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Ecosystem Services for Poverty Alleviation (ESPA) mid-term review

Final Report









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Executive summary

The Ecosystem Services for Poverty Alleviation (ESPA) Programme is a seven-year, £40.5 million investment funded by the UK Government through a partnership involving the Department for International Development (DFID), the Natural Environment Research Council (NERC) and the Economic and Social Research Council (ESRC).

The ESPA Programme plays a unique, high-profile role in an inter/multi-disciplinary research sphere, linking academics from the natural and social sciences. It has been credited as *"the first international multi-country large-scale effort to fund ecosystem and development science"*. Its goal is to ensure that, in developing countries, ecosystems are being sustainably managed in ways that contribute to poverty alleviation and inclusive, sustainable growth. As such, it seeks to influence end-users and decision-makers through the generation of cutting-edge evidence on the links between ecosystem services and sustainable poverty reduction.

The Programme has been issuing competitive calls for proposals since 2009, and currently funds around 90 projects across 51 countries. Many ESPA projects have published research findings in peer-reviewed journals and some are already delivering economic and social impacts in developing countries; emerging impacts are associated with many more.

ESPA's Global Reach

90
Projects working in
50
countries involving
756
ESPA researchers from
310
institutions

The ESPA Programme's funders commissioned this independent, external mid-term review (MTR) of the Programme in Summer 2013. It has been conducted by Ricardo-AEA, with support from Professor Jouni Paavola (University of Leeds).

The principal aims of the MTR are as follows:

- Assurance that aims and objectives to date are being realised
- Assessment of scientific quality and impact to date
- Assessment of value for money added by the Programme
- Identification of changes/improvements going forward
- Assessment of whether/how the Programme is able to respond to new challenges and emerging risks in a changing context.

Evidence was sourced from:

- Review of the Programme's documents
- Analysis of the scientific quality of academic outputs

- Field visits to ESPA projects in Nepal and Bangladesh
- Interviews with programme- and project-level stakeholders
- Survey of project-level stakeholders.

The MTR team found that the ESPA Programme is making positive progress in a number of areas:

- Progress against most of the Programme's logical framework indicators, designed to reflect the Programme's strategic objectives, suggests that overall outputs are on track or better
- 39 ESPA projects have produced 92 publications. The average citation rates for these publications compare well with the average citation counts per year for social scientific and natural scientific journal articles
- 75% of academic stakeholders agreed that the ESPA Programme has strengthened their ability to deliver academic impacts – this is largely via the facilitation of knowledge exchange across the 'ESPA community'
- The involvement of developing country researchers in the Programme has improved since 2012, although the balance remains skewed towards UK-based researchers
- The majority of academics are confident that their work is, or will, contribute to conceptual advances in understanding and reframing issues relating to policy and practice, as well as more broadly. This is mirrored in the standards of scientific quality of ESPA research to date, and the current development impacts on the ground
- Current and emerging development impacts in developing countries suggest that, on the whole, ESPA projects which were specifically designed to have a direct, localised impact on poverty alleviation will do so. However, at this stage of the Programme, without systematic synthesis of ESPA research and its applications, it is too early to understand the full potential of the Programme to inform development policies and practices
- In general, the tri-partite funding relationship is mutually beneficial and works well. ESPA has been the catalyst for other partnerships between the funders
- To date, the evidence collected by the MTR team suggests that the Programme has been delivering value for money.

It is unclear what plans there are to fill the gap left by ESPA in 2017. Moving forward, the funders should start developing a strategic 'legacy plan' to ensure that the ESPA Programme makes a lasting impact of international significance. As part of this 'legacy planning' the MTR team identified a number of areas that could be developed and improved within the Programme's lifetime:

- If the impact of the ESPA Programme as a whole is to be greater than the sum of its parts then there is a critical need to synthesise scientific understanding developed across projects in relation to concepts, methodological developments, and applications by ecosystem, ecosystem service, community type, policy arena and geography.
- Currently a number of conceptual tensions are evident both among the funders, and between the funders and academic community. Fundamental issues in relation to the balance of science versus impact, and the relationship between ecosystem services and poverty alleviation need to be resolved. Currently, these tensions pose potential reputational risks to the Programme. Resolution requires realignment of Programme messages on these topics and clarification of messages with academic stakeholders
- There are opportunities for the Programme to provide greater support to projects at the science-policy and science-practice interfaces with a view to informing development impacts
- It will be important for the ESPA Programme to sustain its reputation and extend its reach through engaging with other international research and policy platforms, which are likely to promote transfer and uptake of the evidence developed. There is also potential to focus on building awareness of the ESPA Programme in the UK with key

stakeholders and formalise and strengthen links between ESPA and other relevant Research Council initiatives (e.g. ESRC-DFID's Poverty Alleviation Programme)
- The Programme's governance structure is complex and past blurring of roles and responsibilities between its different elements have led to tensions and delays. There is a need to clarify some roles and responsibilities within the governance bodies, and ensure that these are more strictly adhered to in future.

Given all of these issues, the MTR team recommends that it would be timely to move forward with recruiting some specialist roles that ensure the Programme is able to capitalise on all it has achieved to date. It will be important that the individuals involved support delivery of academic and development impacts and promote synthesis of scientific understanding through nudging, nurturing, enabling and convening project stakeholders.

The MTR also identified that lessons that could be learned for similar, future programmes:

- To avoid conceptual confusions, it is critical that future programme funders clarify strategic objectives and strategies and subsequently pay due heed to their consistent communication with academic stakeholders and the wider public. Future programme titles should be carefully considered. It is unfortunate that the ESPA Programme's title appears to have inoculated some people with preconceptions that are at the heart of some of the issues that need to be resolved.
- A number of project delivery and management issues, as well as a lack of clarity over funders' expectations, are, in part, due to projects not being accountable for delivering specified impacts. Whilst it will not be possible to resolve this issue with the ESPA Programme's existing projects, in relation to future projects and programmes applications should be requested to include SMART objectives, and grants should be awarded subject to delivery of specified outputs. These conditions should be developed with due care to ensure that future projects can be held to account for delivery of academic and development impacts without unduly constraining innovation.

This timely MTR is intended to push the Programme forward to leverage its potential and maximise its opportunities to deliver world-class science and development impacts over the next three years. The MTR team concludes that the ESPA Programme has potential to make a profoundly important contribution to international understanding of the ways in which sustainable management of ecosystems can lead to poverty alleviation and inclusive, sustainable growth in developing countries. The Programme is led by a motivated, dedicated team and, if this report's recommendations are acted upon, the MTR team is confident that a lasting legacy will be delivered in relation to the Programme's desired outputs identified in the Programme's logical framework (version 2.0, January 2013):

- *A high quality, multi/ interdisciplinary and extensive body of knowledge on ecosystem services, their dynamics and human use generated;;*
- *Capability built amongst ESPA researchers to conduct multi/ interdisciplinary ecosystems services and poverty alleviation research, supported by new interdisciplinary methods, frameworks, data, tools and syntheses; ;*
- *Increased demand for and uptake of ecosystems for poverty alleviation research; Developing country-led partnerships and networks formed, delivering ecosystems services and poverty-alleviation research, influencing and impact. ".*

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Glossary

AO	Announcement of opportunity
ASSETS	Attaining Sustainable Services from Ecosystems project
CBOs	Community-based organisations
CO-I	Co-investigator
DC	Developing country
Deltas	Assessing Health, Livelihoods, Ecosystem Services And Poverty Alleviation In Populous Deltas project
DFID	Department for International Development
EIRG	Evidence and Impact Research grant
ESPA	Ecosystem services for Poverty Alleviation
ESRC	Economic and Social Research Council
ESS	Ecosystem services
IF	Impact factor
IPAC	International Programme Advisory Committee
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
Je-S	Joint Electronic Submission System
Lead PI	Lead principal investigator
Logframe	Logical framework
MTR	Mid-term review
NERC	Natural Environment Research Council
NGOs	Non-governmental organisations
PA	Poverty alleviation
PEB	Programme Executive Board
PES	Payments for Ecosystem services
PhD	Doctor of Philosophy
PI	Principal investigator
PMG	Programme Management Group
PMU	Programme Management Unit
REDD	Reducing Emissions from Deforestation and Forest Degradation
REF	Research Excellence Framework
ROS	Research Outcomes System
SMART	Specific, measurable, attainable, relevant and time-bound
T&Cs	Terms and conditions
ToC	Theory of Change
TOR	Terms of reference
UN	United Nations
UNEP	United Nations Environment Programme
UPGROW	Unlocking the Potential for Groundwater for the Poor Programme
VAT	Value Added Tax
WAVES	Wealth Accounting and Valuation of Ecosystem Services
WD-NACE	Whole Decision Network Analysis for Coastal Ecosystems

1 Introduction

The Ecosystem Services for Poverty Alleviation (ESPA) Programme is a seven-year, £40.5 million[1] investment funded by the UK Government through a partnership involving the Department for International Development (DFID), the Natural Environment Research Council (NERC) and the Economic and Social Research Council (ESRC).

The ESPA Programme's goal is to ensure that, in developing countries, ecosystems are being sustainably managed in ways that contribute to poverty alleviation and inclusive, sustainable growth. As such, it seeks to influence end-users and decision-makers through the generation of cutting-edge evidence on the links between ecosystem services and sustainable poverty reduction.

The embryonic thinking for the ESPA programme evolved from UNEP's Millennium Ecosystem Assessment (2001-2005) and DFID's Natural Resources Systems Programme (1995-2006) to develop links between environmental and development objectives. In 2006/07, the Labour Government included substantial funding for Living with Environmental Change in their pre-budget report, and the ESPA Programme was specifically mentioned.

Building on six situational analyses, commissioned in 2007, the Programme's conceptual framework and potential themes were developed in Summer 2008, and NERC's Council approved funding for the Programme shortly afterwards. Six broad research themes were developed through consultation with expert Focus Groups in January 2009. By late 2009 the design of the programme was fully approved and DFID's and ESRC's funding allocations were confirmed. The Programme has been issuing competitive calls for proposals since 2009. A timeline of project calls can be found in Section 2.4.3.

ESPA has been credited *as "the first international multi-country large-scale effort to fund ecosystem and development science"*. The important role that the Programme plays in this multi/inter-disciplinary research sphere has been recognised by many members of the academic community. Comments from the Programme's lead principal investigators and members of the International Programme Advisory Committee include: *"The ESPA Programme has been timely and helpful"*; *"The ESPA Programme is very different; trans-disciplinary calls are very rare; the types of complex problems society faces, e.g. climate change, require responses that are trans-disciplinary[2], but UK funding is very silo-ed. The ESPA Programme is the first chance there has been to do such trans-disciplinary research"*. *"The Programme actively promotes the integration of the natural and social sciences. It is unusual to have this scope"* and *"ESPA is facilitating a global convergence of knowledge and the latest research in these previously silo-ed themes"*.

1.1 Introduction to the mid-term review

ESPA's funders commissioned this independent external mid-term review (MTR) of the Programme in 2013. It has been conducted by Ricardo-AEA between August 2013 to January 2014, with scientific support from Professor Jouni Paavola (University of Leeds), and has been managed by the ESRC on behalf of the funders.

The principal aims of the MTR are as follows:

- Assurance that aims and objectives to date are being realised

[1] The ESPA Website, Programme Memorandum and 2012-13 Annual Report cite different investment figures: £40.5, £43.5m and £42.5m respectively. The Website figure is quoted in the report for consistency.
[2] Though the Programme now consistently uses the terms 'multi-disciplinary' or 'inter-disciplinary' in all its documentation, the term 'trans-disciplinary' is used interchangeably with these terms by some stakeholders. Throughout this report, we use the term 'multi/inter-disciplinary', but retain the use of the term 'trans-disciplinary' where used by stakeholders or in early Programme documentation.

- Assessment of scientific quality and impact to date
- Assessment of value for money added by the Programme
- Identification of changes/improvements going forward
- Assessment of whether/how the Programme is able to respond to new challenges and emerging risks in a changing context.

Objectives and evidence requirements, detailed in the MTR's terms of reference, can be found at Appendix 1.

1.1.1 MTR methodology

In keeping with DFID's evaluation guidance[3], a mixed-method approach was used to collate, review and triangulate qualitative and quantitative evidence relevant to the MTR's aims and objectives in order gain an unbiased and representative view. The full methodology is explained at Appendix 2. In preparation for data collection, a scoping exercise identified c.100 research questions (Appendix 3) and prioritised stakeholders for survey and interview.

Evidence was sourced from:

- Review of the Programme's documents
- Analysis of the scientific quality of academic outputs (a full report is provided at Appendix 6)
- Field visits to ESPA projects in Nepal and Bangladesh
- Interview of programme- and project-level stakeholders
- Survey of project-level stakeholders.

The MTR team did not seek to assess individual ESPA projects. Instead, it examined all academic outputs from projects and a sample of both project-level documentation and stakeholders' views (via a survey and interviews), with the intention of:

- Understanding how the projects have, or are, contributing to the Programme's wider ambitions
- How projects are engaged with the Programme (for example at the application and review stages, through to support and reporting issues); and
- Gaining a sense of projects' current or potential impacts at a local, sub-national and national level.

A balanced view across the projects was sought by giving all academic stakeholders the option to participate in the survey, and conducting interviews with a diverse group of stakeholders associated with a range of ESPA projects.

1.1.2 Report structure

Sections 2-6 of this report deal with the 'assessment' of various aspects of the ESPA Programme, including: progress against objectives; scientific quality; academic and development impacts; and programme governance. In each of these sections the MTR team has sought to present stakeholder views in relation to the issues discussed and, wherever possible, to indicate the balance of these views. Section 7 highlights the main areas for future development, drawing on the evidence presented in the preceding sections. Section 8 provides a succinct risk analysis of the Programme, highlighting the reputational and operational risks it faces. Section 9 provides a breakdown of the main conclusions from the report, and sets out a series of recommendations for the Programme as it moves into its next phase.

[3]The Magenta Book, Guidance for Evaluation, HM Treasury, April 2011 and Monitoring & Evaluation: A Guide for DFI-contracted Research Programmes, DFID Central Research Department, May 2006

2 Statement of the Programme's objectives, including financial details

The ESPA Programme logical framework (V2.0, January 2013[4]) defines the Programme's objectives in terms of its specific goal (or impact), purpose and outputs, which this section outlines in conjunction with the Programme's vision. The Section also identifies how the Programme's objectives and vision are reflected in the number and types of projects funded, in order to establish the context for the mid-term review.

