

Forestry for People: A Proposed Evaluation for Forestry Commission Scotland

By the Social Research Group of Forest Research

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Introduction

This proposal follows on from the Scoping Study prepared for FC(S) by Max Hislop and Anna Elliott in September 2005. The principle aim of the proposed study is to provide evidence on the basis of which FC(S) can argue for public funding of forestry at the Comprehensive Spending Review (CSR) in 2007. Such evidence is based on an understanding of the public good value of forestry.

A major unanswered question concerns the nature of the evidence that will be powerful at the CSR. This is not the place for a detailed exploration of the pitfalls of attempts to quantify things objectively (e.g. using "willingness to pay") that are properly part of political debate, and to which there is an ethical dimension. These are explored e.g. in Foster (1997), reviewed in Forestry (Tabbush, 2001). It seems reasonable to assume that the Scottish Office or Defra will expect those things that can reasonably be quantified to be quantified, and this is certainly part of the aim of the proposed study. It is equally important to recognise that there are advantages and disadvantages with both quantitative and qualitative research approaches and that the selection of appropriate methods should always result from a careful consideration of research objectives and, most importantly, the ways in which research respondents themselves are likely to express the meanings and values that it is the job of the researcher to record and analyse. In short, it is clear that a mixture of quantitative and qualitative research is required, including economic valuation where possible and valid.

The first step will be a thorough literature review of each theme, and it will be necessary to integrate these reviews since there are overlaps of subject matter between themes.

Research methodologies are considered separately for each theme. For ease of reference, some useful texts on relevant methodologies are appended at Annex 1.

The scoping report (Hislop and Elliott, 2005) included the Terms of Reference received from Simon Hodge in 2004. Simon later indicated that the study should be limited in space (Scotland only) and time (the study asks for an evaluation of the *current* value of forestry in Scotland). The study is also limited in that it is not about large-scale industrial forestry, it is about activities undertaken on a local scale and with social objectives. However, the subject field remains very wide, and the scoping study sought to simplify it by proposing five themes that correspond to stakeholder's views:

1. Community Capacity
2. Quality of life (Recreation, amenity and culture)
3. Livelihoods
4. Health

5. Education

F4P is understood to relate to the public benefits of forestry. Historically, forestry has been described as an economic enterprise, and public benefits have been treated as “intangible benefits”, “unmarketed benefits” or “externalities”. Now that forestry is seen more as a social enterprise, public good is moving to centre-stage. Public goods are available to society as a whole, rather than to private individuals, and they are often paid for through the public purse. Considerations of equity and justice indicate that public goods should be available to all sections of society, regardless of ethnicity, disability or socio-economic category. Considerations of Sustainable Development also indicate a public policy that safeguards these goods for future generations. It follows that public goods need to be identified, and, where possible valued in money terms or otherwise evaluated so that they can be prioritised and so that their delivery can be protected and enhanced.

Social Research Group

Forest Research has been building its Social Research Group (currently part of Environmental and Human Sciences Division) for the past 5 years, and the history of the development of this programme has constituted an exploration of the public benefits of forestry and the means and processes by which they are delivered. The SRG programme, covering the three countries of GB, is currently organised in the following 5 themes:

- Environmental decision-making
- Economy and livelihoods
- Access inclusion and diversity
- Health and Education
- Evaluation and Impact Appraisal

There is clear correspondence between these themes and the F4P themes, especially in Health, Education and Livelihoods. The SRG programme includes process categories alongside public good categories and this complicates the comparison, but all the areas of public good identified in the scoping report are also the subject of current SRG programmes. For example, “Access, inclusion and diversity” covers much of the idea of “Quality of Life”. “Evaluation and Impact Appraisal” is concerned with systems of evaluation that link social economic and environmental indicators, and that necessarily combine quantitative and qualitative analysis.

One issue is that the staff of the SRG, as recognised by a Visiting Group in 2004, is skilled in qualitative research methods rooted in sociology and social geography, and with a strong background in natural science. It currently lacks expertise in relevant disciplines such as psychology, political science, and (the various disciplines of) economics. This is being addressed by current recruitment policy, and the SRG is currently recruiting an economist.

SRG has close links with a number of universities (especially, Cardiff, Lancaster, Surrey, Brighton, Glasgow and Edinburgh) and works comfortably in collaboration with these and other external contractors. The principle is to get work done as efficiently and effectively as possible, while retaining sufficient in-house capacity to ensure continuity and consistency of approach, and ensuring that the needs of the Forestry Commission are met.

The SRG is therefore well placed to undertake the evaluation work for FC(S). We propose to incorporate it into our existing programmes, with each thematic area lead by the relevant project leader for each thematic area, and letting contracts to make the best possible use of existing expertise within the research community. This report considers each of the 5 F4P themes in turn, and then summarises the main proposals.

Tabbush, P. M. (2001) Valuing Nature. Ethics, Economics and Environment. *Forestry* **74** (3), 315 - 318

1. Community Capacity

Background

Community Capacity is the title given to the theme that embraces a range of benefits that 'Forestry for People' can bring to communities and individuals in Scotland.

Research into peoples' quality of life, well-being and happiness has shown that the quality of the communities in which individuals live (Economist Intelligence Unit, 2005) and the quality of social relations within these communities (Millennium Ecosystem Assessment, 2003) are significant factors. They rank alongside other factors such as, security, good health, material needs and political stability.

Community and social relations include notions of social cohesion, mutual respect, good gender and family relations, and the ability to help others. These factors are often associated with the ideas of 'social capital' and 'human capital'. The principle purpose of research under the theme of Community Capacity will be to evaluate the contribution made by 'Forestry for People' to social and human capital in Scotland.

Social and Human Capital

Social capital refers to relationships between people (Walker, et al. 2000). It consists of the networks, norms, relationships, values and informal sanctions that shape the quantity and co-operative quality of a society's social interactions (Aldridge, et al. 2002). The central proposition in the social capital literature is that networks of relationships constitute, or lead to, resources that can be used for the good of the individual or the collective (De Clercq and Dakhli 2003). Human capital refers to individuals and their relationship with themselves (Walker, et al. 2000). It pertains to individuals' knowledge and abilities that allow for changes in action and economic growth (Coleman 1988). Some recent literature regards human capital as a sub-set of social capital (XXXref).

Benefits of Social Capital

Research has shown that higher levels of social capital are associated with better health, higher educational achievement, better employment outcomes, lower crime rates, and improved economic performance (Putnam 2000). In other words, those with extensive networks are more likely to be "housed, healthy, hired and happy" (Woolcock 2001). The potential beneficial economic and social effects of social capital are described in a discussion paper on social capital prepared by the Government's Performance and Innovation Unit:

- facilitate higher levels of, and growth in, GDP
e.g. Social capital facilitates the flow of information and lowers transaction costs, notably through increasing trust.
- facilitate more efficient functioning of labour markets
e.g. Networks and contacts that make up social capital can provide highly cost-effective mechanisms for facilitating job search.
- facilitate educational attainment
e.g. A strong positive association between levels of social capital, measured by the size and diversity of social networks, community engagement and social trust, and levels of educational attainment.
- contribute to lower levels of crime
e.g. 'social control' through the internalisation of values through social networks.
- lead to better health
e.g. A strong positive relationship between measures of social connectedness (such as close bonds with family and friends) and low mortality rates.

- improve the effectiveness of institutions of government
e.g. Social capital makes citizens more “sophisticated consumers of politics”, offering channels through which they can learn about the wider policy context, mobilise and lobby government to act in ways that benefit the community. (Aldridge, et al. 2002)

However, not all the impacts of social capital are beneficial. The potential downsides of social capital are:

- Fostering behaviour that worsens rather than improves economic performance
- Acting as a barrier to social inclusion and social mobility
- Dividing rather than uniting communities or societies
- Facilitating rather than reducing crime, educational underachievement and health-damaging behaviour

If social capital is to bring net economical and social benefits it needs to be accessible by all members of society or the community rather than appropriated as a ‘club’ good by sectional interests (Aldridge, et al. 2002).

