms, game animals, bushmeat), animal fodder, building materials (leaves, poles, timber), medicinal herbs or other products with known or assumed medicinal properties and chemical products (rubber, latex, resin). NTFPs use ranges from generalised exploitation in hunter-gatherer societies to specialised uses in rural industries. The degree of specialisation provides one way of classifying NTFP use and is illustrated in Figure 5 below.

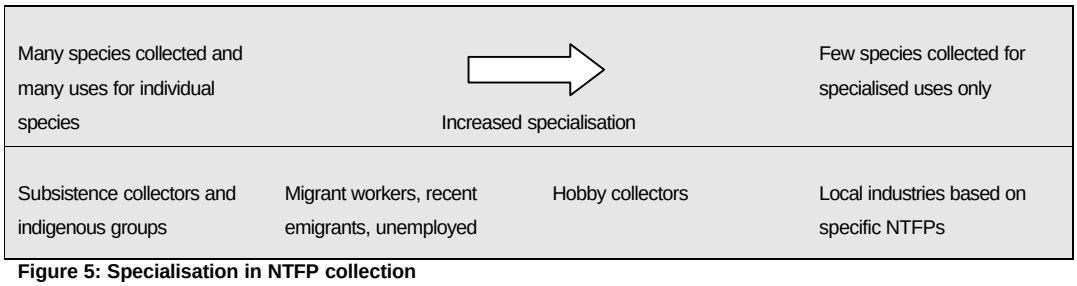


Figure 5: Specialisation in NTFP collection

NTFP use varies dramatically between the poorest and richest as shown in Table 1.

Economic group	Use	Notes
Poorest	Subsistence	Essential for survival. Wide use of many species
Poor	Subsistence and income earning	Can be an important stepping stone out of poverty by bringing cash income into an otherwise subsistence lifestyle or bringing extra cash into very poor families
Middle income	Specialised or none	Daily use falls of dramatically amongst most people when they become wage earners, except for a minority who make a living from NTFPs, usually through specialisation and some degree of domestication or cultivation
Richer people	None or hobby	But: generally an increased interest in biodiversity for its own sake, at least amongst a proportion of the population

Table 11: Links between NTFP collection and different economic groups

If we confine discussion to this very direct relationship, the challenges for those interested in the links between biodiversity conservation and development are therefore:

- To ***protect biodiversity*** to help sustain the poorest, who have no alternative but wild species

- To ***manage use of biodiversity*** as a way out of poverty amongst the poor and successively less poor

- To ***maintain sufficient interest in biodiversity*** during rapid economic growth so that it survives until people have enough time and money to regain interest in conservation

Much of the effort in linking the biodiversity and poverty agendas has been directed towards the second of these – management of biodiversity as an income source. Although there are good examples of where this has been successful, there are many cases where it has been, from a strictly economic perspective, a less useful investment than, say, putting the same amount of money into a school, road or factory.

Environmental protection as a prerequisite of both poverty reduction and biodiversity conservation

A stronger link between the two is less direct, but much more easily integrated within the programmes of both the development and the conservation communities. Biodiversity and poverty reduction (and indeed the survival of the poorest members of society) all have environmental protection as a prerequisite of their success. Numerous studies have shown that the poorest suffer most acutely from environmental problems ranging from soil erosion, through water pollution, flooding, drought and disaster events such as hurricanes. From a conservation perspective, studies show that biodiversity conservation is ultimately only possible in the long term in an environmentally stable landscape. Environmental protection thus becomes a prerequisite for both biodiversity conservation and poverty alleviation, giving the two communities common cause in managing for a stable environment. Links are shown diagrammatically in Figure 2 below, where ***the lines show prerequisites for success*** and the link between biodiversity and poverty reduction is shown dashed because it may well be weaker than the others:

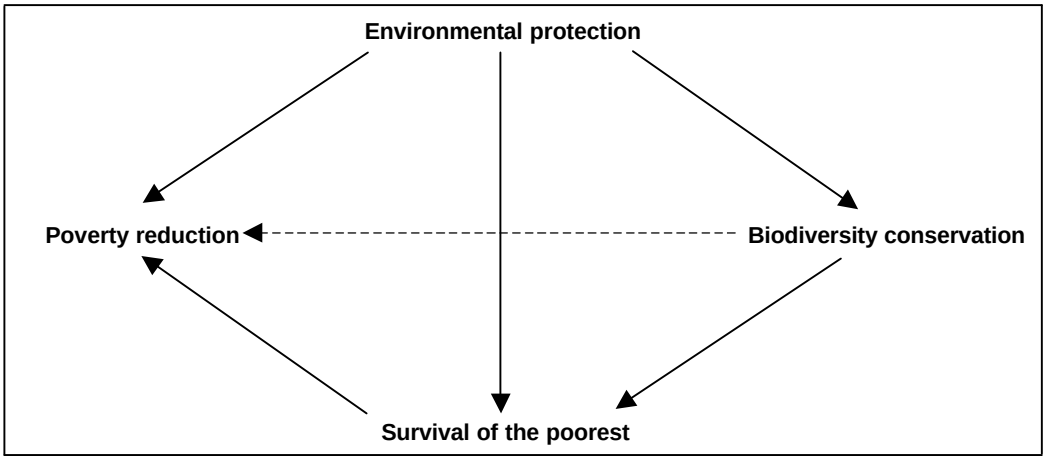


Figure 6: Links between environment, biodiversity, survival of the poorest and poverty reduction