2.1 Programme goal, purpose and outputs

As detailed in the Programme logical framework (version 2.0, January 2013):

*"The **goal** is 'sustainably managed ecosystems contributing to poverty alleviation'.*

*The **purpose** is 'To positively influence end users and decision makers through the generation of cutting edge evidence on ecosystem services, their full value, and links to sustainable development.*

*The **outputs** are:*

1. *A high quality, multi-/inter-disciplinary and extensive body of knowledge on ecosystem services, their dynamics and human use generated;;*
2. *Capability built amongst ESPA researchers to conduct multi-/inter-disciplinary ecosystems services and poverty alleviation research, supported by new interdisciplinary methods, frameworks, data, tools and syntheses;*
3. *Increased demand for and uptake of ecosystems for poverty alleviation research;*

2.2 Developing country-led partnerships and networks formed, delivering ecosystems services and poverty-alleviation research, influencing and impact". ESPA's vision

A series of vision statements of different lengths and detail has since been produced that can be used by the ESPA community (www.espa.ac.uk/vision; dated 23 February 2012). These include the following summary paragraph:

"**ESPA is an international research programme providing evidence of how ecosystem services can support well-being and sustainable poverty alleviation among poor people in low-income countries. Our projects are interdisciplinary, linking the social, natural and political sciences to address a series of focused research questions and evidence challenges. They are delivered through collaborative partnerships involving the world's best researchers from developing and developed countries. **ESPA's success will be measured by the way that its research can be turned into results that benefit the poor."
(Emphasis as in the original document)

Associated with the vision statements, is a summary of how the world might view the success of ESPA's research and impact activities in 2022, five years after the Programme is scheduled to end (www.espa.ac.uk/2022). This includes some general points but the following are specifically attributed to ESPA:

[4] Unless stated, the versions of the ESPA Programme documents used in the MTR were the latest available at the time of writing. The version or publication date is given in each instance. It is understood that some of these documents have since been updated.

- *Global political and business leaders quote evidence derived from ESPA research when they present their vision for global sustainable development for the next 20 years.*
- *ESPA's research is recognised globally for its contribution in changing the way that people interact with the environment.*
- *The scientific contribution of a developing country scientist who had played a major role in the ESPA programme is recognised for providing vision for the next 20 years of global sustainable development.*
- *ESPA's innovative approach to designing and implementing development research and then turning research into results is recognised by being adopted by other agencies and becoming standard practice for global environmental research projects.*
- *Members of the ESPA community of researchers have gone on to develop further innovative research programmes and supported a new generation of thinkers actively responding to solutions for poverty alleviation".*

Sitting beneath ESPA's vision are the Knowledge Strategy, Impact Strategy and Theory of Change (ToC). The Knowledge Strategy has been developed "*to stimulate and focus research projects, synthesise their findings with those from other research and ensure that outputs are communicated for use by the broadest spectrum of global users*". The Impact Strategy describes how the Programme will ensure knowledge is used "*to deliver significant and sustainable development impact*", and the ToC is intended to provide a backbone for planning, managing and evaluating impact.

These strategy documents have been periodically updated to reflect experience from funding rounds, feedback from the ESPA community and evolution of understanding, whilst the ToC is intended to provide guidance at both a programme and project level for planning, managing and evaluating impact. Further summary information on these documents can be found in Appendix 4.

ESPA and gender issues

The MTR team was asked to consider the place of gender within the ESPA Programme. Analysis revealed that there is little specific mention of gender, or the role or impact of women, in relation to the Programme's goal, purposes or outputs in any of the Programme's key strategic documents, including the logical framework – although it is mentioned in the Poverty Framework.

The only specific mention of gender was found in the 'Social Appraisal' section of ESPA's Programme Memorandum (p. 22). It states that *"Attention will be paid to gender differentials and excluded groups who are particularly vulnerable to ecosystem services degradation and/or poor management of ecosystem services, such as indigenous peoples, poor subsistence farmers, poor women, men and children in rural and urban areas, pastoralists in vulnerable areas and so on."*

2.3 Management structure

2.3.1 Governance structure overview

An overview of the Programme's governance structure is depicted in Figure 1 and the purpose of each of its constituent bodies is provided in Table 1. Assessment of the governance structure is covered in Section 6.

Figure 1 ESPA Programme governance structure

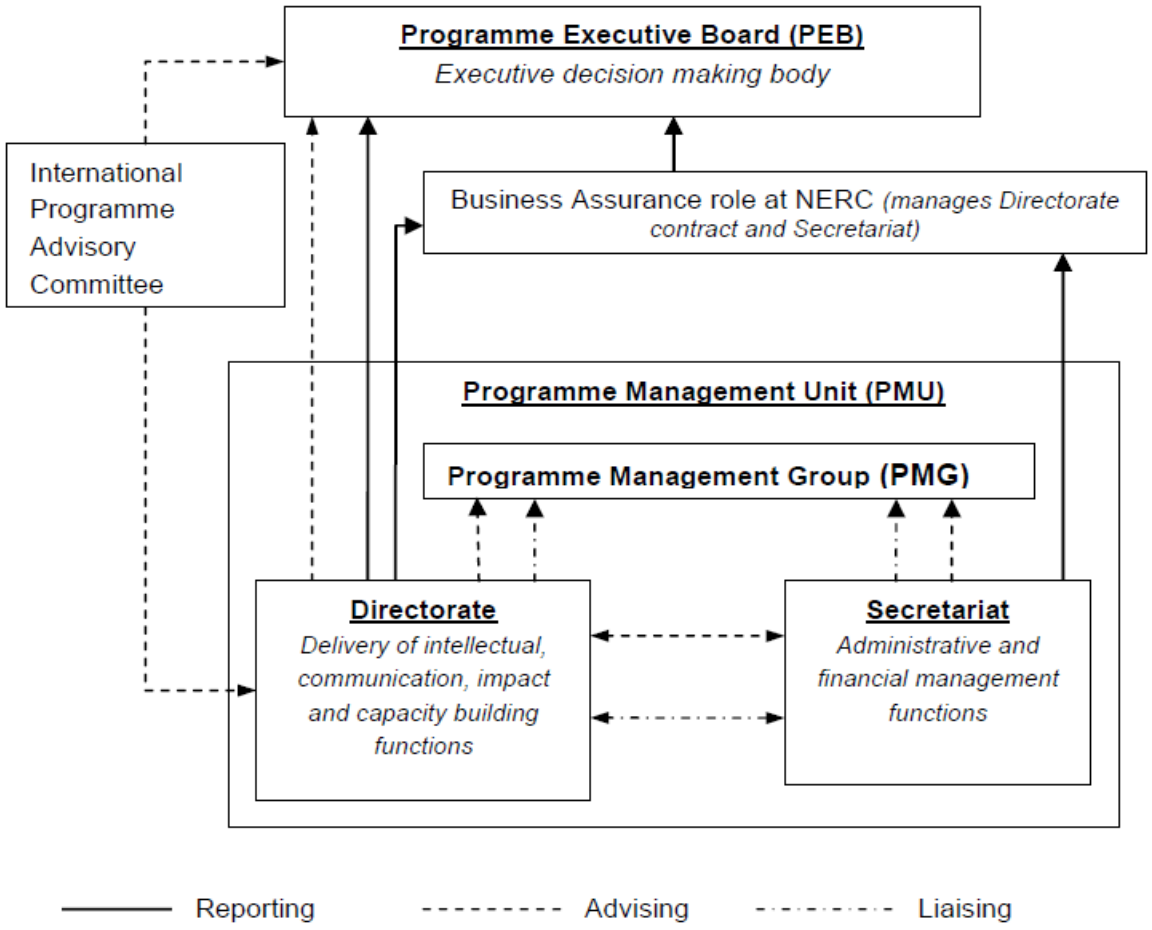


Table 1 Purposes of the ESPA Programme's governance bodies

Body	Purpose
Programme Executive Board (PEB)	Responsible for the delivery and strategic direction of the Programme, ensuring it achieves its stated objectives and meets the strategic needs of the funding partners.
chairperson of the PEB	To facilitate the working of the Programme Executive Board (PEB) in an independent and impartial manner in order to enable its members to fulfil their responsibilities for the overall governance and strategic direction of ESPA
International Programme Advisory Committee (IPAC)	To provide independent advice to the ESPA Programme via the Director and PEB as required, in relation to strategic and technical aspects of the Programme.
Programme Management Unit (PMU)	Responsible for the overall management, coordination and delivery of the Programme. The PMU consists of the Programme Management Group, the Secretariat, a business assurance role and the Directorate.
Directorate	To plan, organise, lead and coordinate the ESPA implementation process, through coordinating ESPA research activities and undertaking activities that will add value to the Programme.

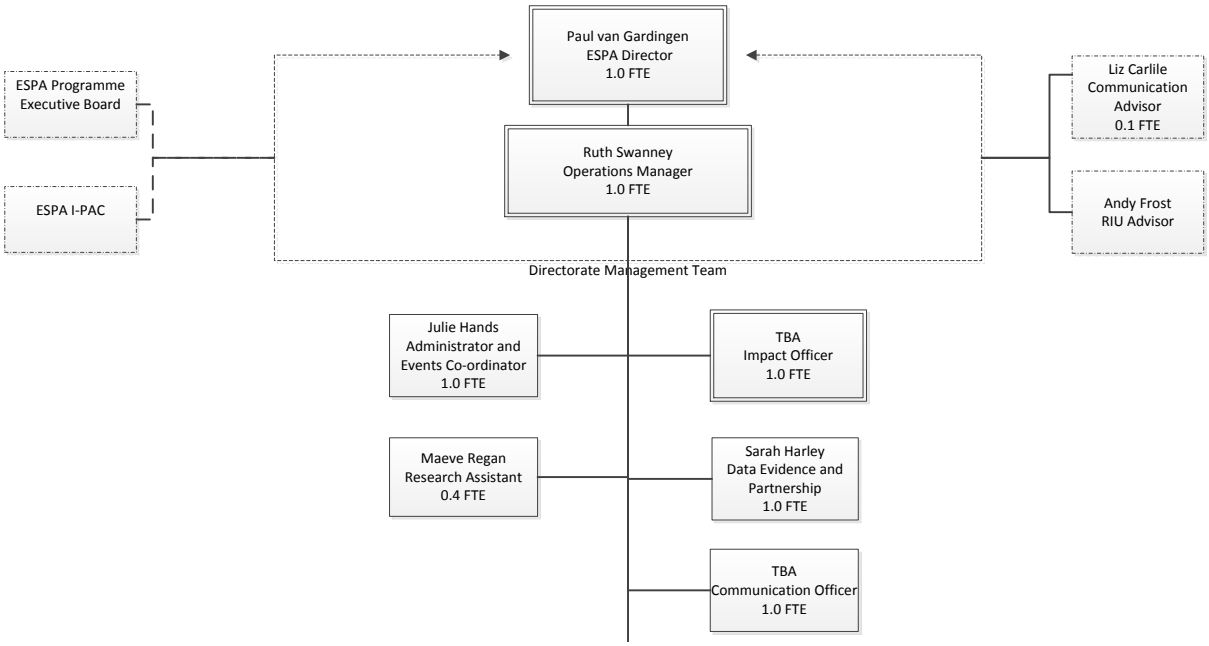
2.3.1.1 Overview of the Directorate

The Directorate contract was awarded in September 2010. The Director oversees the Directorate (see Figure 2) and provides overall scientific leadership of the Programme. The Directorate's main responsibilities fall under the following headings:

- Management and governance
- Data management
- Reporting
- Monitoring and evaluation
- Liaison
- Promotion and communication
- Facilitating and promoting Research into Use
- Supporting capacity-building processes
- Integrative research and synthesis.

The Directorate is hosted by Research into Results Ltd., a 100% subsidiary company of the University of Edinburgh.

Figure 2 Directorate structure (Jan 2014)



2.4 Financial status

2.4.1 Programme

ESPA's operational budget[5] runs from 2007 to 2017. The Programme Memorandum states that: "*DFID will contribute £27m[6] to ESPA, NERC is contributing £10m (including £0.2m already spent on the 2008 capacity building call) and ESRC will contribute £3.5m. In addition, NERC will provide programme management transactional activities (e.g. grants handling,*

[5] The ESPA Website, Programme Memorandum and 2012-13 Annual report cite different investment figures: £40.5, £43.5m and £42.5m respectively. The website figure is used in this report, as the other figures relate to funds spent during the design phase of the Programme.
[6] in addition to the £3m already committed to the design phase and the capacity building call

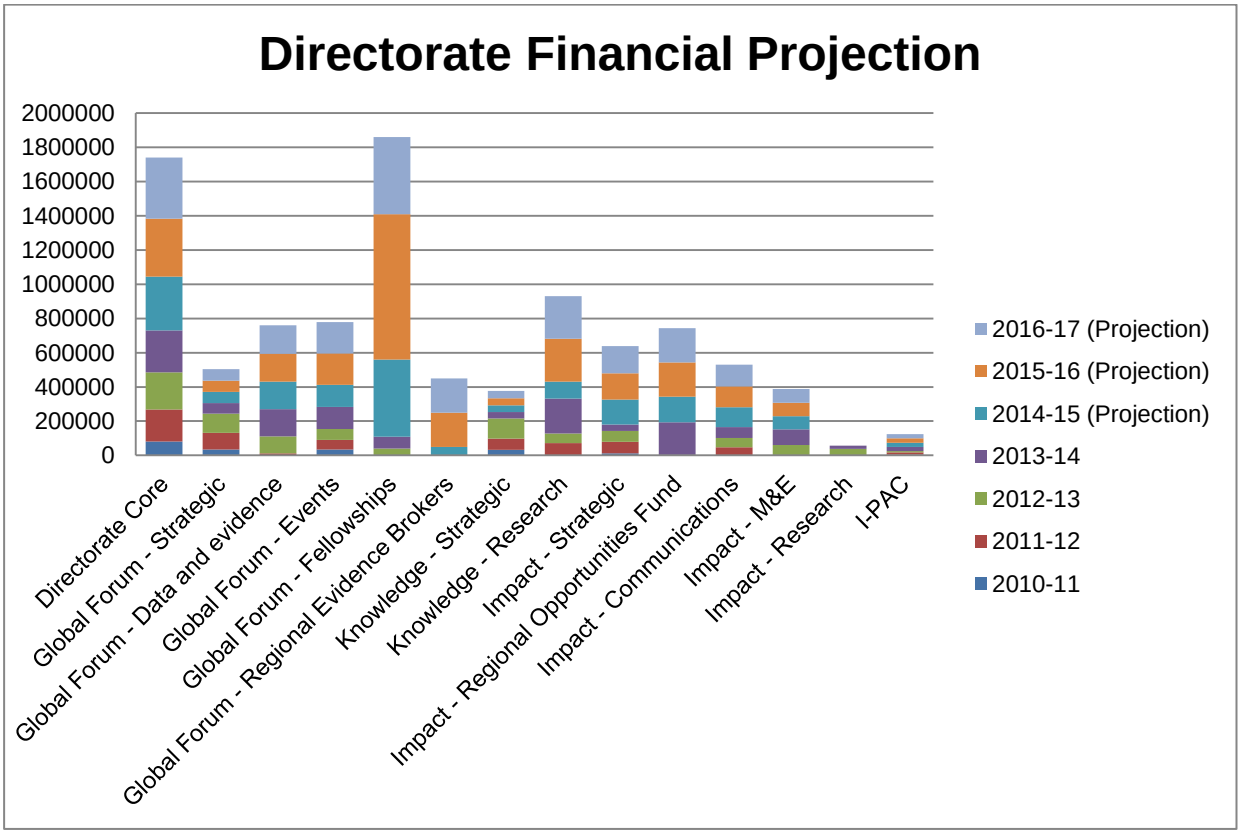
financial management, and procurement services) as an in-kind contribution to the partnership".