Recent work has distinguished three main types of social capital:

- bonding social capital – described as ‘bad’ social capital, it is characterised by strong bonds (or “social glue”) e.g. among family members or among members of an ethnic group, that involve a narrow radius of trust and lead to exclusion of others. Criminal gangs are an example of the worst cases of bonding social capital (Kitchen 2004);
- bridging social capital – described as ‘good’ social capital, is characterised by weaker, less dense, but more cross-cutting ties (“social oil”) based on established norms and reciprocal trust e.g. with business associates, acquaintances, friends from different ethnic groups, friends of friends etc., and a consequent access to enhanced resources (Kitchen 2004);
- linking social capital - characterised by connections between those with differing levels of power or social status e.g. links between the political elite and the general public, or between individuals from different social classes (Woolcock 2001).

Forestry in Scotland and Social Capital

The ‘Forestry for People’ stakeholders interviewed as part of the scoping study for this evaluation identified a range of benefits that pertain to social and human capital.

Social Capital:

- Social cohesion
- Community pride
- Community engagement
- Community empowerment
- Community stability

Human capital:

- Sense of belonging
- Sense of ownership
- Self-confidence
- Self-esteem
- Skills and training

These stakeholders clearly feel that forestry can benefit the people of Scotland by stimulating increased levels social and human capital. As one scoping study interviewee said:

“forestry is not the panacea for everything but it just seems to be incredibly punching above its weight in terms of it’s ability to help people to co-operate together to get some tangible results and safeguard their community”.

The great interest in community forestry in Scotland is further evidence that people in rural communities recognise that there are community benefits to be derived from forestry and are prepared to work together to realise those benefits from their local forests and woodlands, rather than pursue other development opportunities. Why is it that forestry is “punching above its weight” in Scotland? Perhaps it is because people recognise the public forestry estate as an under-exploited public resource that they have an opportunity to benefit from. Perhaps it is because the Forestry Commission has promoted a participatory approach to forest planning with the result that community benefits achieved in one location stimulate interest from other communities. Perhaps it is because people are unhappy about the withdrawal of forestry staff from many rural communities over the last few decades and the consequential loss of social capital .

The challenge facing any evaluation of the contribution of ‘forestry for people’ in terms of social and human capital will be to isolate the particular effects that forestry has on a community’s networks, norms, relationships, values and informal sanctions and on an individual’s knowledge and abilities, from the effects derived from the activities of other agencies. For example, can it be assumed that where there is no connection between a community and the management of the local or regional forest resource there will be no contribution from forestry to the social or human capital of that community? Can it be hypothesised that the contribution of forestry to a community’s social and human capital will increase as the level of community involvement increases? Should community involvement be defined in terms of the number of people involved, the type of involvement (as consumers, practitioners or decision-makers), the level of responsibility for the stewardship of the forests, or a combination of these measurements?

Measuring Social Capital

Economists have suggested a number of methodologies for measuring social capital, including Game Theory to assess the formation of trust and other economic models to analyse the components of social capital. Other economic methodologies include Contingent Valuation methods to assign monetary values to how much people are attached to their rural community (Kitchen 2004).

Social scientists tend to focus on the perspective of social capital in terms of civic participation, formal and informal community interactions and social trust. The use of quantitative surveys and qualitative methods such as interviews and focus groups have been proposed as the basis for an analysis of the number of clubs people belong to, or the sense they have of the responsiveness and accessibility of government, or people’s overall sense of trust of others (Kitchen 2004). Others have proposed a range of qualitative methods, including ‘walking with’ research respondents (groups and individuals) in forested places, as a means of recording and citing local stories and testimonies which illustrate the range of benefits accruing to communities and individuals as a result of high levels of social capital centred around forest-related activities (Morris 2004, Morris & Urry forthcoming).

Aims

The aim of work in this theme is to complete an evaluation of the contribution of 'forestry for people' in Scotland to the capacity of communities to survive, to support themselves and to contribute to society. This work will be based on the development of sound methodologies that enable the research team to assess the contribution made by 'forestry for people' to a range of factors that are captured by the ideas of social and human capital. The evaluation will be expressed in terms of the total contribution made by 'forestry for people' throughout Scotland.

Objectives

1. To develop methodologies and assessments of the present day contribution of 'forestry for people' in Scotland to:
 - Community Organisational Life
 - Participation, social engagement, commitment
 - Community Volunteerism
 - Social interaction, social networks, social support
 - Trust, reciprocity, social cohesion
 - Individual and collective knowledge, skill and abilities
2. To develop an evaluation approach that can be repeated in the future for comparison and the recognition of progress.
3. To aggregate the results of the assessments to present reliable and valid measurements under the Community Capacity theme derived from current 'forestry for people' activities at the national scale.
4. To develop methodologies that are complementary to and compatible with the research proposed for the other evaluation themes.
5. To report on the results within a three-year timetable.

Methods

The scoping study identifies that the aim of the research is to achieve an evaluation of 'forestry for people' at the national scale, and to gather local in-depth data to provide a quality of information that could not be derived from broad national assessment. To achieve the breadth and depth of assessment that is required necessitates a limited number of in-depth studies of community involvement in local forest initiatives, followed by a process of extrapolation from these 'case study' communities to the Scottish population as a whole. The process of extrapolation should be validated through the use of a national-scale survey.

In-depth community-based assessments

In order to derive a representative sample of the effects of 'forestry for people' on Community Capacity, as defined earlier, it will be necessary to stratify the Scottish population in terms of the level of community involvement in local forestry. The process of stratification will be challenging and will necessitate the analysis of some existing datasets (e.g. MacIntyre and Marshall 2003). Other data will be required to characterise levels of involvement of different communities and might be obtained through a survey of FCS Conservancy staff. A sample of communities from within each of the strata will then be identified as study locations. The study locations will range from urban to rural communities and from those with a high level of involvement to those with little involvement in forestry initiatives.

Several research methodologies might be used to assess social and human capital at each of the study locations. The New Economic Foundation's methodology described in Prove It! (Walker, et al. 2000) involves local people in both choosing the

indicators that contribute to social and human capital in their context and in the processes of data collection, which may include surveys, interviews and secondary data sources.

The Community Development Foundation is developing a methodology based on the Audit Commission's 'Quality of Life' indicators. These amount to a number of survey questions related to each indicator that are applied to all locations to allow comparison (Humm, et al. 2004). These could be quite simply applied at each study location, though it is likely that this alone would not get the depth of information required for the evaluation.

The World Bank has published a methodology for measuring social capital based on an integrated and fairly comprehensive interviewer-led questionnaire survey, tested in various developing countries around the world. This could be adapted to suit the Scottish context and used in study locations. The nature of the survey would require the use of experienced, trained interviewers.

National Scale Validation Survey

The Office of National Statistics has developed a framework for the measurement and analysis of social capital at the national scale. It uses a survey matrix that identifies government and non-government surveys that contain questions with social capital elements. This works reveals that there is substantial data collected at the national scale that can assist this evaluation in the validation of local study results. In addition it may be necessary to use other representative research devices, such as omnibus surveys, to fill the gaps in the available dataset for Scotland.

Research tasks

1. Identifying the sampling strata and sample study locations
2. Undertaking the assessments and data analysis for each study location
3. Aggregating the results and extrapolation to the national scale
4. Validation of results with national survey data

Resources

Case studies will each cost £5 - 10K so a reasonable figure for 4 case studies would be £25k. Collation, review and associated supervisory tasks would cost a further £20k. National validation to include a survey would cost £10 – 15k. Total £55-60K

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2. Quality of Life (Recreation, Amenity and Culture)

Background

The scoping report (Hislop and Elliott, 2005) identified Quality of Life (QoL) as one of the categories of benefit derived from 'Forestry for People'. Interviewees consulted during the study identified the opportunity to participate in a variety of forest and woodland related pastimes as a benefit to people's QoL. Similarly, the value of visual amenity, whether that is through landscape-scale forest design or through the more intimate-scale often associated with 'greening' in the urban fringe, was regarded as improving people's quality of life in ways not covered by the other themes. In addition, woodlands were seen to contribute to culture, history, and sense of identity and place for those visiting, living near, or simply aware of the existence of woodlands in the UK. The theme of QoL was added to the study to cover these residual values that are not included in other themes. Simply put, they encompass the benefits of forests that are derived from three classes of value: recreation, amenity and culture, as follows:

Recreation: sporting and other leisure activities.