In this case, the challenges are more complex. In addition to the three above, they are to:

- Identify "common cause" ***environmental stability factors*** that are important to all the aims identified above and to develop partnership approaches to attaining or retaining these

- Integrate biodiversity conservation as a prerequisite of ***survival of the poorest*** into development projects (this is often now rather inaccurately labelled as poverty alleviation

Links between biodiversity and poverty in a forest environment
The following questionnaire aims to provide an in-depth analysis of links between biodiversity and poverty alleviation, suitable for use at a village or community-scale.

1. Firewood and charcoal

Issue	Questions		
Subsistence	How many families rely on firewood from the forest?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Income earning	How much would an average family earn in a year from selling firewood?		
	How much would an average family earn in a year from selling charcoal?		
	How is income changing?	Increasing	
		The same	
		Decreasing	
Ease of collection	How long does it take to collect a day's fuel?		
	How long do families spend collecting fuel for charcoal?		
	Is firewood getting easier or more difficult to find?	Easier	
		The same	
		More difficult	
Location of firewood	Where do you find the firewood?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

2. Rattan and bamboo

Issue	Questions		
Subsistence	How many families rely on rattan and bamboo from the forest?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Income earning	How much would an average family earn in a year from selling rattan?		
	How much would an average family earn in a year from selling bamboo?		
	How is income changing?	Increasing	
		The same	
		Decreasing	
Ease of collection	Is rattan getting easier or more difficult to find?	Easier	
		The same	
		More difficult	
	Is bamboo getting easier or more difficult to find?	Easier	
		The same	
		More difficult	
Location of rattan and bamboo	Where do you find the rattan and bamboo?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

3. Honey from the forest

Issue	Questions		
Subsistence	How many families collect honey from the forest?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Income earning	How much would an average family earn in a year from selling honey?		
	How is income changing?	Increasing	
		The same	
		Decreasing	
Ease of collection	How easy is it to find honey?		
	Is honey getting easier or more difficult to find?	Easier	
		The same	
		More difficult	
Location of firewood	Where do you find the honey?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

4. Medicinal herbs

Issue	Questions		
Subsistence	How many families rely on medicinal herbs from the forest as their only or primary source of medicines?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Income earning	How much would an average family earn in a year from selling medicinal herbs?		
	How is income changing?	Increasing	
		The same	
		Decreasing	
Ease of collection	How easy is it to find herbs?		
	Is getting easier or more difficult to find medicinal herbs?	Easier	
		The same	
		More difficult	
Species	What are the main species collected?		
Location of firewood	Where are they found?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

5. Fishing

Issue	Questions		
Subsistence	How many families rely on fishing?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Income earning	How much would an average family earn in a year from fishing?		
	How is income changing?	Increasing	
		The same	
		Decreasing	
Fish	How easy is it to catch fish?		
	Is fishing getting easier or more difficult?	Easier	
		The same	
		More difficult	
	What species do you catch?		
Where fish are found	Where do you find the fish?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

6. Hunting

Issue	Questions		
Subsistence	How many families rely on hunting for meat?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Income earning	How much would an average family earn in a year from selling wild meat?		
	How is income changing?	Increasing	
		The same	
		Decreasing	
Ease of catching	How easy is it to catch game?		
	Is hunting getting easier or more difficult?	Easier	
		The same	
		More difficult	
Species caught	What species do you catch?		
Where animals are found	Where do you find the game?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

7. Fodder

Issue	Questions		
Subsistence	How many families rely on collecting animal fodder from the forest?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Ease of collection	How long does it take to collect fodder each day?		
	Is it getting easier or more difficult?	Easier	
		The same	
		More difficult	
Types of fodder	What species do you collect?		
Where fodder is found	Where do you find the fodder?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

8. Other materials

Issue	Questions		
Subsistence	How many families rely on collecting #### from the forest?		
	What is the economic status of the families involved?	Very poor	
		Poor	
		Middle income	
		Richest in the village	
Ease of collection	How long does it take to collect #### each day?		
	Is it getting easier or more difficult?	Easier	
		The same	
		More difficult	
Types of ####	What species do you collect?		
Where #### is found	Where do you find the ####?	Plantations	
		Natural forests	
		Bare land	
		Protected areas	
Legality	(Is it legal of illegal?)		