The ESPA Annual Report 2012-2013 notes that £33.5 million is administered by NERC through competitive grant awards. Approximately £30.8m has been granted to projects to date (up to and including the 2013 grants). See Section 2.4.3 for further details of these projects.

2.4.2 Directorate

The ESPA Directorate was originally allocated £8 million of which £2.5m has been spent to date. A further £1.9 million has been assigned to it for the ESPA Fellowships Scheme, which was launched in late 2013. The Directorate produced a statement in 2013 of past and projected expenditure (Figure 3), which, in addition to core costs, includes expenditure on Early Career Fellowships, ESPA Future Research Leaders Fellowships, Regional Opportunities Funds, Regional Evidence Brokers, Directorate-commissioned research and other sub-contracts.

Figure 3 Directorate's past and projected expenditure



2.4.3 ESPA's project portfolio

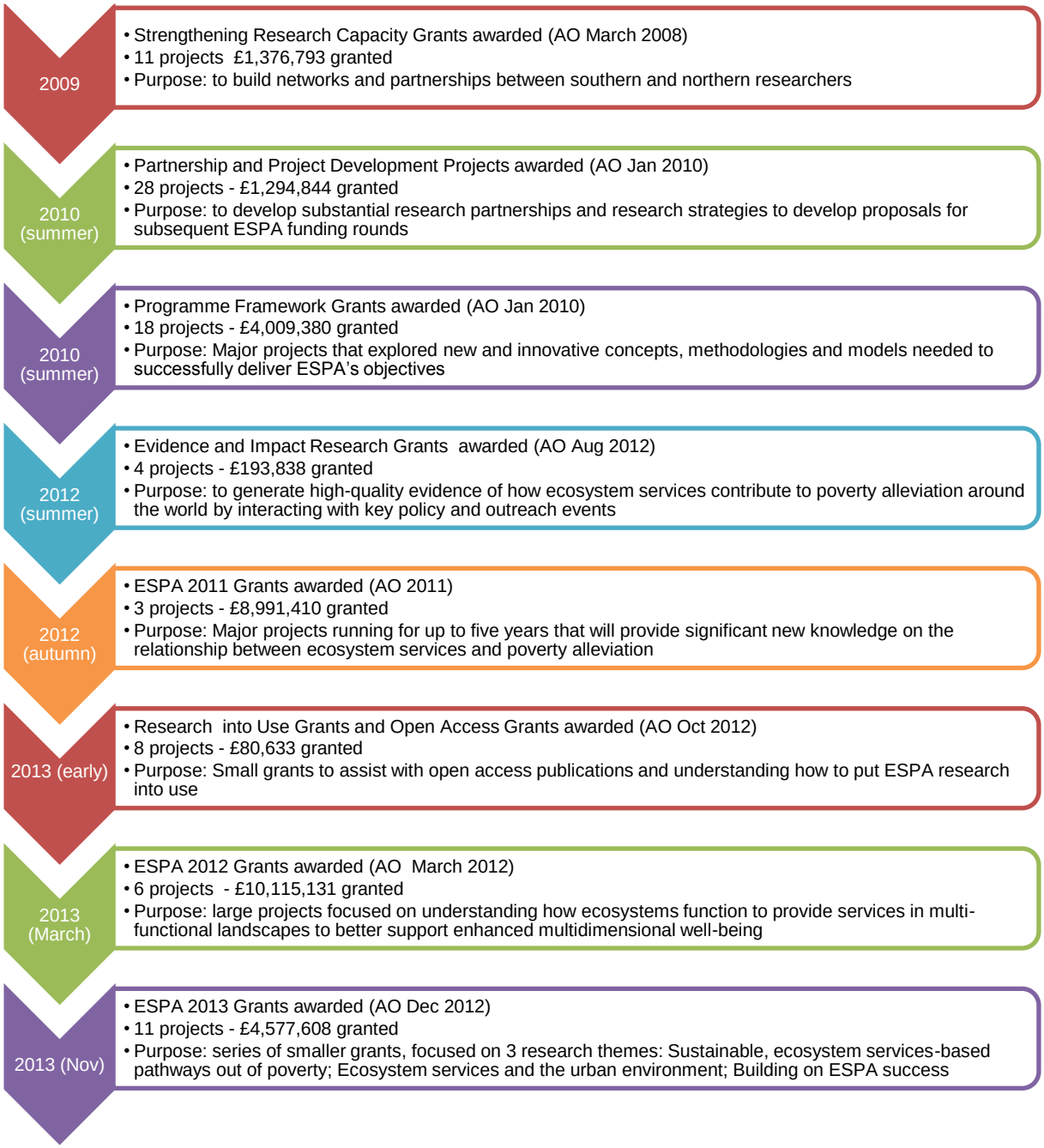
The ESPA Programme's portfolio spans 51 countries and around 90 projects (see Figure 4). A full list of ESPA projects can be found in Appendix 5.

Figure 4 ESPA's Global Reach

As depicted in Figure 5, the various funding rounds have differed in their scale and focus, but all have sought to reflect the Programme's overall goal, even as underpinning strategies and thinking developed. The early rounds were focused on building capacity to develop proposals for subsequent funding rounds and to explore concepts and methods required to deliver ESPA's objectives. Some smaller projects have undertaken case study reviews and synthesis (e.g. the 'Forest and Floodplains' project in Bangladesh and Nepal). The larger projects in later rounds have increasingly focused on the implementation of research and aim to leverage policy influence.

Figure 5 highlights that it is only since 2011 that larger consortia grants have been awarded to projects based on their potential to deliver impacts, and that there have been subsequent delays before work on these projects has actually started. For example, the ESPA-2011 and ESPA-2012 projects have been operational since late-2012 and early-2013 respectively. It is worth noting that, as the MTR commenced in August 2013, it comes at a relatively early stage in these projects' lifespans.

Figure 5 ESPA grants timeline



3 Assessment of progress and achievement against the Programme's outcome, outputs and strategic objectives

This section provides an assessment of progress against the Programme's strategic objectives (goal, purpose and outputs) by reference to the Programme's logical framework (logframe). It also seeks to explore some of the issues around the Programme's strategic objectives that underpin emergent issues in later sections. Sections 4-6 assess the Programme's achievements in terms of: the scientific quality of its research outputs; academic and development impacts; and the appropriateness and performance of the Programme's Directorate and governance structure.

3.1 Progress against strategic objectives

The Programme's logframe sets out indicators with associated milestones and targets in relation to the Programme's desired outputs and, as such, is intended to reflect the Programme's strategic objectives (see Section 2.1). The logframe has evolved over the Programme's lifetime and was revised most recently in January 2013. It is used primarily by DFID, and as a programme management tool by the Directorate[7]; however the MTR team was informed by a NERC stakeholder that the indicators and targets that link to the Research Councils' main areas of interest are also considered fit-for-purpose for these users. There are 25 indicators, which are evenly split between those based on research-related data (23) and those based on development impact-related data (22). Whilst these indicators provide a quantitative means by which to measure progress against the Programme's strategic objectives, as will be seen in subsequent sections, the logframe does not (and cannot) capture various conceptual and operational issues affecting the Programme. It should not, therefore, be treated as a standalone guide to the Programme's progress against its strategic objectives.

3.1.1 Progress against logframe indicators

Progress against most of the indicators is meeting or exceeding milestones and targets suggesting that delivery of the Programme's strategic objectives is on track or better than expected (see Appendix 6). Based on DFID project-scoring guidance, progress in relation to 64% (16) of the indicators for which targets have been set has moderately or substantially achieved expectations and for 28% (7) has met expectations. In a number of these instances targets could be reviewed and revised[8]. There are a few instances indicated in Appendix 6, where it is unclear how much progress is being made against the 2017 target, as the unit is not comparable with the 2013/2015 milestones.

[7] In addition to using a majority of data from NERC's Research Outputs System, reporting against the logframe indicators demands a separate data collection process to that required for ROS); see Section 6.3.2. Revised indicators have been selected so that more data is available in the ROS system.

[8] The logframe states that the MTR team would set targets against the Baseline 2010 for Indicator 4.1.2: *"Proportion of cost allocated to developing country researchers as shown in project applications"*. The Directorate has complete reporting only for the Evidence and Impact Research Grants 2011 from which it has estimated the baseline at 25-60%. As NERC has been unable to provide any additional information in this regard, the MTR team is not in a position to specify new logframe milestones or targets.

3.2 Stakeholders' issues with ESPA's strategic objectives

Whilst the progress being made in quantitative terms is reassuring, some interviewees and survey responses point to fundamental doubts about ESPA's strategic objectives. An early version of the ESPA Vision (20 January 2012) features the two main areas of confusion:

"ESPA is an international research programme providing evidence of ***how ecosystem services can support well-being and sustainable poverty alleviation*** *among the* ***poorest people*** *in developing countries."* (Emphasis by MTR team)

Each of these issues is considered in the following sub-sections, which draw upon stakeholders' perceptions. An apparent lack of clarity regarding these issues poses short-term challenges for project delivery, as well as potentially affecting the Programme's longer-term legacy.

3.2.1 Linking ecosystem services and poverty alleviation

The Programme is making progress with understanding the relationship between ecosystem services and poverty alleviation. For example, resulting from the award of a Programme Framework Grant in 2010, Fisher *et al.* (2013)[9,10] synthesised insights from existing frameworks in social-ecological systems science and international development and published a new conceptual framework. Howe *et al.* (2013) also published a rapid review of current literature on the links between climate change, ecosystem services and poverty alleviation, and Suich *et al.* has recently completed a wider literature review of links between ecosystem services and poverty alleviation[11]. However, it was clear from speaking with various stakeholders that the perceptions of people involved in the Programme's governance differ from those of some academics as to the relative onus on projects to demonstrate, rather than investigate, the relationship between ecosystem services and poverty alleviation.

Former members from , involved in developing and managing the Programme, perceive that the Programme has a very clear vision, which does **not assume** that provision of ecosystem services can alleviate poverty. These individuals highlight that it is a research programme seeking to explore cutting-edge questions, and that there is no point in undertaking research if either the scientific outcome or development impacts can be pre-determined. They point out that as the Programme is focusing on specific issues, such as the identification of critical thresholds, it is clear that it has not been accepted as a given that ecosystem services deliver poverty alleviation. Current PEB and PMG members from DFID highlight that their primary objective is for the Programme to clarify the relationship between ecosystem service provision and poverty alleviation. A member of the International Programme Advisory Committee (IPAC) has also indicated that there is still a need to conceptualise links between ecosystem services and poverty alleviation.

However, some survey responses and interviews with (lead) principal investigators highlighted their perception that they are expected to demonstrate that ecosystem services **do** deliver poverty alleviation, rather than questioning whether, how and where they are linked. Their concerns are that assuming provision of ecosystem services delivers poverty alleviation:

- Pre-judges the science
- Opens up the Programme for criticism of being an issue advocate (Q7, survey) or poverty alleviation campaign rather than a science programme
- Underplays the complexities, multiple definitions and multi-dimensional nature of poverty, thus skewing the focus on ecosystem services as a solution to poverty

[9] Fisher , JA; Patenaude, G; Giri, K; Lewis, K;Meir, P; Pinho, P; Rounsevell, MDA; Williams, M (2013) Understanding the relationships between ecosystem services and poverty alleviation: A conceptual framework. *Ecosystem services*
[10] Fisher, JA; Patenaude, G; Meir, P; Nightingale, AJ; Rounsevell, MDA; Williams, M; Woodhouse, IH (2013) Strengthening conceptual foundations: Analysing frameworks for ecosystem services and poverty alleviation research
[11] This paper was submitted in January 2014, and the MTR team was not able to review this document.

alleviation, and potentially resulting in unsustainable approaches to ecosystem services.

Linked to the last point, one member of PEB identified that the impacts of ecosystem services will be different depending on what definition of poverty is being used, and how it is assessed – something that one lead principal investigator indicated there is insufficient guidance around. More generally, a member of IPAC expressed a view that the Programme and its projects do not place enough emphasis on poverty, and instead start from an ecosystem services perspective.

A number of (lead) principal investigators highlighted that these concerns have arisen because the Programme's name inoculates people with a particular mind-set, which may be reinforced by most stakeholders' perceptions that DFID has unrealistic expectations of the Programme's ability to deliver development impacts and the Director's enthusiasm and determination. In reality, one of the Programme's founders and a former long-serving member of PEB explained that ESPA was chosen as a pragmatic title of convenience that was intended to highlight the focus on, rather than any assumed link between, the two concepts. In a related point, one member of PEB, highlighted that the term 'poverty alleviation' may itself be unhelpful. He suggested that the terms 'wealth creation' or 'safeguarding against poverty' might do more to attract the attention of investors, governments and businesses and would lead to a more positive focus on markets and governance. These comments indicate that there are lessons to be learned around the naming, framing and communication of similar programmes in the future.