Amenity: the enjoyment resulting from sensory perception (sights, sounds and smells).

Culture: the value that woodlands contribute to culture, identity and sense of place.

There is no unequivocal meaning of the term quality of life, or indeed related terms such as happiness, welfare or wellbeing. The term "well-being", which is a current focus in Defra research, is more or less synonymous with the broader definitions of QoL. In 1975, McCall defined quality of life as 'necessary conditions for happiness', but this simple definition clearly hides multiple factors that overlap and inter-relate in complex ways, and which cannot be easily measured. For example, Veenhoven (1984) listed fifteen definitions of happiness. The term makes more sense when it is related to a particular sector or discipline. For example, in the field of health care, its definition evolved in order to convey that there is more to good health than just long survival time, and this idea is encapsulated in the phrase 'health and wellbeing'. (Veenhoven 2000).

There are clear areas of overlap between the theme of QoL and other themes in the proposal, in particular with health, which uses the broader notion of 'health and wellbeing'. The Scoping Study concluded that there should be a distinction between the benefits of 'pleasure' and 'fun' and the physical health benefits of increased activity levels, and also the mental health benefits from the peace, quiet and solitude afforded by forests and woodland. Simply put, QoL, as defined here, covers the 'leisure and pleasure' benefits that are derived from the recreation, amenity and cultural values of forests.

The boundary with the theme of 'livelihoods' also needs to be clarified. A major factor in determining quality of life, in the broad sense of the term as used by policymakers, is household income, and this, in turn, can be derived directly or indirectly from levels of employment in forestry or forestry-related tourism. These benefits are covered by the 'livelihoods' theme. Instead, we focus here on contributions to QoL that can be experienced by society as a whole, and which derive from forestry as a public good. Jacobs (2002) also makes the distinction between the quality of individual lives

(individual QoL) and the quality of the collective life of a society as a whole (social QoL), and notes that many environmental goods confer social as well as individual QoL:

“Natural habitats do not make me better off personally, nor does reducing the risk of global warming to future generations. These contribute rather to the health or quality of society” (Jacobs 2002).

Individual QoL is more related to economic measures of income and expenditure like “standard of living”. Paradoxically, however, sociologists seem to have concentrated on individual QoL, demonstrating that individual consumption is not a route to individual well-being (let alone social well-being), and that social goods, such as air quality, landscape, public services, and national security contribute to individual QoL. Social goods such as fair and competent governance or freedom of access to green space contribute both to individual *and* social QoL. This study will focus on those elements of QoL which contribute to public good.

In 2004, Ken Willis analysed the contributions of woodland to sustainable development and quality of life, and based his categorisation on the Quality of Life Indicators used by the UK Government. He identified 15 benefits of woodlands, which he argued contributed in different ways to 11 of the 15 headline indicators used by the government. His matrix of woodland benefits and indicators acts as a useful point of departure for structuring the research proposed here (Willis 2004: 49). Three benefits identified by Willis are of specific relevance to the QoL theme in this proposal. These are ‘cultural history’, ‘archaeology and heritage’, and ‘landscape and recreation’, which roughly overlap with our chosen values (recreation, amenity and culture) as follows.

1. Culture (Cultural History, and Archaeology and Heritage)

Trees can make important contributions to the cultural history value of a landscape or region, but studies investigating cultural value of woodland are still rare. A small number of economic valuations have been conducted, for example Hanley et al (1996) and Santos (1998) both valued the benefits of woodland in different UK cultural landscapes.

As with cultural history, the need to value the heritage and archaeological benefits of woodlands and forests has been under-researched. Macmillan (2002) explored the value of protection services provided by forests that are managed according to archaeological guidelines in different Environmentally Sensitive Areas in UK. The contribution towards quality of life provided by the diverse range of archaeological artefacts such as burial mounds, field systems and standing stones that remain preserved in UK forests, has hardly been addressed.

2. Recreation

Recreational benefits are relatively tangible and well researched, and there is good understanding of how size of the woodland, the degree of commercial production, species composition, access, and location in relation to settlements, all influence its value. Willis (2004) divides recreational benefits into three categories: leisure, health and lifestyle benefits. Of these health is covered by the wider health theme in this proposal. Lifestyle benefits are less clearly defined, but appear to overlap with cultural values identified above. Leisure benefits can be distinguished between activities such as walking, jogging, mountain biking, watching wildlife, and more organised activities such as paint-balling, shooting and car rallies which require greater facilities. These benefits accrue to a wide range of individuals and can be valued by travel cost method which aggregate average benefits to individual users.

Organised leisure is easier to value economically since prices paid and data on numbers of participants are more available. The benefit transfer method was used by Scarpa (2003) for a FC study to estimate the value per person per visit for the entire British forest estate.

3. Amenity (Landscape)

The term “Landscape benefits” usually refers to those derived from an ability to view trees or woodland and their visual enhancement of the environment. Existing research into these benefits tends to include them within recreational benefits, or to consider them in terms of their effect on house prices. The contribution of visual amenity of woodlands towards quality of life can include the value to people’s choices about where to spend their leisure time, and the value of amenity in urban areas and the urban fringe including the ways in which this influences choices about the location of new businesses. It is clear that type of woodland has a huge impact on landscape benefits, and it is widely accepted that natural looking broadleaved woodlands are strongly preferred, especially in a patch-work landscape of woods and fields. Conifer plantations with blanket uniform structure can significantly reduce local property values (Willis and Garrod 1992).

Taken together, these categories account for important values that are not covered by other themes. What appears to be missing from Willis’s typology is a better understanding of the contributions of woodlands towards cultural identities and sense of place, as experienced by local residents, visitors, or people who simply appreciate the existence of woodlands as a result of media and popular discourses. Here we can explore and evaluate the ways in which the arts are used both in and outside woodlands to enhance visual amenity and sense of place. This overlaps with the growing body of research by cultural geographers that explores how cultural and media representations of the countryside and woodlands can act as cultural barriers which may help to prevent under-represented groups from visiting woodlands (Edwards and Weldon 2005). The challenge of valuing these benefits presents methodological difficulties, which need to be tackled with qualitative as well as quantitative techniques, but it is also an exciting opportunity for this study to contribute to a fuller understanding of the benefits of forestry for people.

Objectives

To gather evidence of the contribution to amenity, leisure and culture currently delivered as a result of forestry activities, where possible quantifying these, including economic valuation.

Methods

Amenity values are virtually never marketed directly, although they may contribute to the viability of tourism businesses (see “livelihoods” theme), to house prices and hence to the ability of house-owners to invest in local businesses, or to the enjoyment of apparently unrelated activities (e.g. mountain-biking). The research will therefore be of two phases:

1. An investigation into the types and extent of the benefits experienced, using social-science methods including surveys, questionnaires, focus groups, in-depth discussion groups, and participant-observation of respondents (groups and individuals) engaged in various cultural and recreation activities in forests, quantifying benefits where possible

2. Using indirect valuation methods to quantify in financial terms the contribution made by the most important categories of benefit revealed in phase 1.

Categorisation and assessment of benefits

The variety and extent of benefits experienced is best revealed through a participatory process involving stakeholders.

The first step is to carry out a stakeholder analysis. The objective of this is to map, both geographically and in terms of meta-data (e.g. socio-economic group) those who might benefit. The stakeholder analysis process will be augmented through a “snowballing” process as the research progresses.

Next, a sampling scheme will be devised for the important stakeholder groups, and a strategy drawn up, allocating stakeholder engagement methods appropriate to each stakeholder group.

Finally, the engagement methods will be deployed, recognising that the methods need to be reviewed regularly in the light of the emerging findings, and similarly that some stakeholders may need to be revisited and new stakeholders may need to be identified as the work progresses.

Transcripts of interviews and group discussions will be analysed (using standard social science techniques such as content or discourse analysis), and the results produced in report form.

Indirect valuation

Where possible, i.e. where the revealed benefits are of a type that can be valued in money terms, indirect valuation methods such as hedonic pricing (e.g. the travel cost method or by using house prices as an indicator of the value-added by wooded landscapes) will be used to quantify the benefits in money terms. Multi-criteria analysis (MCA) or Group Valuation Techniques will be used to quantify social values. These methods will be employed when it is judged that the expression of benefits in monetary terms enhances the analytical thrust of the evaluation. It is envisaged that stakeholders and respondents themselves may provide a useful ‘sounding board’ in the choice of appropriate valuation methods.