9. General questions

Issue	Questions		
Importance of forests	How important are forest resources to subsistence of the community?	Vital/very important	
		Important	
		Not particularly important	
		Unimportant	
	How important are forest resources to economic growth in the community?	Vital/very important	
		Important	
		Not particularly important	
		Unimportant	
How many months a year are households dependent on resources from forests?			
Importance of forest resources	Which is the most important resource(s) from the forest for the village?		
Problems with forest resources	What are the main problems with forest resources?		
Trading	Do people come from outside the village offering to trade in wild products?		
Conservation	Which of the following is most accurate for your village?	Wildlife conservation measures have been a bad thing for us	
		Some wildlife conservation measures have made life more difficult but we support others	
		Wildlife conservation does not really affect us one way or the other	
		Wildlife conservation efforts have been beneficial to us	

Table 12: Poverty and biodiversity questionnaire

Annexe 3: Transect along the Ho Chi Minh Highway

In addition to general monitoring of progress across the whole Truong Son, the Central Truong Son Initiative has identified a need to look in particular at the Ho Chi Minh highway, currently under construction and likely to bring major changes to the region, including adding stress to a number of protected areas. The Prime Minister has specifically requested provinces to monitor the impact of the Ho Chi Minh highway on forest quality and quantity and the current proposal could provide specific assistance in this respect.

Prime Minister's directive on protection of forests around the Ho Chi Minh Road: Directive Number 30/2001/CT-TTg issued on December 4 2001: The Prime Minister requests the branches and authorities at various levels in the localities where the Ho Chi Minh Road runs through to enhance their responsibilities of State management over forests and forestry land; closely supervise the implementation of regulations on forest protection by forest owners and the road-constructing units; strictly handle organizations and individuals that commit acts of violating regulations on forest management and protection in the course of road construction; elaborate the scheme against forest destruction in the course of road construction and implement the scheme on planting forests along the roadsides for forest and environmental protection.

We are therefore proposing a separate exercise specifically aimed at the highway to:

- Monitoring change along this particularly important area
- Help the government to fulfil its aims of maintaining biodiversity values along this area
- Provide a basis for forest landscape restoration projects along the highway

The proposals is to carry out a once or twice-a-year transect along an identified length of the Ho Chi Minh highway aimed at recording changes relating to likely additional stress due to settlement and development. So that this remains a manageable exercise, indicators should be crude enough to be recorded during a car journey. Some suggestions of possible indicators follow:

Issue	**Indicator**
Vegetation change	Miles of natural forest remaining
	Evidence of clearing: for farms
	Evidence of clearing: for logging
Settlement	Large settlements
	Small settlements[4]
Wildlife	Number of restaurants serving wild meat
	Number of raptors seen?
Restoration	Sites of native tree planting and restoration projects
	Plantation development
Ecosystem stability	Landslips
	Evidence of flood damage?
Social welfare	Number of communities with schools?
	Number of communities with hospitals?
	Number of brick built houses in communities?
Photographs	Photographs taken at regular points along the Ho Chi Minh highway

Table 13: Possible indicators for transect along the Ho Chi Minh Highway

Reporting data for the transect could include both numerical data (numbers, kilometres etc) and photographic records of key changes (logging, restoration)

[4] Large and small settlements need to be defined

Annexe 4: A suggested tracking tool for good forest management

Summary
One approach to monitoring sustainable forest management is proposed in the form of a simple tracking tool that could be followed through at a forest management unit level

The following section contains a first draft of a suggested tracking tool for monitoring progress in forest management in those areas where certification is currently not being taken up or where certification is still a limited option.

This draft has been prepared as a possible contribution to a landscape-level monitoring and evaluation system being developed for the Central Truong Son district of Vietnam in cooperation with the ecoregion team, as a contribution to the Forest Landscape Restoration target of the Forests for Life campaign. However the need for a more stepwise approach to tracking progress in forest management has been discussed for some time and may have therefore wider relevance. It is aimed at those areas of the world where forest management is still very poor and should not be seen as a replacement for certification or for other more rigorous approaches where these are an option.

Possible advantages and disadvantages

The advantage of using such a tool is that the Initiative can work with forest management operations and, through regular (say annual) application of the questionnaire, chart progress and identify with the operator key targets for the following year or years. This could be used to chart progress towards FSC certification – for example it would be relatively simple to highlight those responses that together add up to a situation where it is likely that the operation would meet FSC certification and could be in the nature of a very simple pre-appraisal. It could also be refined to provide a series of agreed stages *before* certification by grading of questions – this was one of the original ideas of the IIED pyramid.

The questionnaire also allows analysis to go further than the FSC in some ways – by looking at *outcomes* (however simply) and by considering impacts beyond the forest management unit to the wider landscape. It also allows greater consideration of issues that have come to prominence since the FSC principles were written, such as illegal logging.