3.2.2 Can ESPA help the poorest?

A recurrent point of discussion with academics who the MTR team interviewed was whether action for ecosystem services can actually help the poorest people in developing countries, and if not, whether this is in conflict with DFID's wider work on direct poverty reduction[12] and the ESPA Programme's vision.

It is noted that stakeholder perceptions on this issue *may* be a legacy of early ESPA Programme messaging on this topic. As noted in the introduction to this section, the early ESPA Vision statements contained the term 'poorest people'. However subsequently revised Programme documentation uses the term 'poor people'. Nonetheless, as the issue was raised by various stakeholders the MTR team felt it useful to highlight this issue.

46% of survey respondents (strongly) agreed that their projects had benefitted the poorest people or communities, with a further 45% giving a neutral response (Q33, survey). However, a number of respondents flagged up practical and conceptual issues with delivering impact to the poorest communities.

At a conceptual level, it was suggested that there is a need for better articulation of poverty alleviation, poverty and the poor, as well as a clearer understanding of the end beneficiaries that the Programme is intended to target and timescales for delivery of desired impacts. The lack of clarity underpins a number of issues surrounding the Programme's development impacts and governance, as are explored in later sections.

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[12] There is no DFID definition of the term 'direct poverty reduction' available in the public domain. Based on interpretation of recent DFID papers*, the MTR Team defines direct poverty reduction as:

Reductions in poverty of people (populations, communities or households identified or targeted by a project) as a direct result of programme-funded activities.

In contrast, the MTR Team defines indirect poverty reduction as:

Reductions in poverty of people (populations, communities or household) as a result of broader development outcomes attributable to the Programme's activities or its demonstration of direct poverty reduction.

* UK Government. 2012. Background Discussion Paper: Proposed approach for identifying beneficiaries for DFID's civil society challenge fund.
* DFID BRACED Programme Direct Beneficiaries Definition: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/251942/guidance-definition-direct-beneficiaries.pdf

At a practical level, respondents identified that ESPA projects cannot help the poorest people in developing countries who lack access to land or ecosystem services. Furthermore, one lead principal investigator highlighted that political and economic factors can drive marginalisation, requiring shifts at a local level that may be outside of ESPA projects' scope. These issues are highlighted by Fisher *et al.* (2013). They were also apparent from the MTR team's field visits with the 'Forests and Floodplains project' in Nepal and the 'Whole Decision Network Analysis for Coastal Ecosystems' (WD-NACE) project in Bangladesh. As such, ESPA projects may only have potential to help some of the poorest communities indirectly (e.g. via awareness raising of degradation issues, or developing an understanding of sustainable livelihood options).

Indications from stakeholders in the field were that the impact of ESPA on the poorest is more likely to be a long-term process, possibly through feeding into the right stage of the step-by-step sustainable graduation models used by other programmes for the extreme poor, e.g. Shiree/Economic Empowerment of the Poorest Programme (EEP), which is supported by DFID, UKAID and the Government of Bangladesh. This links to discussion on the scalability of the Programme's impacts (Section 5.2.6). A PEB member suggested that it may be more productive for the Programme to focus future efforts on the poor rather than the poorest, as it would then have potential to reach more people.

4 Assessment of scientific quality of research

ESPA's Impact Strategy identifies the Programme's main delivery of academic impact will be through publication of research, and that *"The highest quality of excellence will be seen when research and resulting publications are:*

- ***relevant** to ESPA's research agenda*
- ***attributable** to activities undertaken through an ESPA project*
- ***including developing country authorship***
- ***published in high-impact, peer-reviewed international journals**, and*
- ***published in open access format.**"*

This section focuses on the scientific quality of ESPA projects' publications in peer-reviewed journals and identifies the extent of other research outputs. The latter are defined here as those attributed to an ESPA Project on the Research Outcomes System (ROS) and are categorised as:

- Books
- Book Chapters
- Journal articles
- Computer models
- Data sets
- "Other" outcomes – comprising 25 diverse categories including 'Board Appointments', 'Podcasts', 'Technical Report', 'Conference Paper' and 'Policy Influence'.

The Section synthesises the analysis conducted by Professor Jouni Paavola. The full analysis can be found at Appendix 7. Discussion of the wider academic impacts of the Programme can be found in Section 5.

4.1 Project publications

Between them, 39 ESPA projects have produced 92 publications (i.e. books, book chapters and journal articles) to date (see

Table ***2***). Of the 72 journal articles attributable to ESPA, 60 (83%) have been published in journals listed in Thomson Reuters' (formerly ISI) Web of Knowledge, which meets the Programme's target for 2017. Based on a multi-factorial evaluation process[13], Thomson Reuters provide comprehensive coverage of the world's most important and influential journals.

It was noted by one stakeholder that a barrier to publishing multi-disciplinary research is the lag time for journals to react and respond to the changing focus of research. However, over ESPA's lifetime, new journals (e.g. *Ecosystem Services*) have appeared that fit the ESPA community's work.

[13] http://wokinfo.com/essays/journal-selection-process/

Table 2 Breakdown of ESPA project's publications

Output types	Number	Percentage	No. of ESPA projects involved
Books	6	7%	6
Chapters	14	15%	7
Articles	72	78%	31
Total	92	100%	39

4.1.1 Citations

The quality of academic journals is usually characterised on the basis of whether they are peer-reviewed and in terms of their impact factors (IFs). IFs reflect the average number of citations received by articles that have appeared in a journal in recent years. Most commonly used are three-year and five-year IFs, which can range from a little over zero to well over 30 in the cases of *Nature* and *Science*. All IFs used in this report's analysis are based on three-yearly figures. About one fifth (19.5%) of the articles attributable to ESPA have been published in journals that have an IF of five or larger, and a further 44% have been published in journals with an IF of 2.0-4.99.

As of 24 October 2013, there were a total of 380 citations attributed to the 72 ESPA journal articles. This exceeds the Programme's target for 2017. ESPA articles have earned on average a total of five citations, and the average is over six for ISI-listed journals. This equates to approximately three citations per year per article published in ISI-listed journals. These figures compare well with the average citation counts per year for social scientific and natural scientific journal articles, which are 0.7 and 2.1 citations per year[14], respectively.

A citation benchmark analysis was conducted using the Research Excellence Framework developed by the Higher Education Funding Council for England. It suggests that, in those areas of research where metrics can be used, twice the mean disciplinary citation count indicates *"quality that is internationally excellent in terms of originality, significance and rigour but which falls short of the highest standards of excellence"* (3* outputs) and four times the average citation count is associated with *"quality that is world-leading in terms of originality, significance and rigour"* (4* outputs). On this basis, 13% of ESPA's journal articles are 4* social science, 5% are 4* natural science, 33% are 3* social science and 8% are 3* natural science. These findings are triangulated by another citation count analysis in Appendix 7.

It should be noted that these findings do not take account of recent ESPA publications, which due to their newness, will not yet have been cited by other publications. As such, it is likely that the annual citation count of many existing ESPA publications has not yet peaked.

A qualitative analysis of the most cited ESPA publications was also conducted. The most cited ESPA articles have all been published in natural science journals, though analysis indicates that ESPA projects are also producing well-cited social science-focused publications. These are gaining citations at a favourable rate in comparison to social scientific academic papers in general. Table 3 gives examples of some highly-cited ESPA journal articles.

[14] Scope Notes Citation Index data

Table 3 Examples of highly-cited journal articles attributed to ESPA (as at 24/10/13)

Natural/ Social science focus	Title	Lead author, year	Journal	IF	# Citations	Summary	ESPA Project/Directorate Attribution
Natural Science	Biodiversity loss and its impact on humanity	Cardinale *et al.* 2012	Nature	38.597	98	Summarises the results on how and why the Earth's biological diversity influences the functioning of ecosystems. Discusses how biodiversity provides specific ecosystem services of value to humanity, and considers how the next generation of biodiversity science can better serve policy and management initiatives	ESPA Directorate
Natural Science	Future change of temperature and precipitation extremes in South America as derived from the PRECIS regional climate modelling system	Marengo *et al.* 2009	International Journal of Climatology	2.886	52	Analyses the distribution of extremes of temperature and precipitation in South America in the recent past (1961–1990) and in a future (2071–2100) climate under the IPCC SRES A2 and B2 emissions scenarios.	Valuing rainforests as Global Eco-Utilities: a novel mechanism to pay communities for ecosystem services provided by the Amazon (Strengthening Research Capacity Grant)
Natural Science	Biodiversity and ecosystem services: a multi-layered relationship	Mace *et al.* 2012	Trends in Ecology and Evolution	15.389	37	Demonstrates that biodiversity has key roles at all levels of the ecosystem-service hierarchy: as a regulator of underpinning ecosystem processes, as a final ecosystem service and as a good that is subject to valuation, whether economic or otherwise. Ecosystem science and practice has not yet absorbed the lessons of this complex relationship, which suggests an urgent need to develop the interdisciplinary science of ecosystem management.	ESPA Directorate

Natural/ Social science focus	Title	Lead author, year	Journal	IF	# Citations	Summary	ESPA Project/Directorate Attribution
Social Science	Poverty, sustainability and human wellbeing: A social wellbeing approach to the global fisheries crisis	Coulthard *et al.* 2011	*Global Environmental Change*	5.236	14	Examines the extent to which a social wellbeing approach can offer a useful way of addressing the policy challenge of reconciling poverty and environmental objectives in the global fisheries crisis context. Also frames the policy problem using a social conception of human wellbeing, because this approach provides insights for improving fisheries policy and governance.	Building Capacity for Sustainable Governance in South Asian Fisheries: Poverty, Wellbeing and Deliberative Policy Networks (Strengthening Research Capacity Grant)
Social Science	Challenges and opportunities in linking carbon sequestration, livelihoods and ecosystem service provision in drylands	Stringer *et al.* 2012	Environmental Science & Policy	2.978	8	Analyses the most pressing deficiencies in understanding carbon storage in soils, above ground biomass and the related social and economic challenges associated with carbon sequestration projects in semi-arid and dry sub-humid systems of sub-Saharan Africa. Demonstrates that that multi-stakeholder-working, across scales from the local to the regional, is necessary to ensure that scientific advances can inform policy and practice to deliver carbon, ecosystem service and poverty alleviation benefits.	Managing land for carbon in southern Africa: relationships between carbon, livelihoods and ecosystem services (Partnership and Project Development Grant)

4.2 Other research outputs

It has not been possible to draw conclusions about the scientific quality of other research outputs recorded on ROS due to their nature and diversity. However, they are briefly identified below.

4.2.1 Models and datasets

ESPA projects have generated eight computer models and 10 datasets. These are typically fairly specific in terms of their substantive and geographic focus. They are intermediate outputs from projects necessary as steppingstones for the publication of results.

4.2.2 Other outputs

Projects have produced 624 'other' ESPA outputs. The 'other' category is based on a grouping used by the Directorate for their data analysis. More detailed information about these outputs is available. Our analysis of the 25 categories on ROS indicates that of these 'other' outputs:

- 236 are classified as 'communications'.
- 72 intermediate research outputs, such as working papers, conference papers, theses
- 72 reports and impact summaries
- 48 research collaborations
- 31 co-funding proposals
- 167 other types of outputs.

The analysis in Appendix 7 provides some interesting examples of these 'other' outputs. It also highlights a degree of heterogeneity and overlaps within and across the 'other outputs' category.

5 Assessment of impact of research

ESPA's Impact Strategy states that the Programme *"aims to deliver development impact through research excellence"* and has *"been designed to link the Research Councils and DFID's research and impact agendas to deliver significant and sustainable benefits to the world's poor"*. As such, ESPA's research is measured in terms of academic impact, resultant implications for the development of policy and practice, and thereby its contribution to improving poor people's lives.

The academic impact of the ESPA Programme encompasses more than the scientific quality of its projects' publications and the extent of other research outputs, which were assessed in Section 4. It is furthered through knowledge exchange within and beyond the ESPA community, and strengthening research capacity across community members, including those from developing countries. These issues are explored below and are followed by an exploration of the Programme's current and emerging development impacts in relation to policy and practice, as well as a review of the challenges projects face in their delivery.

Accountability

An underlying theme in this Section is the accountability of ESPA's projects for delivery of outputs, particularly with respect to development impacts. Projects are signed up to the Research Councils' general terms and conditions and, since 2011, to ESPA-specific clauses. These focus on management and reporting issues rather than any deliverables. The same is true even where revisions to proposals have been requested as a condition of grant. Thus, current projects cannot be held to account for delivery of specific outputs. This approach reflects the Research Councils' normal mode of operation, which is intended to encourage innovation and avoid prejudging research findings.

The MTR team's interviews with the Directorate, individuals across the governance bodies and (lead) principal investigators suggest that this lack of accountability has implications for the way that project proposals are submitted and delivered, and hence for the Programme's governance, direction, and management. To take two examples that relate to ongoing ESPA projects, at either end of the spectrum encountered by the MTR team:

- A lead principal investigator explained that they had purposefully submitted ESPA proposals that were 'SMART' (i.e. specific, measurable, attainable, relevant and time-bound) in order to establish clear expectations of what academic and development impacts are to be delivered, and as demanded by other applied research programmes (e.g. by USAID or the MacArthur Foundation)
- Another stakeholder admitted that they have consciously designed ESPA proposals in such a way as to ensure that their delivery is unconstrained and that they cannot be held to account.

5.1 Academic impacts

5.1.1 Knowledge exchange across and beyond the ESPA Community

75% of academic stakeholders (strongly) agreed that the ESPA Programme has strengthened their ability to deliver academic impacts (Q8, survey).The main reason cited was the Programme's facilitation of knowledge exchange, which is unsurprising given the multi/inter-disciplinary nature of the Programme. Knowledge exchange was noted as taking many forms across the Programme, including enabling projects to: receive and provide training; take part in joint-learning in multi/inter-disciplinary settings; benefit from opportunities to apply for Open Access Publication grants; and host ESPA-led events and meetings. Survey results highlight that the Programme has encouraged engagement with a wider academic community (Figure 6) and that the Directorate has developed links between ESPA projects (Figure 7). However, the survey data presented appear to gloss over some stakeholder concerns revealed through interviews, which are reported below. These views could be explored in further depth as the Programme continues.