Case studies

The cost of this work would be prohibitive if it were applied at the outset to Scotland as a whole. It would be better to derive values for 3 or 4 “representative” case studies and then to multiply up to derive possible values for the whole of Scotland, taking into account, as far as possible, factors that might bias the estimate. Case studies will be chosen according to the character of woodland use (e.g. one in close proximity to southern areas of high population density; one in the remote Highlands; one near the tourist attraction of the west coast and the mountains). The choice to adopt a case study approach is not, however, conditioned purely by financial considerations. It is envisaged that in-depth analyses of the public amenity, cultural and recreational benefits provided by forests in specific settings will further an understanding of the various qualities or ‘affordances’ of Scottish forests and the ways in which they enhance QoL in Scotland. This furthered understanding, furthermore, will be

grounded in local testimonies and accounts of the ways in which access to forested spaces has been a force for the good in the lives of individuals and communities. It is hoped that these real-life testimonies and accounts will prove invaluable to managers, planners and policy-makers working to enhance the role of forestry in Scottish sustainable development policy.

Ethics

The Social Research Group's ethical statement will be followed for all projects; this is based on guidance from the Social Research Association and the British Sociological Association.

Resources

The phase 1 research in each case study will take 4 to 6 months at a cost of around £5 – 10,000 per case study – e.g. £25,000

Phase 2 need not be confined to the initial case studies, and will be targeted to answer specific questions raised in Phase 1. Given the need for MCA, this phase will take 6 to 8 months and will cost £15 - £20,000

Total cost will therefore amount to e.g. £30k to £50k

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3. Livelihoods

Background

The term 'livelihoods' refers to the various ways in which people sustain their material well-being. At the most basic level, this equates to food and shelter. In advanced capitalist societies, such as Scotland, assessments of livelihoods are primarily focused around *formal* economic activities and concern themselves with monetary flows and associated direct and indirect employment.

However, *informal* economic activity and employment are also significant in certain sectors, particularly forestry and tourism (Slee et al, 2003), where casual labourers account for a considerable proportion of the workforce.

Livelihoods may also be sustained through *non-economic* activities such as bartering, gifting and subsistence uses of raw materials. It is primarily through these informal activities that plant materials and fungi are believed to contribute to livelihoods in Scotland (Emery et al, forth-coming).

Forests and the countryside in general are increasingly recognised as having impacts upon livelihoods. As such, they have been referred to as '*countryside capital*' (Countryside Agency, in Slee et al. 2003). Forestry is seen not merely as a source of revenue from traditional timber production activities, but also as a source of non-timber forest products (such as berries, moss and fungi), a resource for tourism, and a provider of recreation services. Forestry also provides an attractive setting for businesses and homes, generating expenditure within local and regional economies. Indeed, Slee et al (2003) estimate that forestry contributes more to rural development through indirect than through direct utilisations of forest resources, but that these contributions vary extensively at the local level (e.g. according to differences in the importance of timber production and processing, tourism activity and the area as a location for commuters and retired people).

Recent work has estimated that:

- Forestry (timber production and processing) in Scotland is estimated to support the equivalent of 10,694 full-time jobs (Forestry Commission, 2005).
- Other forest products, such as plants and fungi are gathered by nearly one quarter of the population (TNS Global, 2003).
- In Scotland, forest-related day visit tourism expenditure amounts to £163 million (Hill et al, 2003). This equates to around 2.5% of tourism expenditure (ibid).

In accordance with the findings of the scoping study, research under the 'Livelihoods' theme will aim to evaluate the contribution of 'forestry for people' to formal and informal economic activity and employment in Scotland. In addition, the research will assess the *quality* and *sustainability* of these economic activities, together with the role of different forestry initiatives in determining quality and sustainability. This will involve investigating issues ranging from employment through to access to plant, fungi and animal resources.

Aim

The aim of work under this theme is to develop methodologies for evaluating the benefits of Scottish woodlands and 'forestry for people' activities to the livelihoods of people living in Scotland, and to make evaluations of these benefits. Where possible, benefits should be described at the national level.

Objectives

To develop methodologies and assessments of the value of forestry's contribution to:

- direct and indirect spending
- direct and indirect formal employment
- direct and indirect informal employment
- informal monetary exchange
- bartering and gift giving
- subsistence activities
- quality of jobs
- sustainability of livelihoods

It is envisaged that assessments will be centred on:

- Small and medium scale timber production and processing, e.g. medium scale saw mills, regional and local wood processing enterprises
- Non-timber forest products, e.g. deer, moss, berries
- Tourism and recreation, e.g. accommodation establishments, activity providers, food and drink providers, bike hire and other service providers
- Other businesses
- Households e.g. commuters and retired people

It is recommended that work in this area focus on evaluating the *economic significance* of forestry – that is – the economic importance of forestry to Scotland's economy based on expenditure taking place in the economy rather than the *economic impact* of forestry – that is – the impact of forestry in creating new spending (additionality) in the economy (Hill et al, 2003, p. 1). This is because it is very difficult to robustly assess additionality. It will be important that any outputs from evaluations in this theme make this distinction explicit.

In the context of forestry for timber production, an evaluation of forestry for people, will not include the livelihood values of wood processing at the national level. Rather, the evaluation will centre on regional or locally based wood processing industries which provide benefits to local people and regional economies .

A decision will have to be made as to whether the environmental management, education and health sectors are likely to be significant generators of livelihood value (e.g. jobs) and, therefore, whether they will be included in the evaluation. It is speculated that many of the regional and local livelihoods benefits derived from environmental management activities will be captured by employment in the recreation, tourism and NTFP sectors, e.g. wildlife tourism activity, fungi and berry gathering, production and sale of venison.

Methods

Criteria and possible indicators

- direct employment: number of jobs (employment by forest owners and managers)

- indirect employment: number of jobs (employment by non-forest owners and managers)
- informal employment: number of jobs (by forest owners and non-forest owners)
- non-monetary activities: levels of bartering, gifting and subsistence use
- quality and sustainability of jobs: distance travelled to work, salary, accidents at work, job satisfaction, training and skills development, seasonality of work, staff turnover rates.

Valuation methods

The valuation methods used to assess livelihoods, particularly formal economic activity, are likely to be *monetary*. Whilst some methods will be able to derive estimates of benefit using secondary data sources, others are likely to involve empirical research, generating primary data to estimate effects on local economic activity and the retention of spending within the locality or region. Methods will need to take account of multiplier effects of spending in order to calculate estimates of indirect spending and employment. They will also need to address issues of additionality (extent to which forests generate extra expenditure within the economy). Methods which should be considered are:

- Regional Keynesian multiplier approaches
- Regional input-output models
- Benefits transfer methods
- Transferable econometric models (as developed in the Forest's Role in Tourism project).
- LM3 - <http://www.pluggingtheleaks.org/>

CJC Consulting (2005) in their study of the Economic Impact of the Forestry Sector in Moray conclude that a combination of local surveys and national GRIT estimated multipliers provide the most cost-effective means of obtaining estimates of the total economic impacts. It is advised that any methodology utilised should provide understanding of inter and intra-regional patterns of circulation – in other words, the extent to which and way in which benefits are accrued at the local/regional level and the extent of leakage outside of the locality/region.

Quantitative surveys are likely to be used to assess contributions to informal economic activity, particularly bartering, gifting and subsistence uses. *Qualitative methods* (e.g. in-depth interviews and focus groups) will be used to generate additional quantitative data e.g. on levels and patterns of spending. These qualitative methods will also provide insights into the ways in which benefits are generated for a range of forest products and services, e.g. how forestry contributes to tourism. Qualitative methods will also be used as a basis for assessing the quality and sustainability of economic activities and jobs that can be linked to 'forestry for people' initiatives. Analysis will draw on the evidence provided by stakeholders' testimonies and accounts of their involvement in forestry-related activities and their own assessments of the income- and employment-related benefits accruing from these activities. The development of case studies will be essential to demonstrate how benefits are delivered at the individual and enterprise level (rather than local or regional scale).