A possible disadvantage is that, inevitably, FSC certification appears as one question amongst many; getting an FSC certificate would make a negligible impact on the overall score: however this is only important if scores are used to compare *between* forest management units whereas our experience with the protected area tracking tool is that it is far more useful for tracking progress *within* a single area. (Scores could also be weighted.)

The questions

The questions are very tentative. The protected area tracking tool taught us to limit the number of questions, which inevitably means many things are omitted. Some issues – such as carbon sequestration – are left out because I couldn't think of a good formulation and will rely on stronger brains to fill in the gaps. Some of you may also have problems swallowing some of the questions – for example there is an additional question on self assessment, which we've argued is inferior to certification, but I have included it here because in situations where management starts from a very low base initial self assessment is better than nothing.

Operation and use

The protected area tracking tool is filled in by managers ideally working with a project officer or someone who knows the tracking tool. Whether or not this format could be repeated for a forest management unit needs discussion; some of the questions are quite blunt and while we've found that once protected areas managers do not see the process as a threat they are surprisingly candid, this may not work in all situations. There is nothing in theory to prevent others from filling in the questionnaire – where it would become for example an internal Initiative tracking tool – but this wastes the opportunity to use it as a negotiation and

discussion point as well. An hour or two working on the questionnaire may be the longest assessment that some forest management units ever receive.

Structure
The questions are divided roughly into six groups, representing elements that are needed for good forest management:

- Legality
- Planning
- Environmental care
- Social responsibility
- Good forest management
- Outcomes

Questions are fro ease of understanding clustered roughly around these issues although some fall into two or more areas and the elements are therefore listed in italics in the left hand column

Links to other instruments
The tracking tool is aimed at the level of the forest management unit, with links out into the landscape. It thus covers very different ground to the good governance tool developed by James Mayers and Steven Bass at the International Institute for Environment and Development: many of the issues covered in the latter tool were outside the immediate control of forest managers individual operations and therefore beyond the scope of this exercise. The tracking tool covers elements of the Forest Stewardship Council principles and criteria, although obviously in a different context.

Filling in the tracking tool

All parts of the tracking tool should be completed. There are two main sections:

Datasheet: including details key information on the forest management unit, its characteristics and management objectives – this helps to give context to the following questions.

Assessment Form: the assessment form includes three distinct sections, all of which should be completed.

- ***Questions and scores***: the main part of the assessment form is a series of 35 questions that can be answered by ***assigning a simple score ranging between 0 (poor) to 3 (excellent)***. A series of four alternative answers are provided against each question to help assessors to make judgements as to the level of score given. ***Questions that are not relevant to a particular forest management unit should be omitted***, with a reason given in the comments section (for example questions about indigenous people will not be relevant if there are none in or near the management area). In addition, there are a number of supplementary questions which elaborate on key themes in the previous questions and provide additional information and points.

  This is, inevitably, an approximate process and there will be situations in which none of the four alternative answers appear to fit conditions in the forest management unit very precisely; in which case choose the answer that is nearest and use the comments section to elaborate.

- ***Comments***: a box next to each question allows for ***qualitative judgements to be justified*** by explaining why they were made (this could range from personal opinion, a reference document, monitoring results or external studies and assessments – the point being to give anyone reading the report an idea of why the assessment was made). On some occasions suggestions are made about what might be covered in the comments column.

- ***Next Steps***: for each question respondents are asked to identify a long-term management needed to further improve the issue covered in the question (and this could include specific time-limited targets).

Final Score: a final total of the score from completing the assessment form can be ***calculated as a percentage of scores from those questions that were relevant to a particular protected area***. (So for example if 5 questions are believed to be irrelevant (and this is justified in the comments column) then the final score would be multiplied by 35/30 to offset the fact that some questions were not applied.) If the additional questions are relevant to the forest management unit, add the additional score to the total if they are relevant and omit them if they are not.

Disclaimer: The whole concept of “scoring” progress is fraught with difficulties and possibilities for distortion. The current system assumes, for example, that all the questions cover issues of equal weight, whereas this is not necessarily the case. Accuracy might be improved by weighting the various scores although this would provide additional challenges in deciding differing weightings. In the current version a simple scoring system is maintained, but the limitations of this approach should be recognised.