Figure 6 Knowledge sharing (Q16) – survey responses

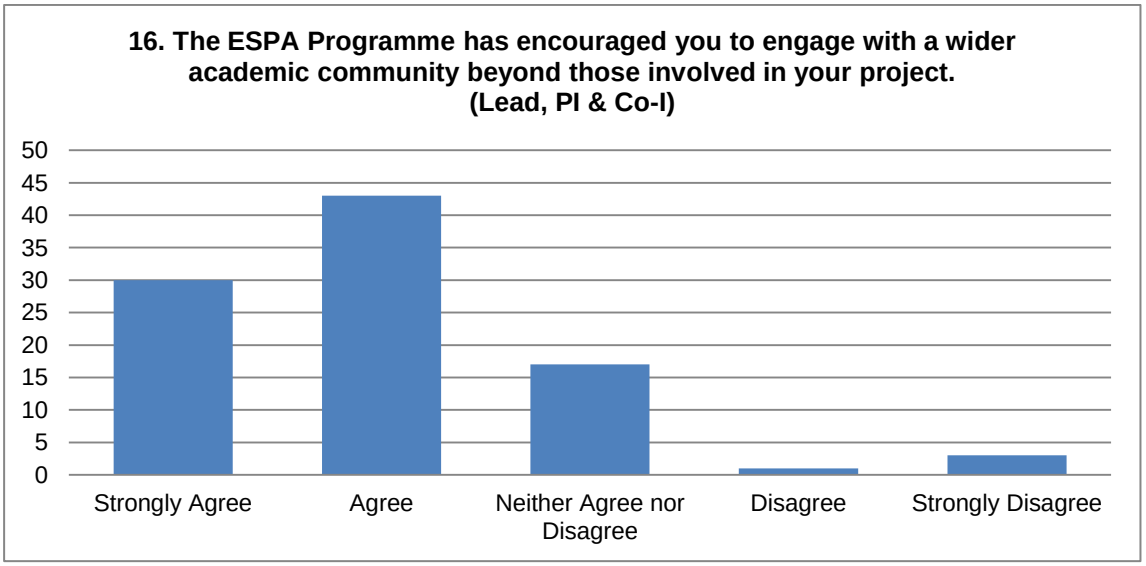
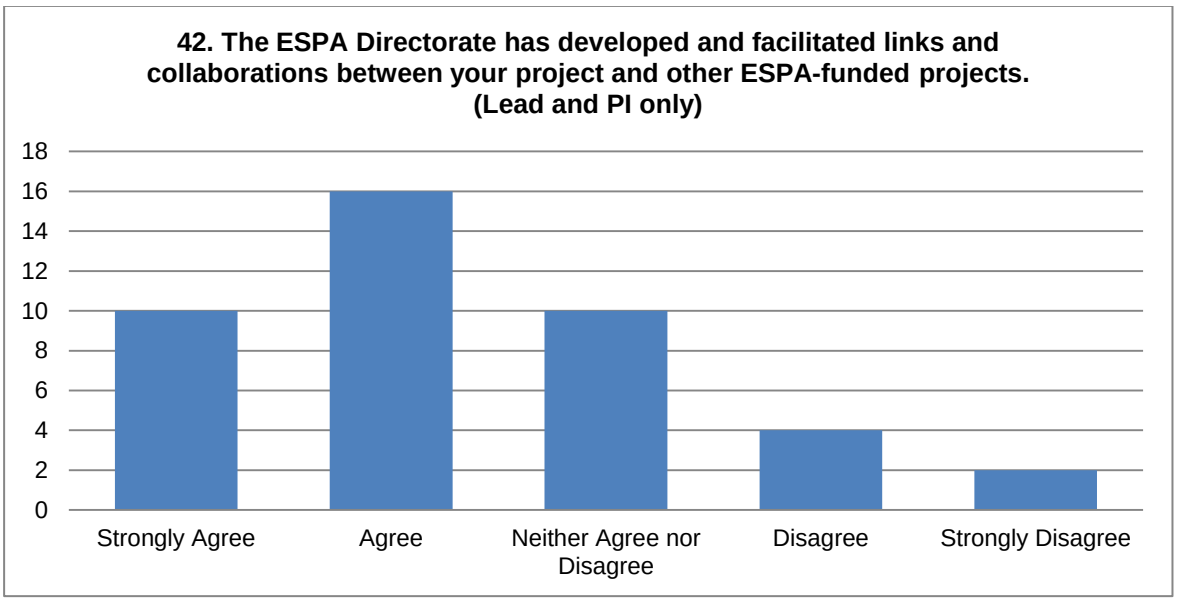


Figure 7 Directorate role in facilitating cross-project links (Q42) – survey responses



5.1.1.1 Non-ESPA participant engagement

To date there have been 27 ESPA community events[15]. Meeting opportunities include the Annual Science Conference, technical workshops and symposia. A number of academics also make use of *ad hoc* networking opportunities (e.g. e-introductions via the ESPA website). The resulting 'ESPA Community' is a positive outcome of the Programme. The involvement of academics from outside this community at recent events has been welcomed by researchers and IPAC (Q17, survey), although a couple of survey respondents indicated that they thought more could be done to widen engagement with non-ESPA experts and users of research (Q17, survey).

5.1.1.2 Format and content of ESPA meetings

A small proportion of stakeholders interviewed or surveyed expressed frustration at the format of the Annual Science Conference, indicating that it is not conducive to encouraging wider engagement (survey comments). One principal investigator also noted that attendance at such events is time-consuming and has a knock-on effect on time available for project delivery. Some mid/late career academics have felt patronised by the tone of communication at some ESPA Programme events and their content (which they suggest is sometimes more appropriate for early career researchers). These more senior academics have expressed a desire to spend their time together more creatively, though not at the expense of segregating the academic community.

Two of the professors interviewed reported that a number of Directorate workshops have successfully facilitated common approaches (e.g. how to model, how to understand poverty) and provided fora for sharing ideas and techniques. Examples highlighted include a London meeting in November 2013, which brought together 4 ESPA consortia working on forestry and agriculture related issues, and an event on poverty held in Oxford in 2011. However, it is worth noting that one member of IPAC has expressed concern that such workshops may lead to everyone undertaking similar research and thereby limiting the Programme's potential learning. The scale of this risk is unclear.

5.1.1.3 Systematically linking up projects

Qualitative data collected from ESPA researchers indicate that they do not appear to be systematically linked up between projects. During a field interview with principal investigators in Bangladesh, examples emerged of ESPA projects that had been requesting a knowledge-sharing workshop for the previous two years. A large number of academic stakeholders also expressed a lack of knowledge around other ESPA projects' methods, processes and outputs, as reflected by interviewees and survey respondents (Q44, survey).

ESPA researchers are clearly interested in understanding other ESPA projects' experiences of methods-related topics, including methodological pluralism, defining and assessing poverty and community engagement, but do not all feel that these opportunities are afforded to them in a suitable format

5.1.2 Strengthening research capacity

Strengthening research capacity is integral to ESPA's Impact Framework (Appendix 4) and researchers view it as such. However, according to the Programme's Director, *"the ESPA Programme is not specifically intended to focus on capacity strengthening"*. This view is also reflected by a former representative on PEB who states that *"Capacity building was discussed at some length during the early design phase, and it was agreed that* [it] *would be an added benefit emerging from the research investment"*. However, they also note that it is an issue that has been *"a source of tension at times"*. It was raised by a number of other stakeholders in interviews and survey responses, indicating that there is an opportunity to

[15] http://www.espa.ac.uk/news-events/previous-events?page=2

turn a spotlight on this issue, as the Programme continues. The topic is discussed below in relation to ESPA project clusters and northern and developing country researchers, and links to discussion of development impacts in Section 5.2.

5.1.2.1 Project clusters

The Programme initially gave preference to awarding grants to projects situated in particular regions (e.g. South Asia or East Africa). However, some long-standing members of ESPA's governance bodies advise that regional clustering of projects is no longer a determinant of grants awarded; instead, it has evolved organically as the number of projects has increased.

Stakeholders were asked about the role of project clusters in delivering academic impacts. 50% of those who responded to the survey (strongly) agreed that the clustering of projects contributed to their ability to deliver academic impacts (Q1, survey). Whilst some points were also made that clustering can enable projects to more effectively scale-up their development impacts (see Section 5.2), the majority of points raised by those who were aware of the early ESPA project clustering approach were related to improved opportunities for knowledge sharing. In South Asia, for example, principal investigators noted that the cluster of projects:

- Provides a platform to strengthen networks between them, and that ESPA can play a valuable role in coordinating learning
- Get an opportunity to interact at half-yearly review meetings to discuss planning efforts and share lessons from their work across different geographies and scales
- Includes a project with a dual focus on Nepal and Bangladesh, which one principal investigator noted had provided opportunity for exchange visits, although not funded by ESPA, which have enhanced knowledge exchange. However, another principal investigator stated that there had been some room for networking to advance collective interests but inter-project interactions were very limited. This difference of opinion seems to reflect the breadth of views on the advantages of project clusters.

5.1.2.2 Developing country researchers

A further critical academic outcome of the ESPA Programme is its impact on the research capacity of developing country researchers. From the Evidence and Impact Research Grants 2011, the Directorate has estimated that 25-60% of ESPA project funding goes to institutions in developing countries (Appendix 6). However, developing country researchers are lead authors on only 16 of ESPA's 92 academic publication outputs (17%). A member of IPAC suggested that research would be more likely to lead to development impact if lead authors are from the South. Similarly, survey respondents noted that the Programme is potentially increasing its likelihood of delivering development impact through supporting developing country researchers (Q12, survey). A total of 42 of the journal articles attributable to ESPA (58% of total; 70% of Web of Knowledge listed articles) were authored or co-authored by developing country scholars. This is in line with the profile of ESPA researchers: 54% are from high-income countries, 19% from middle-income countries and 25% from low-income countries[16] (Appendix 7).

After concerns in the early stages of the Programme, ESPA has seen improved involvement of southern researchers since the 2012 call. Developing country researchers are actively encouraged to participate in programme events (e.g. brought in via video-conference to meetings, and funded to attend the Annual Science Conference). However, some researchers report that support from the Directorate has not increased the capacity of individual researchers who have lacked any meaningful opportunity to interact with ESPA researchers in other countries/continents.

Support to developing country researchers during the application process has been improved. The Fellowship Programme is also designed to encourage southern researcher

[16] ESPA Statistics 1-Nov-2013. 3% of 'unknown nationality'.

participation. At a project-level, southern capacity building occurs through providing field assistants and local partner organisations with employment, training and experience.

As evidenced by the WD-NACE project in Bangladesh, where there has been good communication between UK and southern principal investigators improved knowledge sharing and findings obtained from the ground in-country have helped to inform the development of the original frameworks and models, and promoted commitment across the wider team. The rigour enforced by the Programme's Research Framework and Knowledge Strategy has built capacity amongst southern partner institutions. Some stakeholders identified that the NERC funding and contractual model, whilst problematic in some respects (see Section 6.3.3), forces better lines of communication with southern partners. Equally, the Programme has provided opportunities for UK researchers to gain valuable field experience (e.g. in relation to the ESPA Deltas project).

Yet, despite the capacity of developing country researchers evolving, the balance remains skewed towards UK-based researchers. Interviews and survey responses indicate that there are a number of contributory factors, as explored below.

Hierarchy and attitudes

A member of IPAC has suggested that hierarchical attitudes exist within some ESPA project teams. According to a principal investigator in the field, there has been poor or tokenistic engagement by some UK principal investigators with their southern counterparts, and a lack of willingness to delegate responsibilities to them. This latter point may be linked to two related findings. Firstly, some lead principal investigators have negative experiences of managing ESPA projects due to the difficulties posed by the multiple-contract system in place (see Section 6.3.3). This affected all the ESPA-2011 grants, although grantees in subsequent rounds have been given the option to undertake work under a single contract. The multiple-contract system does not give (lead) principal investigators (who sub-contract with project partners) any financial leverage over their partners. Secondly, survey respondents view northern researchers as having a greater capacity to deliver academic impacts than southern researchers (Q11, survey).

Northern researchers' lack of understanding of the different academic and policy contexts in which their southern counterparts operate has previously been demonstrated at ESPA meetings and in project-team dynamics.

One-way exchange of knowledge

Survey respondents identified that knowledge exchange happens in all directions (north-south, south-north, north-north, and south-south), although the most frequently identified (33%) was north-south (Q14, survey). However, within some projects southern-based principal investigators report that poor communication and coordination with their UK-based counterparts has meant that they have been unable to inform adequately UK development of research frameworks and models. Conversely, a case was noted of UK principal investigators not taking advantage of locally-developed evidence bases to further the development of their models.

Insufficient resources

Whilst funding is available for southern partners to attend UK-based meetings, a feeling that this support is limited leads some participants to attend through their own means according to a member of IPAC . One principal investigator stated that the hosting of key workshops in London *"systematically undermined capacity strengthening of southern researchers"* (Q10, survey). On the other side of the coin, many UK-based researchers have spent little or no time in-country. This is partly symptomatic of limited project budgets and the time constraints of academics. However, according to the ESPA Directorate, security concerns (e.g. hartels in Bangladesh) have also inhibited some researchers. According to a southern researcher, projects would benefit from UK-based principal investigators gaining a better understanding of local factors and challenges, and reflecting these in their outputs. No UK-based principal

investigators attended the 'Sharing and synergy building in ESPA projects in Bangladesh' conference in Dhaka on 3 October 2013. This was interpreted by a southern-based project co-investigator as not only reflecting limited resources in the UK to attend in-country events but also a lack of prioritisation.

Using the Research Councils' systems

It is recognised by southern researchers that developing proposals for research funding is an art, and that southern researcher capacity to meet the rigorous application standards is limited. Support to southern partners in using the Research Councils' Joint Electronic Submission System (Je-S) has improved, but it was identified that support is still needed around their use of the Research Councils' Research Outcomes System (ROS). Currently, according to one lead principal investigator, UK-based principal investigators are either doing a significant amount of pushing, or reporting on behalf of their southern partners.

Brain drain

The Programme has supported PhD studentships in some research calls. However, the Research Councils' legal position is that such PhDs can only be funded if hosted by UK institutions. This does not preclude the students from being co-supervised in southern countries and/or spending up to 50% of their time there. Whilst it is anticipated that most of the forthcoming ESPA Fellowships and capacity-strengthening grants will go to southern researchers, a member of IPAC anticipates that the southern researchers will be pursuing their PhDs at UK universities, so maintaining the status quo.

The MTR team found that the Research Councils' legal position on funding PhDs is either not well understood or unpopular with many academic stakeholders (Q13, survey; Q15, survey), some of whom commented that the legal stance detracts from the potential role of the Programme in preventing 'brain-drain' from southern countries. In limiting the terms under which PhDs are supported, some academics have claimed that early career researchers have been lost from ESPA projects, which has also slowed down delivery.