Slee et al (2003) note that there is a need for research into methods which assess the degree to which forests deliver additional injections into regional economies and how these injections are distributed at the sub-regional level. They also note that there is a need for research to explore the extent of the informal economy in the

countryside management sector. This analysis is also required for assessments of forestry's contributions to the tourism sector.

Before any primary research is conducted, a literature review to thoroughly assess methodologies which can be used to evaluate livelihoods will be necessary. It will also be required to identify any existing data on the value of forestry to livelihoods in Scotland.

Sampling

A stratified sampling strategy will be employed.

Criteria likely to be important in defining sampling are:

- extent and nature of woodland
- population density and socio-economics (including levels of commuting and retired households) and proximity to woodlands
- rurality and urbanity
- level and nature of tourism activity

Projects will be at the regional and local level and draw on a number of case studies. Some case study findings will be *revelatory*, enabling assessments of contributions that are specific to a given initiative, enterprise, or locality, whilst other case study findings will be *representative*, allowing assessments to be extrapolated or 'scaled-up' to the national level. The regional and local case studies may be structured according to sectors e.g. tourism, timber production and processing, or non-timber forest products.

Whilst some secondary national level data could be used for regional analyses, primary data collection will also be necessary. The exact resources available will determine the extent to which regional/local field work will be possible to supplement national multipliers.

CJC Consulting (2005) suggest that in order to increase the robustness of estimates regions larger than Moray should be used as case study areas.

Work required

Surveys of businesses and employees within the timber production and processing sector, tourism sector and other sectors. This will reveal, for example, the extent to which the presence of forestry can be attributed to businesses locating in the area, the percentage of their turn over attributable to forestry, the perceived sustainability of turn over, number, nature and quality of jobs provided by the business. The nature and extent of uses of timber and non-timber products.

Surveys with day visitors (local and non-local) and overnight visitors to determine the importance of forestry in decisions to visit a given locality, patterns and levels of spending (at the beginning of a trip as well as within the destination), the importance of forest characteristics and related infrastructure in informing people's (possibly different user groups) decisions to visit, and the extent and nature of visitors' uses of timber and non-timber products.

Surveys of households to determine the importance of forestry in decisions to locate in a given area, associated levels and patterns of household expenditure, and the extent and nature of use of timber and non-timber products.

Qualitative research (interviews, focus groups, and 'walking with' research respondents (Morris 2004)) to provide qualitative assessments of respondents' experiences of formal and informal economic activities, job satisfaction, and visits to forests. These assessments will be grounded in the meanings and values that stakeholders and respondents themselves attach to various formal and informal economic activities and in the connections they make between these activities and their forest settings.

Estimates of the economic contribution of regional forestry events e.g. Mountain Biking World Cup.

Resources

Projects within this area are likely to have medium to large resource requirements (11K- 50K).

Useful Data Sources

United Kingdom Tourism Survey
Scottish Recreation Survey
Leisure Day Visits Survey
Public Opinion of Forestry Survey
Non-timber forest products omnibus survey
Valuing Forest Recreation Study
All Forests Survey
Forest Employment Survey (regional data available)

Useful methodological references

CJC Consulting 2005 Economic Evaluation of the Forest Sector in Moray. Final report for Forestry Commission Scotland, Edinburgh.

Slee, B., Evans, R. & Roberts, D. 2003 Understanding Forestry in Rural Development. Report to Forestry Commission, Edinburgh.

Macaulay Land Use Research Institute with Geoff Broom Associates. 2000 Forests Role in Tourism Project: Phase One, Final Report. Report for the Forestry Commission, Edinburgh.

Possible contractors

- Dr. Bob Crabtree, CJC Consulting, Oxford
- Dr. Suzanne Martin and economist, Social Research Group, Forest Research
- Dr. Deb Roberts, Arkleton Centre for Rural Development, University of Aberdeen
- Prof. Bill Slee, Countryside and Community Research Unit, University of Gloucestershire
- Prof. Ken Willis, Centre for Rural Economy at Newcastle University

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4. Health and well-being

Background

The World Health Organisation's definition of health is that it is a 'state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Scotland has an unenviable position at or near the top of international league tables for major diseases of the developed world such as coronary heart disease (CHD), cancer and stroke. It has been estimated that 9% of deaths from CHD could be avoided if people who are presently inactive become moderately active (British Heart Foundation, 2002). Physical activity can reduce the risk of CHD, colon cancer and stroke by 40 per cent. 70 per cent of the Scottish population is currently physically inactive. Research has shown that walking is the most successful activity to promote to inactive people. The UK Day Visits Survey estimates that there are approximately 22 million day visits made to woodlands in Scotland. 41 percent of those surveyed in the 2003 public opinion survey of forestry felt that an important factor when choosing to visit a woodland was that it was a good place to unwind and de-stress.

Studies of socio-economic status demonstrate a link between social environment and health with poverty, unemployment, education, living and working conditions, families, friends, social support and physical environment all significantly affecting health (Mitchell-Banks, 2005). For many diseases the wealthy have a lower incidence rate than the poorest within a population. Therefore one of the ways in which FCS can make an impact on public health in Scotland is through the Woods In and Around Towns (WIAT) Initiative which will encompass disadvantaged communities.

The medical case has been made for the importance of physical activity in relation to health. Much research on exercise and mental health shows that there is a beneficial link between the two whether or not a person has a clinical condition. Information on the cost of for example mental health to the economy varies due to the difficulties associated with measuring the problem. The Institute of Management (1996 <http://www.hebs.scot.nhs.uk/info/strategy/stratSection.cfm?TxtSNo=2&TxtTCode=202>) proposed that stress alone costs the British economy £7 billion per year in lost earnings.

According to Putnam (2000) social networks help people to stay healthy and have profound links with psychological well-being. That is why it is important to include the issue of social capital in any assessment of woodland interventions that focus on improving health and well-being.

Exercise is also a cost-effective approach compared to drug treatments. An evaluation of the health benefits of F4P in Scotland, therefore, will need to assess whether trees and woodlands and specific projects in woodlands aimed at improving people's health and well-being motivate them to get involved and stay involved in the long term. Some of the factors highlighting the importance of woodlands are outlined in a recent publication (O'Brien 2005).

- Woodlands are restorative environments: the sounds, sights and smells experienced in a wood play a role in reducing stress by providing interest and stimulation of the senses.
- Woodlands, and in particular individual trees, often hold specific meaning for people; they are seen as representing nature particularly in the urban environment. The age of veteran trees often inspires awe in people and provides us with a link between the past, present and future.
- Woodlands are part of a rich narrative of stories, legends and myths dating back thousands of years.
- Woodlands can screen out noise, for example, from nearby traffic.
- Woodlands have the ability to absorb large numbers of people without seeming crowded.
- Woodlands offer a range of options for a variety of activities, from gentle to vigorous; including walking, cycling, horse-riding, nature trails, picnics, den building and mountain biking.
- Carrying out physical activity in an attractive environment such as a woodland may encourage people to maintain their activities in the long-term
- Woodlands are an inexpensive place to visit an important factor when considering health inequalities and social inclusion.

Much research separates benefits into:

- Physical well-being – being able to exercise in a pleasant environment.
- Psychological well-being – stress reduction, mood improvement and restoration.
- Social well-being –social capital generated as part of health intervention projects, such as walking schemes that motivate people to get involved and stay involved.

Pretty et al. (2004) separated benefits in another way:

- Looking at nature – e.g. through a window or in landscape paintings.
- Being in the presence of nearby nature – e.g. travelling to work through or near to nature.
- Being active in nature – going to natural places to undertake a specific activity.

Randomised Control Trials (RCT) are considered the gold standard by the health sector for assessments of an intervention's effect on public health. An RCT was undertaken for the Sonning Common Scheme in which two groups were identified. One group was given health advice to walk and the other group was given advice and encouraged to participate in a led walking scheme. The findings were that the led walking scheme did not change habitual activity or measures of cardiovascular risk. But it did increase the amount of time participants spent on moderate intensity activity and their aerobic capacity thus providing some evidence of benefit. However, this type of study costs in the region of £250K and this is probably too costly in the present context.