Reporting Progress towards Good Forest Management: Data Sheet

Name of forest		
Location of forest (country and if possible map reference)		
Length of time under management		Remaining lease if relevant
Ownership details (i.e. owner, tenure rights etc)		
Management Authority		
Size (hectares) by forest type		
Number of workers	Permanent	Temporary
Details of people living in or near the forest management unit		
Last year's profits		
Main form of forest management		
Main species exploited		
Brief details of Initiative involvement if any		
Brief details of government involvement		
Brief details of other relevant projects or partnerships		
List the top two most important environmental impacts of the forest management unit		
Impact 1		
Impact 2		
List the top two most important social impacts of the forest management unit		
Impact 1		
Impact 2		
List top two critical management activities		
Activity 1		
Activity 2		

Date of assessment: _____

Name/s of assessor: _____

Issue	Criteria	Score	Comments	Next steps
1. **Legal status** Is the operation running legally? *Legality*	The operator has no legal authorisation to operate in the forest management unit	0		
	The operation has legal authorisation to operate in the forest management unit but large parts of the operation remain illegal	1		
	The operation has legal authorisation to operate in the forest management unit and most operations are also legal	2		
	The operation has legal authorisation operate in the forest management unit and the operation is completely legal	3		
2. **Revenue payments** Are stumpage fees and other revenue payments complied with? *Legality*	Stumpage fees and other required revenue payments are currently not paid	0		
	Stumpage fees and other required revenue payments are partially paid but generally avoided	1		
	Stumpage fees and other required revenue payments are generally paid although not very systematically calculated	2		
	Stumpage fees and other required revenue payments are carefully calculated and fully paid	3		
3. **Tenure agreements** Are local people in agreement with the FMU tenure agreements? *Social responsibility*	Local communities never agreed to and oppose current tenure agreements relating to the FMU	0		
	Local communities agreed to current tenure agreements relating to the FMU but believe that they were coerced or misled and now oppose them	1		
	Local communities generally agree with current tenure agreements relating to the FMU although some issues remain contentious or some individuals in disagreement	2		
	Local communities agree with current tenure agreements relating to the FMU	3		
4. **Presence of illegal forestry within the FMU** Are other people cutting timber illegally? *Legality*	Illegal timber operations are widespread and uncontrolled within the forest management unit	0		
	Illegal timber operations are widespread within the forest management unit although there are efforts at control	1		
	There are occasional illegal timber operations within the forest management unit but these are generally controlled	2		
	There are no illegal timber operations within the Forest Management Unit	3		
Extra point	Presence of forest management is generally agreed to have decreased illegal activity	+ 1		

Issue	Criteria	Score	Comments	Next steps
5. **Presence of other illegal activities within the FMU** Are other people poaching wildlife, illegal mining etc? *Legality*	Poaching, illegal mining etc are widespread and uncontrolled within the forest management unit and are increased by the presence of the forestry operation	0	Suggested comment: give details of the illegal activities	
	Poaching, illegal mining etc are widespread and uncontrolled within the forest management unit but are unconnected with the forestry operation	1		
	Poaching, illegal mining etc occur occasionally within the forest management unit	2		
	There is no poaching, illegal mining etc within the Forest Management Unit	3		
Extra point	The operator is making active efforts to control illegal activities within the forest management unit	+ 1		
6. **Codes of Practice, treaties etc** Does the operation follow relevant codes? *Legality* *Good forest management*	Relevant codes of practice (e.g. from ITTO, ATO, CITES listing, national, state of provincial authorities) are not known	0	Suggested comment: which codes of practice and treaties are relevant?	
	Relevant codes of practice are known but not implemented	1		
	Relevant codes of practice are known and partially implemented	2		
	Relevant codes of practice are known and fully implemented	3		
7. **Management plan** Does the forestry operation have a management plan and is it being implemented? *Planning*	There is no management plan	0	Comment: note main elements of management plan	
	There is a partial management plan or a management plan in preparation but it is not being fully implemented	1		
	There is a completed management plan but it is not being fully implemented	2		
	There is a completed management plan and it is being fully implemented	3		
8. **Regular work plan** Is management following a regular operational plan (e.g. an annual plan)? *Planning*	No regular work plan exists	0		
	A regular work plan exists but activities are not monitored against the plan's targets	1		
	A regular work plan exists and actions are monitored against the plan's targets, but many activities are not completed	2		
	A regular work plan exists, actions are monitored against the plan's targets and most or all activities are completed	3		

Issue	Criteria	Score	Comments	Next steps
9. **Staff training** Are workers trained in forestry and social /environmental issues? *Planning* *Good forest management*	Workers are largely untrained	0		
	Workers receive only basic training in forest management	1		
	Workers receive comprehensive training in forest management	2		
	Workers receive comprehensive training in forest management and in environmental protection and social welfare issues	3		
10. **Sustainable yield** Is the forest management unit producing a sustainable yield of timber? *Planning* *Good forest management*	Level of cut greatly exceeds calculated or assumed sustainable yield	0		
	Sustainable yield not calculated: it is not known if the current level of cut is likely to be sustainable	1		
	Sustainable yield is calculated but current level of cut slightly exceeds this or sustainable yield is uncalculated but level of cut so low that it is unlikely to be exceeded	2		
	Sustainable yield calculated and not exceeded by the current level of cut	3		
11. **Extraction** Is timber extraction carefully planned to minimise damage? *Good forest management* *Environmental care*	Timber extraction is unplanned and results in serious environmental damage	0		
	Planning for timber extraction is minimal and has not prevented unnecessary damage	1		
	Genuine attempts have been made to plan for timber extraction although some problems remain	2		
	Timber extraction is carefully planned in such a way as to minimise environmental damage	3		
Extra point	Minimum damage techniques (helicopter extraction, elephant or cable extraction) are used to further reduce damage from timber extraction in sensitive environments	+ 1		
12. **Economic viability** Is the forest management unit economically viable? *Good forest management*	The forest management unit is losing money	0		
	The FMU is only profitable because it is acting illegally or not paying fees due	1		
	The FMU is only profitable because it is exploiting a buoyant market or exploiting timber above sustainable yields	2		
	The FMU is economically viable and projections show it will remain so in the long term	3		