All the stakeholders who commented on this topic see the Programme's purported support of capacity building and its inability to fund overseas-based PhDs as a disconnection between vision and practice, and one lead principal investigator requests that alternative funding models are explored.

5.1.3 Gender impacts – academic

The ESPA Programme's lack of strategic focus on gender issues, as introduced in Section 2, is reflected in the relatively neutral view that academic stakeholders' take of the role of gender in delivering academic impacts.

Only 22% of ESPA Programme researchers are female; most of them are UK-based. This may be partly due to limiting cultural and educational factors in developing countries that go beyond ESPA's remit. The ESPA Director believes that there is greater female representation at lower levels (e.g. researchers and research assistants) than is currently reported and claims that the most innovative ESPA Programme research is often undertaken by southern women. Interestingly, some UK-based principal investigators who expressed views on the subject during interview could not see any reason why it mattered whether researchers were male or female, even when prompted by the MTR team to consider the implications in relation to securing representative data from local communities.

On the whole, whilst recognising gender empowerment as an important issue, projects do not appear to place specific emphasis on it in their design or delivery. (Lead) principal investigators were asked to what extent they agreed that their ESPA project is focused on gender empowerment to promote delivery of academic impact (Q21, survey). Over 56% responded neutrally, and less than a third responded positively. Comments included that: the focus is on the poor not on women specifically; ESPA is not doing enough to promote gender

empowerment and change among the researchers involved or among the communities within which the projects work; the composition of project teams is context specific; the Programme's gender footprint is comparable with other funding programmes and gender is only indirectly considered.

Amongst some academics, ESPA's position on not funding overseas-based PhD studentships, albeit due to legal reasons, is seen as a barrier to gender empowerment and engagement of southern women researchers. One interviewee stated: *"ESPA is effectively preventing female academic development and forcing collaboration with in-country partners that supports existing staff and does not encourage growth or change. Supporting MSc and PhD training is one way that projects … can break down these barriers by selecting good people irrespective of gender and internal politics to work in country on projects"*.

5.2 Development impacts

ESPA's Impact Strategy identifies that at a programme level intended development impacts will include:

- *"**Conceptual advances** contributing to understanding and reframing of issues relating to policy and practice, as well as more broadly; such as the implications (for people and poverty) of the loss of critical services in vulnerable ecosystems*
- ***Influencing policy and practice** linking ecosystem services and poverty alleviation using new knowledge generated by ESPA*
- ***Capacity building of people and institutions**, to support both of the above".*

The progress to date in delivering development impacts is explored under these three headings in this Section, followed by examples of current and emerging impacts. It is recognised that the development impact headings above are inter-related, but this framework provides a strong structure against which to assess progress of this multi-faceted issue that lies at the heart of the Programme.

Figure 8 Potential end-beneficiaries of an ESPA project, Southwest Bangladesh

5.2.1 Conceptual advances

The ESPA Impact Strategy anticipates that ESPA's research will contribute to improving poor people's lives by generating evidence that helps to:

- *"**Enhance the quality of life, health and creative output in developing countries** for the benefit of the poorest citizens in those countries;*
- ***Foster economic development** leading to ecologically sustainable pro-poor growth and poverty alleviation;*
- ***Increase the effectiveness of institutions, services, policy making, and practice** in, or relating to, developing countries (for the public, private and third sectors)."*

Academic stakeholders were overwhelmingly positive when asked whether their ESPA project was making an additional and unique contribution to the research agenda in the country on which it is focused, with 85% (strongly) agreeing (Q35 – Survey responses).

In addition to the issues of scientific quality discussed in Section 4, the ESPA Programme's stakeholders identified a number of existing or emerging conceptual advances made by their projects, although 13 of the 30 (lead) principal investigators who responded to the survey commented on this matter said it was still too early in the process to judge (Q24, survey).

A member of IPAC stated that while ESPA has made progress in developing evidence bases and generating collaborations, it is yet to generate any new understanding. They also highlighted the difficulty in achieving a balance between ensuring the place of research at the heart of the Programme and funding projects that explore conceptual issues in new ways that may not ultimately inform development policy or practice. In contrast, the ESPA Directorate reports that it is not a business-as-usual research programme (i.e. it does seek to break new ground) and principal investigators suggest it has done well in two key areas – with success to a lesser or greater degree dependent on the specific project in question:

- Strengthening the field of ecosystem services by putting human well-being at the heart of ecosystem services research, as highlighted specifically by a principal investigator involved in two ESPA projects
- Linking conceptual academic research outputs to development impact through a focus on use of evidence to inform policy and practice, which has been an eye-opener for young researchers, as noted explicitly by a principal investigator who has been involved in a number of ESPA projects.

In truth, from the evidence collected and reviewed, the MTR team suggests it will be difficult to appreciate the extent of conceptual advances until the findings of individual projects are systematically synthesised by geography, theme and/or policy area (see Section 7.4). However, early indications are that projects are already generating new understanding (for example: from the analysis of scientific quality, Section 4; the new conceptual framework published by Fisher *et al.* 2013, Section 3.2.1; and current and emerging impacts).

5.2.2 Influencing policy and practice

The MTR team explored what development impacts are apparent (Section 5.2.4) or emerging (Section 5.2.5) from ESPA projects. Balancing viewpoints from academic stakeholders, both those in the UK and those in the field, it looks hopeful that, on the whole, ESPA projects which were specifically designed to have a direct, localised impact on poverty alleviation will do so.

In cases where projects have had a rapid impact on policy and practice (for example: WD-NACE in Bangladesh; Capacity building for mangrove assessment, restoration and valuation in East Africa; The REDD Game: A didactic tool for designing effective, efficient and equitable policies to deliver REDD in Bolivia) key 'success factors' drawn from evidence would seem to be:

- Excellent science
- Effective north-south partnerships
- Young thrusting researchers
- A non-traditional southern partner and southern researchers
- Non-traditional approaches.

Other in-country factors that appear to be important are detailed immediately below.

In relation to informing policy development effectively:

- Stable government and continuity of individuals in key government posts
- Opportune timing of projects in relation to policy windows
- The existence of relevant epistemic groups at the science-policy interface with which project staff have been previously involved
- Ecosystem services that do not have significant potential financial value and are, thus, not likely to motivate control by governments or 'big-business'.

And with regard to improving practice:

- The poorest people having access to land and/or ecosystem services
- The ESPA project building upon trust with local community contacts established by previous projects over a long period of time.

As it was not within the scope of the MTR team's remit to undertake a detailed project-level review, these findings should be treated as provisional.

The potential of ESPA research in Bangladesh

Project: Forests & Floodplains, £50,000 ESPA Evidence and Impact Research Grant – Bangladesh & Nepal

This project drew upon more than 15 years of action research by project partners in Nepal's community forestry and Bangladesh's community-based floodplains management to distil lessons on establishing democratic governance of environmental resources. It examined community-based organisations' records in relation to ecosystem services at 18 sites in Bangladesh. The project's most important finding was that there is a significant gap in the collection of community-level data to inform improvements to management. Shortly following completion of the project, the Government cancelled leases of water bodies to community-based organisations in Bangladesh and took control of their management. Some community-based organisations have successfully regained their leases but in many other cases it appears to have led to a "tragedy of the commons", undoing improvements achieved by community-based organisations. Having collected baseline data during the course of the ESPA Project, the project partners now have a significant opportunity to document how loss of tenure at the 18 sites has had an impact on ecosystem services, the livelihoods of those involved in community-based organisations and on Government finances. The project highlights the importance of building upon previous work, issues relating to poor communities access to ecosystem services, and one of many ways in which ESPA projects have potential to provide a lasting legacy.

There are a number of timeframe, project design and geo-political considerations, which need to be borne in mind, when considering whether the Programme is on track to deliver development impacts.

An important distinction to make when talking about development impact, is the difference between localised versus scaled-up impacts, i.e. impacts that projects may have in the communities where they are directly working or collecting data, versus impacts on regional, national or international policy and practice. Stakeholders pointed out that the impact on, and attribution of, scaled-up impacts must be differentiated from localised impacts on communities in which the research is taking place. There are a series of geopolitical and project design challenges faced by the ESPA Programme, which make informing wide-scale impacts challenging. These are detailed in Section 5.2.6.

It is important to note many of the grants awarded to ESPA projects in 2008-2010 were not framed primarily as 'development impact' projects. As is detailed in Figure 5: Strengthening Research Capacity Grants were intended to help build networks and partnerships between southern and northern researchers; Partnership and Project Development Grants were to fund development of substantial research partnerships and research strategies to develop proposals for subsequent ESPA funding rounds; Programme Framework Grants were used for major projects that explored new and innovative concepts, methodologies and models needed to successfully deliver ESPA's objectives. It is only since 2011 that larger consortia grants have been awarded to projects based on their potential to deliver impacts and the ESPA-2011 and ESPA-2012 projects have been operational since late-2012 and early-2013 respectively.

Given the specific purposes for which grants have been awarded, most of the academic stakeholders interviewed and some of those who commented in the survey have expressed frustration, to a greater or lesser degree, at their perception that development impacts are demanded from all projects. This appears to be due to a lack of clarity and consistency around how the Programme's expectations of development impact are communicated (see Section 6.1.2). Furthermore and linking back to the conceptual issues raised in Section 3.2, many stakeholders have repeatedly stated during interviews that it is too early to reach specific conclusions about the likelihood of ESPA projects delivering widespread poverty alleviation. Stakeholders also point out that whilst the outcomes of ESPA's research programme are not yet known, not only may the Programme's development impacts be unattributable (Q33, survey) but also ESPA projects' impacts on poverty may be limited, qualified and indirect.

5.2.3 Capacity building of people and institutions

The majority of survey responses are positive about the Programme's impact on increasing the capacity of local people and non-academic organisations to deliver development impacts for both people and ecosystems (Q18, survey). The impact of projects on local people is covered in Section 5.2.4, both in terms of current and emerging impacts. The Section covers development impacts from a gender perspective, and explores capacity building in the context of working with advocates and intermediaries and other international research and policy platforms.

5.2.3.1 Gender impacts - development

There was a slightly more positive survey response given to gender empowerment delivering development impacts, as compared to views on its relevance to academic impacts (Section 5.1.3). In this instance, 43% of respondents (strongly) agreed that a focus on gender empowerment delivered development impacts.

Some researchers commented that their research has gendered elements (e.g. the gendered effects of Payments for Ecosystem Services; and the recognition that food security and trade-offs in relation to ecosystem services negatively impact women disproportionately). However, a survey stakeholder identified that, as the main focus of the ESPA Programme is the poor (or poorest), women are only a focus if they are poor, and that gender is really an indirect consideration of the Programme's wider objectives, as highlighted in Section 2.

5.2.3.2 Working with advocates and intermediaries

Academics can identify gaps in current knowledge and undertake relevant research to provide evidence. However, as indicated by southern academic stakeholders, translation of evidence into tools for development of policy (e.g. principles) and practice (e.g. decision frameworks and guidelines) needs to be undertaken by governments and advocates.

Engaging champions for change in ESPA research

Project: Whole decision network analysis for coastal ecosystems (WD-NACE), £223k ESPA Programme Framework – Bangladesh & Kenya

Shrimp farming in Southwest Bangladesh is being driven by the export market. It is leading to conversion of paddy fields, increasing salinity, loss of available nutrition and freshwater for local people, deforestation in the Sundarbans and loss of biodiversity. This project has developed models with local people to understand decision-making in the use of coastal resources and the impacts of decisions on livelihoods, poverty and ecosystems. Involvement in model development has inspired local people who have access to land to manage it by applying the project's integrated model approach. One such person is Salina Abu Saeed (see photo).

Salina, who was married at the age of 12, has recently completed her higher secondary education, is now the chairperson of a village committee in the Munshiganj union (and also chairs its union disaster management committee). Her involvement has contributed to training and coordination of activities at a local level, to the approach being shared with representatives at the union, sub-district and district levels, and with the Deputy Commissioner.

The project highlights the importance of researchers engaging with communities and the potential for local champions to play a key role in knowledge transfer.

It is widely understood by stakeholders that ESPA scientists must work with 'champions of change', 'knowledge translators' and policy advocates if they are to have a significant influence at the science-policy interface. One reason for this is that evidence may be seen most readily as objective, when researchers act as 'honest brokers', i.e. the research is demonstrably untainted by their personal values and objectives.

ESPA projects already collaborate with champions of change to inform development policy and planning (see Figure 9) and practice (see Figure 10). Some principal investigators suggest that greatest synergies can be promoted through 'action research'.