The primary focus for the F4P evaluation will be on being active in nature and being in the presence of nearby nature. Evaluations should explore the physical, psychological and social elements of health and well-being in order to gain a holistic picture of the current situation. A key focus of the Scottish Executive's physical activity strategy is encourage inactive people to be more active and prevent others

from reducing the amount of activity they do rather than trying to increase activity levels among the already active (Scottish Executive, 2003).

Overall aim

To evaluate the health and well-being benefits of Scottish woodlands to the Scottish population using both quantitative and qualitative methods.

Objectives

- 1) To explore the feasibility of evaluating health benefits from the supply of green space near to where people live in Scotland.
- 2) To identify the number, and importance, of partnerships between Forestry Commission Scotland (FCS), other environmental organisations and the health sector that focus on improving people's health and well-being.
- 3) To identify those FCS projects and other green space projects which focus on health and well-being and to evaluate their public health benefits.
- 4) To examine the self reported health and well-being benefits of Scottish woodlands to the Scottish population.
- 5) To examine the restorative benefits of woodland.
- 6) To evaluate the provision of green space/woodland facilities for health.
- 7) To monitor and evaluate the Active Woods campaign in Scotland.
- 8) To monitor and evaluate the health workshops and staff training initiatives that are outlined as part of FCS Health Programme

The Social Research Group's ethical statement will be followed for all projects. This is based on guidance from the Social Research Association and the British Sociological Association. FCS needs to be aware that any data gathered on the health conditions of individuals may require ethical approval either through a Local Authority, Health Board or University Ethics Committee. Gaining ethical approval can take many months.

FCS can contribute to health and well-being by providing a resource for the general population of Scotland and by financing initiatives for harder-to-reach groups or through specialist activities such as referral schemes. The Woods In and Around Towns (WIAT) Initiative will be a key focus for developing FCS health and well-being priorities.

Current information of relevance

The public opinion survey of forestry in Scotland is collecting data on the percentage of the Scottish population who have heard of the 'Active Woods – Naturally Good for You campaign'. This was a new question in the 2005 survey and 1% had heard of the campaign. If repeated in the next survey FCS will get an idea of whether the campaign is becoming better known.

Rebecca Lovell is carrying out a PhD at Edinburgh University exploring the amount of physical activity children carry out when they attend Forest School. She is providing a small number of children with accelerometers to assess the amount of movement they undertake. This PhD is in collaboration with Marcus Sangster.

A study funded by SNIFFER (2004) (Scotland and Northern Ireland Forum for Environmental Research) investigated environmental justice in Scotland and the links

between environmental quality and social deprivation. Using existing data sets the study found that those living in deprived areas were less likely to live near to areas of woodland. However, the planting of new woodlands has tended to be in more deprived areas showing that policy may be starting to redress the imbalance. The relationship between deprived areas and green space is more complex indicating that there is no simple relationship.

Methods and suggested sampling strategies (the numbers relate to the numbered objectives above)

- 1) Carry out a project to assess the feasibility of evaluating health benefits from the supply of green space in close proximity to where people live. This was suggested in the recent report on the 'Economic benefits of accessible green spaces for physical and mental health' (CJC Consulting, 2005). Datasets to be used could include the Scottish Health Survey, Scottish Index of Multiple Deprivation, Scottish Household Survey, and the Space for People dataset on permissibly accessibly woodlands, Land Classification Data and the National Inventory of Woodland. The research will also explore the use of a model to combine these datasets to see if it is possible to assess the health benefits of local green space provision. Work by De Vries (2003) in the Netherlands explored whether people living in greener areas were healthier than those living in less green areas. He found that although people in the Netherlands say that they prefer woodlands, living near to any green space appeared to have a beneficial effect on health. A case study region could be identified (e.g. the Glasgow and Clyde Valley) and the methods used by De Vries could be used to conduct a similar study. .

The public benefit recording system has been used in Northwest England to select sites from derelict, under-used and neglected areas for woodland creation that will be of wide benefit to local communities. This approach is also being developed in Scotland and could be adapted and used to categorise current sites and to explore whether they deliver economic, environmental, or social (including health) benefits. As it is based on a GIS system, it may be useful to link this in with the work suggested above.

Outputs: A data-set linking (if feasible) health, green space, and deprivation, drawing on detailed analysis of a case study region, and also containing information on a national scale. The data may be used to identify whether living near to green space has an impact on health and well-being. Development and use of the public benefit recording scheme in Scotland.

- 2) A survey of FCS district and conservancies and partner organisations to identify current health and well-being projects/events and relevant FCS partners and funding streams.. Depending on the number of projects/events, partners could be surveyed/interviewed to explore how they are using projects to meet their health and well-being targets, or their perceptions of the potential for woodlands/green spaces/FCS to promote health. This could be particularly useful if FCS can state that they are helping Health Board Areas to meet specific targets. This objective is linked closely with objective 3.

Potential Indicators:

- Number of health promotion specialists/health sector professionals who agree that using woodlands/green space can have a positive impact on public health and well-being.

- Range of projects/events that FCS is involved in directly or in partnership that have a health element.
- Improved partnerships/relationship with the health sector.

Outputs: Number of current projects, number of partners, number of partners that are meeting their key targets through the projects, number of partners who feel that woodlands have an important role to play in health and well-being and key factors identified by partners of importance of woodlands for health and well-being.

This could be repeated in 3-5 years as the current FCS Health Programme comes to an end.

- 3) If there are projects being run by FCS (or FCS is a significant or potential partner) in woodlands or green spaces focusing specifically on health and well-being then a sample of 3-6 projects will be evaluated. Research would involve gathering data on the costs of setting up and running the projects (employment costs, infrastructure improvements costs and project overheads), an analysis of how the projects were set up and the partnerships involved. Focus groups, interviews, questionnaires and participant-observation of health-related activities would be used with publics who participated in the projects. These would assess the impact on people's health and well-being. For example, have the projects increased and sustained activity levels amongst participants, what motivated participants to get involved, and how have the projects changed participants' assessments of their own health? The focus groups would provide qualitative insights into participants' experiences of their involvement in a given project into motivating factors and behavioural change. In particular, focus groups would be used to provoke discussions amongst participants about the different qualities or 'affordances' of woodlands and the role they had played in encouraging and sustaining increased levels of physical activity. Furthermore, through participant-observation of project activities data could be gathered on participants' assessments of the ways in which woodland qualities instill a sense of well-being and help with stress management. These assessments would be contextualised by actual 'hands-on' experiences of forested spaces. The testimonies and accounts provided in focus groups will also enable an assessment of the importance of social capital in health-related projects. If there are no current projects then a monitoring and evaluation framework would be set up to be implemented when projects were created.

Potential indicators:

- Percentage of participants who feel that woodlands have a positive impact on their health and well-being.
- Increase in visitors to woodland due to the project.
- Numbers of participants who have increased their physical activity rates in woodlands through specific project interventions.
- Qualitative indicators: testimonies and accounts of health-related project participants.

Outputs: Quantitative and qualitative data on the impact of projects to people's health and well-being. Economic costs to FCS of setting up and running specific interventions.

- 4) Household survey (doorstep) using a questionnaire that includes SF-12 and stages of change model (regarding physical activity e.g. are people active, do they intend to become more active), also including specific questions that ask

about people's use of woodlands, visits to GP's, perceived benefits of woodlands for overall health and well-being. SF-36 is the best known questionnaire amongst experts in measuring health status and focuses on quality of life, SF-12 is a shorter version having 12 questions instead of 36. These questionnaires are used in clinical practice and in general population studies. The survey would aim to include both those who use woodlands and those who do not. Questions will also explore what the combination of factors are that motivate people to use woodlands e.g. social, psychological, physical. Any barriers to using woodlands for improving health and well-being would also be explored. Do people who visit woodlands state that they have better health or are less stressed compared to those who do not visit? Selected study areas (4-6) would be chosen along an urban-rural continuum of people living 1-2 miles from woodland. 100 interviews would take place in each study area. The household survey would be combined with on site surveys at a range of woodlands in the study areas to assess the health and well-being benefits of those who currently use woodlands. Any relevant data from the TNS survey of Scottish Woodlands could be used alongside the on-site survey. TNS through the All Forests Surveys are gathering data on volume of use and visitor profile of those who use Scottish woods. TNS in its study of Thames Chase used geodemographic analysis of areas using CAMEO UK to identify catchments and addresses to undertake interviews so that the sample represented the population of the area. A similar approach is suggested for this study.