Issue	Criteria	Score	Comments	Next steps
13. **Permanence** Does the operator have a long-term commitment to the FMU? *Planning* *Good forest management*	The operator only has a short term lease and the forest management unit is likely to be deforested	0		
	The FMU is in the permanent forest estate but the operator has a short term lease and no plans for long-term involvement	1		
	The FMU is part of a permanent forest estate; the operator wants a long-term involvement but only has a short-term lease	2		
	The FMU is part of a permanent forest estate and the operator is committed to a long-term lease	3		
14. **Environmental Impact Assessment** Has an independent EIA been carried out and complied with? *Environmental care*	No external Environmental Impact Assessment was carried out	0		
	An external Environmental Impact Assessment was carried out but the recommendations have not been applied	1		
	An external Environmental Impact Assessment was carried out and the recommendations have been partially applied	2		
	An external Environmental Impact Assessment was carried out and the recommendations have been fully applied	3		
Extra point	The EIA is regularly reviewed and updated	+ 1		
15. **High Conservation Value Forests** Are HCVFs or other biologically important areas identified and protected? *Environmental care*	There is no attempt to identify High Conservation Value Forests and/or other ecologically/culturally important areas	0	Possible comment: which assessment system was used?	
	There is only a rudimentary attempt to identify High Conservation Value Forests and/or other ecologically/culturally important areas	1		
	High Conservation Value Forests and/or other ecologically /culturally important areas are identified but only partially protected	2		
	High Conservation Value Forests and/or other ecologically /culturally important areas are identified and fully protected	3		
16. **Biodiversity protection** Are steps implemented to protect biodiversity? *Environmental care*	There are no measures to protect biodiversity within the FMU	0		
	There are in theory measures to protect biodiversity within the FMU but these are poorly applied or not applied at all	1		
	There are some measures to protect key species, and these are applied, but no overall plan for biodiversity protection	2		
	There is a comprehensive plan to manage for biodiversity and this is applied	3		
Extra point	The forest managers are actively working in cooperation with local communities or NGOs to enhance biodiversity conservation within the forest management unit	+ 1		

Issue	Criteria	Score	Comments	Next steps
17. **Naturalness** Has management increased or decreased the amount of near-natural forest? *Environmental care*	Forest management has destroyed large areas of natural forest and replaced them with plantations	0	Note: management always changes forests – this question refers to the degree of change	
	Forest management has seriously degraded large areas of natural forest, simplifying species mix and structure	1		
	Forest management has resulted in a generally less natural forest although small areas of natural forest are retained	2		
	Forest management has been carefully planned to minimise changes in naturalness	3		
Extra points	Forest managers have deliberately restored some areas of near-natural forest within the FMU, increasing the overall amount	+ 1		
	There is a policy of retaining threatened natural features (e.g. snags, down logs, large trees for raptor nesting, wetlands, peat etc) in the FMU	+ 1		
18. **Watersheds** Are watersheds protected from forest management operations (soil erosion, turbidity, flooding)? *Good forest management*	Watersheds are being seriously damaged as a result of forest management and no attempts are made to reduce this damage	0	Suggested comment: what is being done to reduce damage?	
	Watersheds are being seriously damaged as a result of forest management although some attempts are being made to reduce damage	1		
	Watersheds suffer some negative impacts from forestry but management reduces damage	2		
	Watersheds are not being significantly damaged as a result of forest management	3		
19. **Pollution** Does forest management result in pollution (pesticides, fertilizers etc)? *Good forest management*	Forest management results in serious pollution and there are few attempts to control this	0	Possible comments: what kinds of pollution? What is done to control impacts?	
	Forest management results in serious or significant pollution and control remains inadequate	1		
	Forest management results in some pollution although management helps significantly reduce potential damage	2		
	There is little or no pollution as a result of forest management	3		
Extra points	The operator is making active efforts to minimise the use of pesticides and fertilizers within the forest management unit	+ 1		
	The operator has eliminated herbicides within the forest management unit	+ 1		