Figure 9 ESPA projects' engagement with development impact stakeholders on policy and planning (Q27 – survey responses)

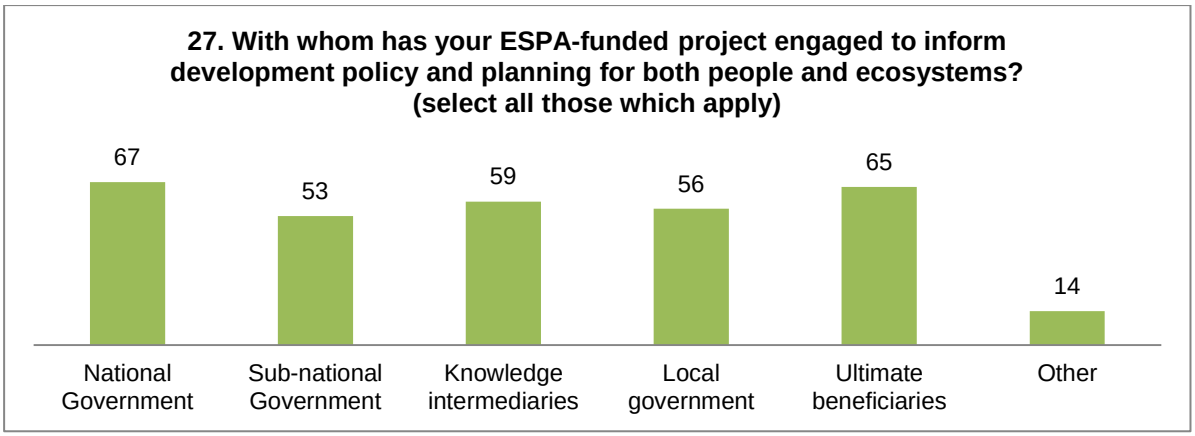
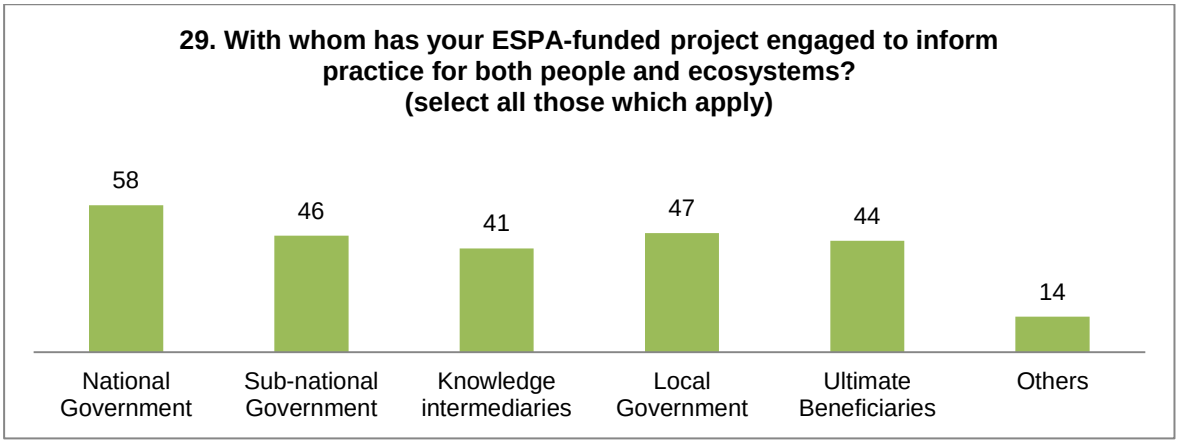


Figure 10 ESPA projects' engagement with development impact stakeholders on practice (Q29 – survey responses)



There are a number of challenges faced by academics when seeking to inform the development of policy and/or practice:

- As made clear by principal investigators in Bangladesh, policy makers are not always the best 'champions' and in some instances working through community-based organisations or NGOs is more effective than engaging with Government platforms at a regional/district level
- Relationships between scientists and advocates are not straightforward, as the world of policy is structured very differently from the world of science. A member of IPAC, who is a leading 'knowledge intermediary' bridging the worlds of science and policy, stated that there is a risk of his scientific credentials and objectivity being reduced by wearing both hats
- Epistemic groups focused on relevant policy issues need to exist and be active, as highlighted by academics in Nepal and Bangladesh
- A NERC representative pointed out that there is a risk of conflicting priorities between researchers and knowledge intermediaries within project teams, which may result in a delivery bias
- Southern researchers identified that developing relationships with policy stakeholders is a time-intensive exercise for all parties, particularly with senior government officials.

5.2.3.3 Links with other development programmes

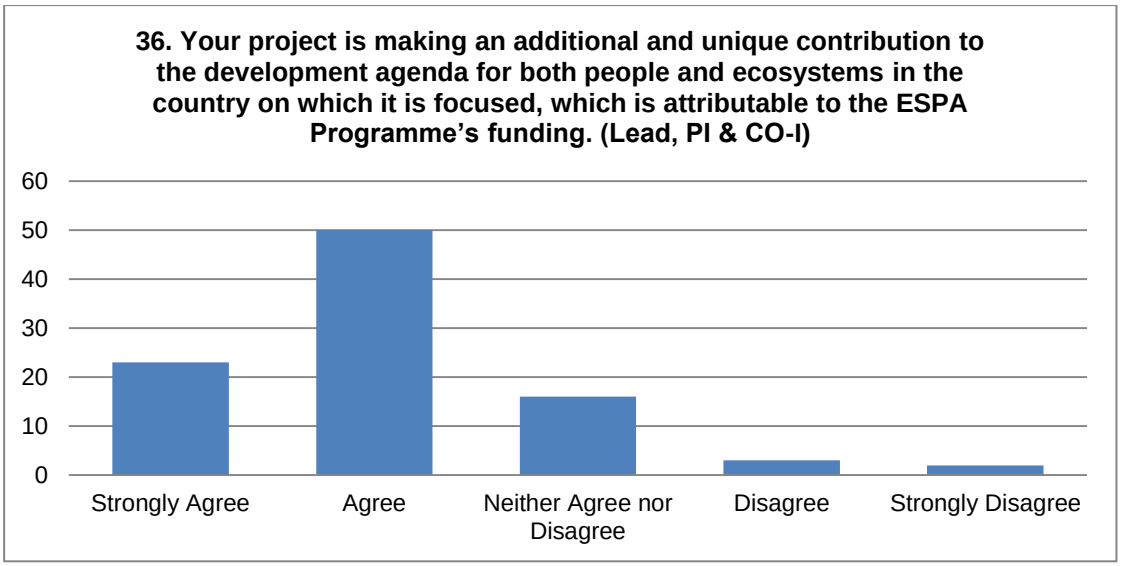
In considering the ESPA Programme's development of the capacity of institutions, it is worth taking account of its national and international presence. Links between ESPA and other development programmes are reportedly weak at present.

The level of engagement with other DFID projects and relevant international development programmes differs across ESPA projects. Some stakeholders indicate that, at a project level, ESPA's academic and wider stakeholder community lack knowledge of the outputs and policy implications of other relevant programmes. An ESPA project's NGO partner in Bangladesh stated that WD-NACE did not have the resources to engage with other on-going DFID programmes in the region. In contrast, ASSETS, which a senior ESPA stakeholder regards as the closest of all projects to ESPA aspirations, as it is grounded in science and has delivered changes in practice links to the World Bank's WAVES (Wealth Accounting and Valuation of Ecosystem Services) initiative through a shared tool, the ARIES Bayesian network. This inconsistency is not a criticism of certain projects – the situation is in part a reflection of projects' differing design and intended outputs. However, there may be opportunity for the Programme to do more to create links between ESPA projects and other complementary initiatives on the ground. An ESRC representative noted that the ESPA Programme currently feels separated from the rest of ESRC's work on poverty (e.g. the ESRC-DFID Poverty Alleviation Programme) and that there is not much knitting together of outputs and outcomes (e.g. no joint conferences, publications etc.). This point links more generally to the need to start thinking about 'life after the ESPA Programme'. As stated by DFID representatives, a "measure of the ESPA Programme's success will be if the Directorate becomes engaged with ….international platforms in ways that lead to transfer and uptake of the evidence developed". DFID representatives gave the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) as a relevant example of a platform with which ESPA should increasingly be engaging.

5.2.4 Current development impacts

Many academic interviewees have expressed frustration that it is too early for the Programme's funders to expect delivery of development impacts, and concern that there is a lack of clarity over what development impacts ESPA projects are expected to deliver (see Sections 5.2.2 and 5.2.5). One principal investigator also noted that it is necessary to build up trust with local community contacts over a long time period in order to deliver development impact. Thus, ESPA may not catalyse development impacts unless it builds upon previous projects. In contrast, not surprisingly, more than 75% of survey respondents (strongly) agreed that their project is making a contribution to the in-country development agenda (Figure 11). Most respondents also claim that their projects are contributing to the mainstreaming of ecosystem services issues within the discourse on poverty at a national and/or local level, and some at an international level (Q31, survey).

Figure 11 Contributions of projects to the in-country development agenda (Q36) – survey responses



The field trips to Nepal and Bangladesh revealed that attributing development impacts to the ESPA Programme is often far from easy. ESPA projects have frequently built upon and strengthened existing research and development projects. Involvement in an ESPA-funded project can be quite a small element within an organisation's portfolio (e.g. Forest and Floodplains – ForestAction Nepal; Shushilan – WD-NACE), so it can be challenging to disaggregate ESPA's development impact from that of other projects. As raised in Section 5.2.2, some project stakeholders in the field also highlighted that their projects did not have any direct, discernible or attributable development outcomes, as there was no explicit intent to deliver them, and/or development outcomes need actual development actions and interventions, which were absent.

5.2.4.1 Examples of development impacts to date

This Section provides examples of projects that have already delivered development impacts.

Engaging with and empowering communities

Survey responses identify that conferences and workshops are the most popular mechanisms used by academics to inform policy, planning and practice (Q28 and Q29, survey). This corresponds with the MTR team's findings on the ground in Bangladesh and Nepal, where additionally some projects have made good use of community engagement instruments, such as focus groups, existing community resource centres, and existing national and regional networks of community-based organisations.

- **WD-NACE**, Bangladesh (http://www.espa.ac.uk/projects/ne-i002448-1).
  - The expected outcome of the Project was a conceptual framework for wider application. The framework was intended to link ecosystems and livelihoods, knowledge networks and decision-making structures
  - The Project undertook complementary modelling in Bangladesh and Kenya of coastal zone resource use and management
  - Working with Shushilan (an NGO partner), the project adopted a bottom-up approach, collecting data from communities to inform the selection and revision of model parameters
  - Demonstration to Bangladesh communities of how the model worked in Kenya and how different data inputs produced different results was visually impactful and inspiring. In doing so, it raised poor communities' awareness of the

benefits of an integrated ecosystems approach, and their enthusiasm to further its application.

- **Attaining Sustainable Services from Ecosystems (ASSETS)**, Columbia and Malawi (http://espa-assets.org/)
    - The consortiums' project partners include The International Centre for Tropical Agriculture (Columbia), Conservation International and LEAD (Africa). They contribute to advisory groups, hold workshops to communicate findings, engage with policy makers, and have developed the project's media presence, including newspaper and radio features

Contribution to national- and international-level discussions on ecosystem services

- **Impacts of community management of forests & floodplains**, Bangladesh (http://www.espa.ac.uk/projects/eirg-2011-175)
    - This project was awarded an ESPA Evidence and Impact Research Grant to undertake a systematic review and comparative analysis of data sets held by partners and generated over 15 years. In parallel, it supported a process of action research and participatory action planning with communities, which proved to be empowering and helped to encourage self-governing community-based organisations.
    - The Bangladesh Government has since cancelled leases of water bodies to community-based organisations and taken back control. Some have served successful injunctions and regained their leases but in many other cases consolidation of baseline information by the Project means that there is now a significant opportunity to document how loss of tenure has had a substantial negative impact on ecosystem services and on poor communities and how the national planning processes are failing.
    - One of the Project's principal investigators has initiated a series of meetings with the Bangladesh Government and donors to demonstrate how community-based organisations are losing their livelihoods and how the Government is losing money.
- **Impacts of community management of forests & floodplains**, Nepal (http://www.espa.ac.uk/projects/eirg-2011-175)
    - As a result of ForestAction Nepal and its network's advocacy, ecosystem services have been acknowledged in a position paper of the National Planning Commission. There has also been a report on how to pilot an ecosystem services approach in the Western region by the Western Center on Law & Poverty. Both are steps in the right direction, however, there has been no subsequent reference to ecosystem services in national plans.

Input into legislation at a municipal, sub-national and national level

- Didactic tools for designing effective, efficient and equitable policies to reduce deforestation and rural poverty in Bolivia (The REDD Game), Bolivia (http://www.inesad.edu.bo/es/projects/prdbolivia).
    - This project developed scientific and simulation tools that are contributing to the process of developing an effective, efficient and equitable alternative to the REDD+ mechanism, which had previously been repeatedly rejected by the Bolivian government.
    - By providing scientific and simulation tools that allow stakeholders, both at the national and local levels, to simulate the environmental and socioeconomic outcomes of different policies, the Project has supported the Bolivian Government in the process of designing and securing $27m of funding for an alternative mechanism of reducing deforestation. The mechanism is called the Joint Mitigation and Adaptation Mechanism for the Integral and Sustainable Management of Forests and Mother Earth.

Scaling-up development impacts

- **WD-NACE**, Bangladesh (http://www.espa.ac.uk/projects/ne-i002448-1).
  - Large-scale modelling and iterative testing of the model with the direct involvement of communities in Bangladesh has provided evidence that has improved the effectiveness of other projects run by the NGO partner, Shushilan, which seeks to redress the declining natural resource base, livelihoods and food security of people.
  - Now that Shushilan has a model that has been developed and confirmed using community data, it can revisit the communities after they have applied the new approaches and assess whether the model is fit-for-purpose and if their socio-economic situation has actually improved.
  - Shushilan is now attempting to apply the model with farmers in another village with 500 hectares of land.

Figure 12 Shushilan Community, Sunderbans, Bangladesh

5.2.5 Emerging development impacts

Whilst it is evident from Figure 11(above) that many ESPA projects feel that they are sowing the seeds for future development impact, the overwhelming message from stakeholders via field visits, survey comments and interviews, is that it is still too early to assess development impacts from projects, as these are largely in the pipeline.

A selection of these emerging development impacts are given below. They demonstrate a range of localised and scaled-up development impacts. A large number of other examples were cited by survey respondents and interviewees.

5.2.5.1 Examples of emerging impacts

Empowering and influencing communities

- **Biodiversity, Ecosystem Services, Social Sustainability and Tipping Points in East Africa Drylands**; Kenya, Ethiopia, Tanzania (http://www.ucl.ac.uk/best/)

- The Project is expected to result in a better understanding of the likely outcomes of planned policy, economic and other interventions, and better management of the policy-making process.
- There have been various stakeholder engagement activities that have had an impact: economic games, field visits, discussions (including with policy-makers). Local communities will have a higher awareness of the economic trade-offs they are making across multiple dimensions. It is hoped the project will help them think more broadly (giving them a stronger set of tools for negotiation with government and entrepreneurs). The policy-makers will be struck by the decisions faced and made by local communities (this was evident during the final workshop). There will be more media outputs and policy briefs resulting from the project.

Engagement with policy

- **Under what conditions can Payments for Environmental Services deliver sustainable improvements in welfare? Learning from a Randomised Control Trial;** Latin America (http://www.espa.ac.uk/projects/ne-l001470-1)
  - This Project, funded by an ESPA-2013 grant, will use randomised control trials to identify conditions under which small-scale Payments for Environmental Services (PES) schemes can deliver sustainable improvements in welfare. In doing so, the Project is intended to inform the development of new legal structures in Andean countries

Improving datasets

- **Impacts of community management of forests & floodplains**, Bangladesh (http://www.espa.ac.uk/projects/eirg-2011-175)
  - The project's most important finding in Bangladesh was that there is a significant gap in collection of community-level data to underpin arguments for community-based organisations retaining leases and to inform improvements to management.
  - Since completion of the ESPA Project, community-based organisations are beginning to maintain records. Their compilation will be a significant investment. It is intended that training will be provided to develop community-based organisations understanding of how to record data. Use of such records by community-based organisations as the basis for sharing benefits will ensure data accuracy.
  - In addition to fishermen recording fish catches, there is a need to record data for other ecosystem services (e.g. in relation to pollination, or snails), which may provide opportunities for women to contribute.