Potential indicators:

- Percentage of people who feel that woodlands have a positive impact on their health and well-being.
- Percentage of people who use woodlands as part of their physical activity routine.
- Number of people taking regular exercise in woodland.
- Percentage of woodland users with positive/negative health self assessment compared with percentage of non-users with positive/negative health self assessment.
- Percentage of people whose activity levels in woodlands has increased over the past 2 years.
- Percentage of people who feel safe enough in woodlands to use them for improving health and well-being.

Outputs: Quantified data on the number of people who feel that woodlands have an impact their health and well-being. Data on people's existing health status and current levels of exercise in woodlands.

- 5) Explore the Attention Restoration Hypothesis which suggests that people recover from directed attention (e.g. focusing on work, which is fatiguing) through involuntary attention alongside the hypothesis that woodlands are particularly effective as restorative environments. This work will draw on similar research undertaken in the USA. Kaplan (1995) defines the components of restorative environments as a) being away, b) fascination e.g. leaves, clouds, sunsets, c) extent (scale) and d) compatibility (matching a person's inclinations). This is primarily a psychological approach using questionnaires based on the Perceived Restorativeness Scale which could be undertaken at a chosen site with a small number of selected individuals. Initially, this study will be focused at woodlands and the results could later be compared with surveys of other types of green space. This would represent innovative research not undertaken in the UK before.

Outputs: New research using a technique developed in the US to see if the theory works in Scotland. Particularly important issue as the World Health Organisation see stress and stress related illness as being key issues over the next 20 years.

- 6) Carry out a small scale study to examine the factors that might encourage inactive people to become active in woodlands. CJC Consulting suggested this in their recent report and recommended using a choice experiment methodology. This could be undertaken in relation to a specific project (so could link in with Objective 3) or through a case study of a small general population. Even a small sample of 50 can provide statistically significant numbers for this type of methodology.

Outputs: A piece of work that provides information on the attributes of woodlands that induce people to undertake physical activity.

- 7) Create a database to monitor the Active Woods campaign in order to keep records of press releases, press articles and media articles. This will track the take up of the campaign by the media. Combine with records that are already being kept on the numbers of participants in Active Woods events in WIAT areas and if possible in other areas of Scotland as well. This should be an in house process related work undertaken by FCS.
- 8) Set up monitoring of a range of FCS activities including FCS delivery of health workshops, walk and bike leader training for FCS staff, regional workshops that promote FCS Health Programme. These are outlined as activities in FCS Health Programme. Assess each year or bi-annually. Combine with interviews or focus groups to assess the impact of these activities on health.

Resources

- 1) Exploratory study taking approximately 6-12 months. This project would start post March 2006 when the Space for People data set is improved in Scotland. Possible cost involved in gaining access to the required databases. Consultants would be needed to carry out the work and suggestions include CJC Consulting, or Edinburgh University. The cost would be primarily the charge day rate for the consultancy work plus expenses. Approximate cost £15-20K.
- 2) This project would take approximately 4-6 months and would be undertaken primarily through interviews or focus groups with FCS staff and health sector personnel. The SRG could undertake this work in partnership with a contractor. Approximate cost £4-8K.
- 3) Evaluation of health and well-being projects combining quantitative and qualitative data collection. Local/regional contractors would be used to reduce travel costs. Approximately 5-10 percent of projects costs should be allocated to evaluation. Therefore if the cost of a health and well-being project is £50K then £2-5K should be spent on evaluation. SPARColl could be invited to become involved in exploring the importance of interventions in woodlands. 1-2 projects could be evaluated per year over the next 3-5 years.
- 4) Consultants such as a Market Research Organisation (TNS Global) would be required to carry out the study. Depending on the number of areas identified the work would take 12-18 months to complete. Approximate costs of £5-7K per case

study area. A licence would be needed to use the SF-12 form. This research could be repeated every 3-5 years to explore general changes in the population.

- 5) This exploratory research would provide an understanding of the restorative benefits of nature, particularly woodland. As the theory is based on psychology then a University e.g. University of East Anglia, University of Surrey with expertise in this area could be contracted to carry out the work. Small scale study at first 7-10K.
- 6) Exploratory research approach undertaken by a University or Consultancy familiar with the choice experiment methodology.
- 7) Districts to keep records of Active Woods events and numbers attending. Communications/press officer to track press releases etc. across Scotland, liaising with forest districts. Part of normal FCS processes.
- 8) This could be part of normal FCS process procedures built in from the beginning when these projects/activities are set up. Contractor to undertake interviews/focus groups at 3-4K per year or every two years.

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5. Education and learning

Background

FC Scotland carries out a wide range of work that could be classed as educational or that has learning potential for a range of people. These range from formal education (i.e. school trips to woodlands, ranger visits to schools and Forest School) through to informal education and learning provided by guided walks in forests, interpretation in forests, leaflets, and web-based information, as well as voluntary activities.

The importance of contact with woodlands for gaining an understanding of the natural world and sustainable development will be a central consideration of the proposed research. The theme of learning and education in woodlands will adopt a purposefully wide focus and will include learning about nature, society, nature-society interactions, about oneself, learning through working with others, developing new skills and undertaking practical work. According to the National Foundation for Education Research (2005) findings are likely to include:

- Cognitive impacts – gaining knowledge and understanding, academic outcomes.
- Affective impacts – related to attitudes, values and beliefs e.g. gaining a sense of wonder or respect for nature.
- Interpersonal/social impacts – can be involved in improving communication skills, improving leadership expertise.
- Physical/behavioural impacts – improving physical fitness, improving fine and gross motor skills, personal behaviour and social actions.

There is some concern that children in particular are losing contact with the natural environment. This is due to a number of factors, including indoor activities such as computer-use, watching television and a range of organised activities that are built into many children's spare time. In addition, parents and teachers are becoming increasingly concerned about children's safety when outdoors. Furthermore, the effects of a more sedentary lifestyle are likely to be long-lasting. Recent research in Scotland has found that children who did not have contact with woodlands when young were more likely to become adults who did not visit woodlands (Ward Thompson et al. 2005).

Pyle (2002) suggests that when experiential contact with nature, in the broadest sense, is diminished, negative impacts spread out at every cultural level. People suffer:

- Physically from lack of fresh air and exercise
- Intellectually from not developing awareness, observation and imagination
- Emotionally by not developing attachments to special/specific places
- Morally through lack of awareness of the ethical/moral dimension to human interactions with the natural world

Research in northwest and southeast England found that those in urban areas felt education and contact with nature were particularly important for young people in terms of developing respect for, and interest in, the environment. While those in rural areas focused on woodlands and nature as providing life-long learning opportunities (O'Brien, 2004). Kellert (2002) distinguishes between direct contact with woodlands/nature through unplanned activities, indirect contact which is physical contact in a more structured form, such as at a nature centre, botanical garden or

arboretum, and vicarious experience which takes place without contact with nature through television, computers and printed media.

Aim

To explore the value of woodlands to Scottish education and learning.

Objectives

- 1) To explore the impacts of Forest School in Scotland to the children who take part.
- 2) To identify the range of ways in which woodlands contribute to education and learning in Scotland.
- 3) To examine the importance of woodlands for learning to the Scottish population
- 4) To examine the learning/education value of those who volunteer for FCS.
- 5) To produce an evaluation form that can be given to teachers after school visits to woodlands to assess the importance/impact of school visits.

Current information of relevance

The public opinion survey of forestry in Scotland provides information on the percentage of the population who have heard of Forest School or the Forest Education Initiative. In 2005 4 percent had heard of these, 2 percent for each. 5 percent said that they had attended a school trip in the last 12 months and 5 percent had attended a guided walk or event in the past 12 months. This survey will provide a useful data set over the next few years in which broad trends can be identified across the Scottish population.

Lynnette Borradaile is undertaking an evaluation of two FCS led Forest Schools one of which is the Scottish Lowlands Forest School. The work will identify educational benefits that can be used to promote Forest Schools within the education sector and is due for completion in early 2006.