Issue	Criteria	Score	Comments	Next steps
20. **Invasive species** Are invasive animal or plant species adequately controlled? *Environmental care*	Invasive plant and animal species are a major problem in the forest management unit and there are currently no controls	0		
	Invasive plant and animal species are a major problem in the forest management unit although controls are in place	1		
	Invasive plant and animal species are a minor problem in the forest management unit but are reasonably well controlled	2		
	Invasive plant and animal species are not a problem in the forest management unit	3		
21. **Participation and transparency** Do local communities take part in decisions relating to the FMU? *Social responsibility*	Local communities are neither informed about nor have input into decisions relating to the management	0		
	Local communities are informed about proposed management but have no direct involvement in management decisions	1		
	Local communities are informed about and have the opportunity to discuss management decisions	2		
	Local communities directly participate in making decisions relating to management of the forest management unit	3		
22. **Conflict resolution** How do forest managers handle conflict with local communities and other stakeholders? *Social responsibility*	Conflicts and disagreements are ignored	0		
	Conflicts and disagreements are dealt with on an occasional and ad hoc basis	1		
	There are genuine attempts to deal with conflicts as they arise but serious problems remain	2		
	There is a comprehensive conflict resolution process that has succeeded in resolving many disagreements	3		
23. **Indigenous peoples' rights** Does the operation take account of the rights of indigenous people? *Social responsibility*	The rights of indigenous people are not considered by the forest management operation	0		
	Some cursory attempts have been made to address the rights of indigenous peoples but they continue to suffer loss of rights and/or goods and services as a result of forestry operations	1		
	Attempts have been made to engage with and take account of the needs of indigenous peoples but serious problems remain	2		
	Use rights have been carefully and transparently negotiated with indigenous people and adequate compensation paid	3		
Extra point	The forest managers have an excellent relationship with local and indigenous communities, including regular meetings to discuss opportunities and problems	+ 1		

Issue	Criteria	Score	Comments	Next steps
24. **Economic value to the local community** Does forest management provide benefits to local communities? *Social responsibility*	Forest management has provided no economic benefits to the local community and has reduced economic options by tying up or destroying existing forest	0	List the benefits, if any	
	Forest management has provided no significant economic benefits to the local community but has not taken anything away either	1		
	Forest management has provided some economic benefits to the local community although these remain limited	2		
	Forest management has provided significant economic benefits to the local community	3		
25. **Workers' rights** Are workers being treated fairly? *Social responsibility*	Workers have few if any rights, no secure employment and poor pay	0		
	Workers are paid at least the legal minimum and have basic equipment and shelter but no secure employment	1		
	Workers are relatively well paid and equipped, but still only have temporary employment	2		
	Workers are relatively well paid and equipped, clearly agreed contracts and the right to organise and negotiate	3		
26. **Workers' safety** Do workers have access to proper safety equipment? *Social responsibility*	Workers operate in dangerous conditions with no safety equipment	0		
	Workers operate in dangerous conditions with only minimal safety equipment	1		
	Serious attempts have been made to equip workers and to increase safety but some problems remain	2		
	Workers have access to good, well maintained safety equipment and risks have been minimised	3		
Extra point	Particular efforts have been made to employ and to train workers from the local community, including in supervisor and management posts	+ 1		
27. **Aesthetic values** Is the FMU managed with its appearance in mind? *Social responsibility*	No consideration is taken of aesthetic values when managing the FMU	0		
	Minimal landscaping takes place around the FMU or in limited areas but there is no overall consideration of appearance	1		
	Some attempts are made to manage in a way that does not damage the wider landscape appearance but problems remain	2		
	The FMU is managed carefully to maintain and enhance landscape and aesthetic values	3		

Issue	Criteria	Score	Comments	Next steps
28. **Public access** Do workers have access to proper safety equipment? *Social responsibility*	There is no public access to the forest management unit	0	Suggested comment: are there many visitors?	
	The public has a very limited access to the FMU through certain designated footpaths or viewpoints	1		
	The public has fairly widespread access to the FMU although few considerations are taken for this in management	2		
	The public has widespread access to the FMU and public access needs are carefully planned into management	3		
29. **Non-timber forest products** Does the forestry operation retain useful NTFPs? *Social responsibility*	Forest management has destroyed most of the original non-timber forest products	0	List key non-timber forest products	
	Forest management has destroyed many of the original non-timber forest products although some remain	1		
	Forest management has made an effort to retain NTFPs useful to local communities but losses have occurred	2		
	Forest management has worked with local communities to ensure that key NTFPs are maintained or enhanced	3		
30. **Forest landscape restoration** Is the forest operation contributing to forest landscape restoration? *Environmental care* *Social responsibility* *Outcomes*	The operation has resulted in less forest	0		
	The operation has maintained forest cover but lost many other environmental and social values associated with the original forest	1		
	The operation has made a good attempt to retain forest area and quality but substantial losses have nevertheless occurred	2		
	The operation is consciously working with neighbours to increase forest goods and services on a landscape scale	3		
Extra point	The forest operation actively contributes (in money, labour or materials) to forest restoration in other parts of the landscape	+ 1		
31. **Monitoring and evaluation** Is there a monitoring system for yield, tree health, wider impacts etc? *Good forest management*	No monitoring takes place	0		
	A little monitoring takes place on an ad hoc basis but is seldom related to management	1		
	Some monitoring takes place and this is used in management decisions but serious gaps in monitoring remain	2		
	There is a planned and implemented monitoring and evaluation system that looks at a wide range of relevant issues and helps to drive management	3		

Issue	Criteria	Score	Comments	Next steps
Extra point	The manager also carries out self assessment against standards within an agreed framework such as ISO	+ 1		
32. **Third party assessment** Is the FMU certified by the Forest Stewardship Council or equivalent? *Good forest management*	There is no interest in third party certification of management against FSC or equivalent standards	0		
	There is interest in third party certification of management but the FMU is not yet at a stage where certification is possible	1		
	There is commitment to third party certification of management but the certification process is still ongoing	2		
	The forest management unit is certified by the Forest Stewardship Council or equivalent	3		
33. **Involvement in the wider landscape** Is the wider impact of the FMU considered? *Environmental care* *Social responsibility*	The forest management unit is managed in isolation from other land uses	0		
	The forest management unit only interacts with its immediate neighbours and on an ad hoc, problem-driven basis	1		
	The FMU interacts with its immediate neighbours on a regular basis and takes their needs into consideration	2		
	The FMU is fully integrated into wider landscape plans through a negotiated process with other relevant stakeholders	3		
34. **Biodiversity health** Has biodiversity decreased at a landscape level as a result of the FMU? *Outcomes*	Biodiversity has decreased markedly within and beyond the FMU since forest operations began	0		
	Biodiversity has decreased markedly within the FMU and there have been some wider knock-on effects outside	1		
	Biodiversity has decreased within the FMU but there have been no detectable decreases in the wider landscape	2		
	Biodiversity has been maintained at both a management unit and a site level	3		
Extra point	Biodiversity levels (or key species) have increased within the FMU as a result of careful management	+ 1		
35. **Human wellbeing** Has human wellbeing increased or decreased in the landscape as a result of the FMU? *Outcomes*	Human wellbeing has decreased markedly within and beyond the FMU since forest operations began	0		
	Human wellbeing has decreased markedly within the FMU and there have been some wider knock-on effects outside	1		
	Human wellbeing has been maintained both within and around the FMU since forest operations began	2		
	Human wellbeing has been positively enhanced both within and around the FMU since forest operations began	3		

Table 14: Forest management tracking tool

Annexe 5: Stakeholder meetings in Hanoi

- Protected Areas and Development project: Mr Jeremy Carew-Reid
- Protected area management effectiveness consultant Mr Finn Danielsen
- Strengthening Protected Areas Management (SPAM) project: Dr Keith Williams
- Forest Sector Support Programme: Mr Nguyen Van Kien
- Five million hectare programme (661), Forest Development Department: Ms Le Thi Long Huong
- Mekong River Commission: Dr Cornelis van Tuyll
- Netherlands Embassy: Mr Ross Hughes
- GTZ: Dr Laslo Pancel
- CARE International: Mr Jens Rydder
- Ecological Economics Institute (NGO): Prof Nguyen Van Truong and Prof Ha Chu Chu
- Birdlife International: Mr Jack Tordoff
- IUCN The World Conservation Union: Ms Nguyen Yen and Mr Nguyen Cong Minh
- United Nations Development Programme: Ms Nguyen Ngoc Ly
- Danish Embassy: Mr Dao Nhat Dinh
- Vietnam Environment Protection Agency: Dr Tran Ngoc Cuong

Annexe 5: Stakeholder meetings at provincial level

Quang Nam Province

- Provincial Forest Protection Department
- Department of Agriculture and Rural Development
- Department of Investment and Planning
- Department of Land
- Department of Technology, Environment and Scientific
- Song Thanh Nature Reserve Management Board
- District Forest Protection Department, Hien District

Gia Lai Province

- Provincial Forest Protection Department
- Department of Agriculture and Rural Development
- Department of Investment and Planning
- Department of Land
- Department of Technology, Environment and Scientific
- Department of Statistic
- Department of Resettlement and New Economic Establishment
- Kon Ka Kinh National Park Management Board
- Economic Division of Kbang District
- Kbang Forest Protection Division

Quang Tri Province

- Provincial Forest Protection Department
- Department of Agriculture and Rural Development
- Department of Investment and Planning
- Department of Land
- Department of Scientific, Technology and Environment
- Department of Statistics
- Department of Resettlement and New Economic Establishment
- Department of Fishery
- Dakrong Nature Reserve Management Board
- Division of Economic & Planning of Dakrong People's Committee District
- Dakrong Forest Protection Division