The Social Research Group is currently working with FCS to gain a baseline of what FCS is doing in relation to formal education for 3-18 year olds. A questionnaire is being sent to all conservancies and districts in Scotland to find out what is happening concerning.

- Direct delivery e.g. Forest School, school visits to woodlands, visits by rangers to schools
- Facilitation and partnership working e.g. FEI cluster group activity, delivery of education training, promotion of educational activities to teachers, LEA's
- Information provision e.g. educational packs for schools, taster sessions for schools, conferences, seminars, and leaflets that promote woods as resources for learning for children.

This work will be completed by the end of March 2006.

Methods and sampling strategies

- 1) Forest School is growing across Britain and, because it involves regular contact between children and woodlands, it deserves a specific study to explore its

particular/specific benefits. This would involve a survey of teachers and parents in case study areas where children have been involved in Forest School. A longitudinal study of a randomly selected group of children over 1-3 years could be undertaken to explore the impact of Forest School on them and their academic performance. This would build on, and extend, the work undertaken over the past two years by Forest Research and the New Economics Foundation in England and Wales. This could be combined with focus group sessions with staff and Forest School Leaders to explore how the children attending Forest School behave and achieve in the classroom after their Forest School sessions. Pupil diaries would also add the children's perspectives on their attendance at Forest School. Further details at of the work in England and Wales can be found at: <http://www.forestresearch.gov.uk/website/forestresearch.nsf/ByUnique/INFD-6HKEMH>

Potential indicators:

- Numbers of children taking part in Forest School sessions.
- Number of FS programmes being run in Scotland.
- Percentage of teachers/parents who believe that FS has an impact on children's education.
- Percentage of children visiting Forest School who have gained educationally from the experience.

Outputs: Evaluation of Forest School and its impacts on children in Scotland with specific information on the educational importance of FS and its role in child development.

- 2) Building on the existing SRG work for FCS, additional research will assess the contribution to education and learning for all ages made by Scottish forests and woodlands. Interviews will be conducted with key FCS informants who are involved in education to identify the scope of education and learning across all ages for Scotland. Where possible, estimates of the numbers of participants or beneficiaries will be made. Research will also identify the extent of resources produced by FCS for the public (e.g. resources available for download from FCS website, 'what's on' leaflets, which provide information on guided walks and specific events in woodlands, other materials provided by FCS that have an educational element, conferences and seminars with an educational component).

Potential indicators:

- Range of education and learning resources produced by FCS.
- The variety of ways in which the above are disseminated and made available to the public and organisations.
- Number of educational and learning events - seminars, conferences, workshops run each year by FCS forest districts.

Outputs: Details of numbers of learning resources, dissemination approaches and events.

- 3) Household survey to be undertaken to gain public perspectives on education and learning opportunities in woodlands and to assess who takes advantage of these and who believes that they are an important component of woodland use. Sample to include those in well wooded and less wooded areas along the urban rural continuum in Scotland. 4-6 case study areas will be chosen and 100 household interviews undertaken in each area. A small number of questions (4-5) could be

placed into the Scottish Population Omnibus Survey to add to the household survey and gain public perspectives on a wider basis across Scotland. This survey could be repeated in 3-4 years time in order to feed into the evaluation of the education and learning strategy and its progress.

Potential indicators:

- Percentage of people who believe that woodlands are important places for both formal and informal education and learning opportunities.
 - Types of education and learning people believe are the most important.
 - Range of education and learning activities that people get involved in.
- 4) Volunteers play an important role in woodland management in Scotland. A case study approach should be undertaken to explore the education and learning opportunities of woodland voluntary work in different areas, including conservation work, administrative work, development of new skills, training, learning that leads to employment or a change in employment. 3-5 studies areas would be chosen across the urban rural continuum and would include 'Friends of' groups, conservation volunteers and other types of voluntary work. This work will be linked with the Community Capacity theme and the educational benefits to those involved in community woodland schemes could be explored. A postal questionnaire to all volunteers across Scotland is a further possibility. Costs of training volunteers, recruiting and managing volunteers will be assessed, as well as the benefits accrued from the work undertaken and the length of time people volunteer for. Focus groups and interviews will also be used to generate qualitative self-assessments of the educational values of volunteering.

Potential indicators:

- Percentage of volunteers who are learning new skills through their voluntary work.
 - Type and range of skills that volunteers are learning.
 - Costs of managing and training volunteers
 - Number of volunteer hours
- 5) Evaluation form developed for teachers to complete on school visits to woodlands. This approach is already being used by FC Wales and could be adapted for use in Scotland. It would provide information across all school visits to woodlands in Scotland and would generate valuable data over a number of years that could be analysed on a yearly basis. Data would include number of children attending, type of session provided, relevance of session to the school curriculum, teachers' assessments of the importance of the visits. The statistics unit at Silvan House could be approached to develop a database and analyse the data.

Potential indicators:

- Numbers of school visits and numbers of children involved in school visits
- Percentage of teachers who see woodland visits as relevant to curriculum subjects.
- Percentage who view school visits to woodlands as important for children's development.
- A graded teacher appraisal scheme.

Potential indicators:

- Numbers of school visits and numbers of children involved in school visits
- Percentage of teachers who see woodland visits as relevant to curriculum subjects.

- Percentage who view school visits to woodlands as important for children's development.

Resources

- 1) Longitudinal study of children who attend Forest School combined with a shorter term 6-8 month survey of teachers and parents and their views of the impacts of Forest School on children. This could be undertaken by the New Economics Foundation and Forest Research in partnership similar to the work they carried out in Wales and England. Approximate cost £15K.
- 2) Interview and survey and web and literature based searches. The range of materials provided could be updated each year and provide evidence of the extent of resources provided when the FCS Education Strategy is reviewed in 4 years time. Six months project to be updated every two to three years. 4-6K.
- 3) Household survey undertaken by Market Research Organisation combined with questions in the Scottish Omnibus Survey. If funding is tight the Omnibus Survey could be used until further funds are sought for the household survey. Approximate costs of £5-7K for each case study area.
- 4) Volunteer survey and case study work would take 6-12 months costing approximately 7-10K. A case study area could be chosen each year focusing on a different part of Scotland so that a detailed picture is built up and supplemented with a survey which could be run every 3-5 years.
- 5) Evaluation forms developed and then administered by Recreation or Education Rangers. Information could be put on to a central database from each district/conservancy with assistance from the economic and statistics unit at Silvan House. This would primarily be an in house piece of work for FCS and would require staff time to complete. The SRG could help to design the evaluation form.

References:

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Conclusion

Consideration of the five themes that constitute the F4P evaluation demonstrates the broad range of public goods that forestry activities can provide, especially when provision is targeted as part of F4P activities. The challenge is to provide strong, supportable evidence of this provision to place before policy-makers and politicians.

The proposal suggests gathering such evidence in two parts:

1. Identification
2. Valuation.

The first of these is a qualitative process conducted through questionnaires and face-to-face interviews. Valuation, on the other hand, can take a number of forms, from a simple enumeration of people visiting to detailed environmental cost-benefit analysis. The thematic analysis makes a first attempt to match the methodologies with the questions being posed, and makes broad recommendations on resource requirements in relation to the chosen methodologies.

In presenting this report, the Social Research Group hopes to open a dialogue with FC(S) and other potential funders, with a view to establishing an agreed strategy that balances the need for an evidence base and the availability of resources for research.

Resources

Indications of cost are given for each theme, but it should be noted that economies can be achieved by combining themes during particular research operations. For instance, questions about more than one theme could be combined in a questionnaire or interview schedule. In all the budget adds up to around £250 - £300k over e.g. 2-3 years, about the cost of a single CFS programme.

Annex 1: Key texts

“Guidance notes on Policy Evaluation” (the Magenta Book) can be accessed at this weblink:

http://www.policyhub.gov.uk/magenta_book/

Financial valuation techniques are explained in the booklet “Forestry’s Role In Rural and Urban Development: Economic Principles and Practice *A Guidance Manual* by Pat Snowdon And Michael Thomson (2005).

Multi-Criteria Analysis is explored in a DTLR manual: -

http://www.communities.gov.uk/pub/252/MulticriteriaanalysismanualPDF1380Kb_id1142252.pdf