- **Assessing Health, Livelihoods, Ecosystem Services And Poverty Alleviation In Populous Deltas** (Deltas), Bangladesh (http://espadelta.geodata.soton.ac.uk/)
  - Bangladesh University of Engineering and Technology (BUET), one of the local project partners, coordinates a national ESPA online database, which the national water resources planning organisation (WARPO) is using. This web platform is now being drawn on by the National Planning Commission, which is developing a 25-100 year plan for SW Coastal Bangladesh. This online platform will ensure that the information generated across all the models is easily accessible by governments and provides an opportunity for the project to influence and inform national policy and scale-out its impact.

5.2.6 Challenges to delivering development impacts

Many stakeholders have commented about the long-term nature of ESPA projects' development impacts, so it is useful to understand the context in which projects are seeking

to deliver them. ESPA researchers, particularly those based in developing countries, have identified a series of challenges to delivering development impacts, including those around working with advocates (see Section 5.2.3.2). It is recognised that effective policy needs science, but good science does not always translate into policy due to these challenges. Some are macro-political in nature and are outside ESPA's control. Others may be tackled, or at least more clearly realised, through a fuller appreciation of impact pathways and projects working with suitable impact partners. These challenges are briefly summarised here.

Political and infrastructure-related issues

- **Political buy-in** is crucial to deliver development impacts beyond a localised level. However, a number of the coordinates that ESPA projects require to make the necessary impact are weak or missing. Political commitment can be a challenge and take time to evolve, e.g. in Bangladesh. One project gave an example of having produced a policy brief targeted at policy stakeholders within Bangladesh, which was distributed at a final workshop. However, they have received no feedback, so they are unable to discern if it has had any impact
- **Synchronicity** with regard to the timing of policy developments and programme development/delivery is a challenge. Opportunities to inform policy are sporadic and may occur before researchers are ready. In such circumstances, ESPA's Director is keen for the Programme and its projects to provide timely information to policy processes before research has been completed or synthesised. He does not feel that communication of the science should wait until the extent of uncertainties is resolved. This may be difficult for many researchers. On the other hand, there may be no policy windows during a project's short lifetime. For example, a ForestAction-Nepal stakeholder noted that National Forest Inventory Guidelines will not be reviewed until next year, so it is too early to expect research to have had an impact on them. Similarly, principal investigators in Bangladesh identified that there had been no openings to inform policy within the period of the Forests and Floodplains project
- **Top-down national policy development processes** with little or no consultation exist in some ESPA projects' countries e.g. Bangladesh. Practice has run ahead of policy and independent of research
- The areas of research may be covered by different government agencies with different responsibilities, and resultant **departmental conflict and lack of coordination**
- Where other related research and translation occurs over an extended timeline, even where policy stakeholders are actively involved, it may not ultimately secure buy-in and policy change, due to **turnover of stakeholders in key positions** (e.g. a Government-led forest governance taskforce in Nepal was ultimately unsuccessful in securing policy change as four ministers came and went during the four years it took to reach conclusions.

Linkages between research and policy

- A series of challenges related to working with advocates/knowledge intermediaries are covered in Section 5.2.3.2
- Some stakeholders pointed towards a disconnect between the academic rigour applied by some UK principal investigators around modelling ecosystem services, and the relatively light-touch emphasis placed on linking this science with poverty alleviation
- The circular relationship between policy and the research agenda was noted by some stakeholders, and the vital role of 'knowledge brokers' in this cycle was identified. Recognised in the 'Research into Use' section of the ESPA Impact Strategy, and also reflected in comments made by the southern-based principal investigators, these brokers are required to bridge science, policy and practice. At present this role is seen by many as unfulfilled within the ESPA Programme.

Scaling impacts

- The transferability of lessons between countries has been challenging due to widely differing policy contexts. This poses complex issues for implementation that are beyond the scope of ESPA projects to tackle. In some instances (e.g. WD-NACE), it was suggested that intra-country research sites would have been more powerful for impacting on communities, and facilitating exchange between Bangladeshi community-based organisations and NGOs in different regions.

Community access and priorities

- Many of the poorest communities (see Section 3.2.2) simply **lack tenure** or control of the very resources that are being studied by ESPA projects. Confusion over tenure rights in Nepal has been identified as a key issue inhibiting development of ESPA-related policies and mechanisms for their delivery
- An important consideration is that the poorest communities in developing countries focus on their **immediate needs**. This has to be squared with the fact that restoration and development of ecosystem services may take decades

5.2.7 Programme support in delivering development impact

Opinions about the ESPA Programme's support to projects in delivering impacts, particularly development impact, are mixed. Where development impacts of ESPA projects are visible or emerging, less than half of stakeholders identify that the Programme, particularly at the Directorate level, plays a supportive role in delivery. 48% of survey respondents (strongly) agreed that the Directorate has helped to actively communicate ESPA research developments to users and policy makers (Q45, survey). 40% (strongly) agreed that the Directorate has provided direction to projects on capacity building and research uptake and impact, through identification of and engagement with relevant policy-makers, practitioners and decision-makers (Q47, survey).

Some academic stakeholders identify that projects are steered down an impact avenue from inception. Projects are encouraged by the funders and Programme's Director to utilise the various ESPA strategies (i.e. Knowledge Strategy, Impact Strategy and its component Research into Use, Capacity Strengthening, and Communications strategies) as well as the ToC. These documents are presented at application-stage workshops and ESPA community events (e.g. the Annual Conference).

Using ESPA strategies

The Knowledge Strategy has been developed *"to stimulate and focus research projects, synthesise their findings with those from other research and ensure that outputs are communicated for use by the broadest spectrum of global users"*.

It is used by some projects that have been able to demonstrate the sustainable impact of practice on ecosystems, human well-being and poverty reduction

- 38% agreed it was a useful document
- 50% were neutral about its utility.

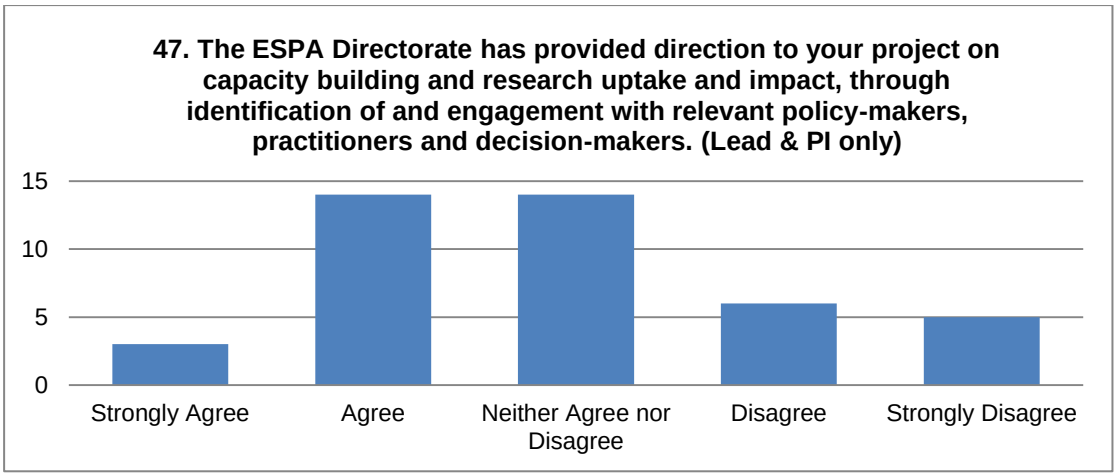
Stakeholders indicate that the use and understanding of the **Impact Strategy** and **ToC** differs between ESPA projects.

- 42% of survey respondents (strongly) agreed that the Impact Strategy and ToC have been useful in planning and delivering academic impacts
- 38% (strongly) agreed they have been helpful in delivering development impacts (e.g. in-country users report that the documents encourage identifying focus on key 'champions of change', rather than engagement with everyone
- 40% of responses were neutral about both documents.

The 2012 call process included a grant-development workshop, which placed increased emphasis on impact pathways and impact partners. This exercise was recognised as particularly useful for early-career researchers. The overall result, according to a number of stakeholders involved in the application and assessment process, was a strong set of successful ESPA-2012 projects. The ESPA Director felt that, although more could have been done, this selection of projects contained better pathways to impact and impact partners than previous successful projects.

Interest was expressed by one principal investigator in provision of training in the ToC and Impact Strategy post-funding, in order to align the approaches and thinking of project partners' who may come from different backgrounds and cultures. However some other (lead) principal investigators stated that they found the Directorate-led approach to promoting usage of the ToC 'top-down' and 'prescriptive', and that researchers should be left to investigate routes to impact for themselves. Some researchers gave examples of other models that they had chosen to use rather than subscribing to the ToC approach. This point is repeated in the context of the overall style of programme management (see 6.2.2.3). Furthermore, 60% of stakeholders perceive a lack of, or are neutral about, programme-level support at the research-policy interface (Q47, survey). This is also reflected in some stakeholder opinions that they do not feel linked up between projects (Section 5.1.1), and comments about the lack of clarity of leadership on impact-related matters (see Section 6.2.2).

Figure 13 Directorate support on capacity building, research uptake and impact (Q47) – survey responses[17]



5.2.8 Balance of science and impact

As introduced in Section 3.2, there appear to be different interpretations of the ESPA Vision (Section 2.2) that '*ESPA's success will be measured by the way that its research can be turned into results that benefit the poor'.* The MTR revealed that this dissonance also exists between the Programme funders. Some stakeholders amongst the funding bodies indicate that they are expecting to see grant awardees from the early rounds demonstrating development impacts, if not already, then certainly by the end of the Programme. Whereas others have said that, while change on the ground would be the optimal result, they want to see ESPA deliver research that is capable of delivering impact on poverty alleviation.

It is apparent that the differences between funders' expectations of projects are confusing researchers. Section 5 has evidenced that many academic stakeholders feel that they are receiving mixed or unclear messages about the funders' expectations of the delivery of world-class research and development impact, although the MTR team has been unable to determine specifically how these common perceptions have arisen. Project stakeholders concern is whether emphasis is being placed on them to deliver direct (local) impacts to alleviate poverty through research or to deliver research that investigates potential links between ecosystem services and poverty alleviation that could inform wider indirect impacts. This is a substantial source of tension across the Programme and links back to the conceptual issues raised in Section 3.2. Some stakeholders claim it is not possible for projects to deliver both world-class research and development impacts within the Programme's lifetime, and they are experiencing an overload of expectations and burdens in relation to multiple goals (although the Programme Directorate states that no such demands are placed on projects). The need to resolve these tensions is further considered in Section 7.1, associated operational and reputational risks are highlighted in Section 8, and detailed conclusions and recommendations provided in Section 9.

[17] Q47 uses wording directly from the Directorate's terms of reference in the Programme's governance document

6 Assessment of the Programme's governance and management structure

This Section explores the appropriateness and performance of the Programme's Directorate and governance structure, which was introduced in Section 2.3. In doing so, it reviews various project management-related issues.

6.1 Tri-partite funding relationship

The MTR team gleaned some interesting insights into the role of ESPA for the three funders, and the perceptions of the funders by stakeholders.

6.1.1 Research Councils

The ESPA Programme is perceived by many in the academic community to be a Research Council endeavour. The Research Councils are seen to be focused on research excellence and developing world-class social and natural science.

6.1.1.1 NERC

From a NERC perspective, ESPA is important in making external links from the natural environment. Its focus on poverty and international dimension differentiates it within standalone NERC activities. NERC has been helpful in supporting the delivery of the Programme and grant holders were positive about their interactions with the Secretariat. NERC is seen by some as the driver of cutting-edge science within the Programme. However, RCUK's systems have caused issues (see Reporting, Section 6.3.2 and Contract Management, Section 6.3.3), and the organisation is seen by some as bureaucratic.

6.1.1.2 ESRC

ESRC is interested in exploring whether the social science funded by ESPA is classed as the best and to what extent the social science and social-natural science interface has been strengthened among projects. One lead principal investigator said that the ESPA conceptual framework prevents cutting-edge thinking being developed and reduced social science to a tokenistic contribution (e.g. incorporating behavioural factors etc.). For this reason a lot of social scientists are apparently ignoring the framework and using the opportunity to do 'interesting science'. Presently ESPA feels separate from the rest of ESRC's work on poverty, although there are some cross-links between researchers and events (Section 5.2.3.3). Externally and by some stakeholders within the governance bodies, ESRC is considered as a 'sleeping partner' in the tripartite relationship, due in part to its lack of outwardly-facing roles on the Programme.

6.1.2 DFID

According to DFID representatives, ESPA remains its principal investment in the environment area and core to DFID's thinking on biodiversity and ecosystem services. It ensures that DFID retains a breadth of focus, without narrowly concentrating on climate change. Like the Research Councils, DFID sees ESPA as a novel programme, both in terms of the partnership and the links with science.

Externally, grant holders appear unclear about DFID's stance on development impact. On the one hand, they are given the message that it is anticipated that ESPA research will have a long-term impact and in the short term is primarily about understanding relationships between ecosystem service provision and poverty alleviation. However on the other hand,

they perceive that they are being asked to take steps to alleviate poverty. From a DFID perspective, the balance between research and development is recognised as a continuum, and it is understood that building a body of evidence (across projects) may be required to achieve a paradigm shift. However, such arguments make DFID nervous, as they remain focused on the relevance of research to policy and practice.

6.1.3 Tri-partite relationship

To date, poverty alleviation and ecosystem management have been running on hugely separate tracks, with few initiatives linking both funded by mainstream funders. DFID had previously worked with ESRC and occasionally with NERC but ESPA was the first time all three organisations came together as a partnership. All three partners see the collaboration as novel and mutually beneficial. DFID views the Research Councils as providing expertise in commissioning research and achieving excellence, and the Research Councils are interested in the development potential of working with DFID.

Yet the relationship has been described as the 'best and worst of partnerships'. Differing values and intentions between the three funders have been evident on various occasions during the Programme's lifetime. These continue to cause delays and delivery of mixed messages. Examples include:

- DFID stated that it would normally seek to pilot new partnerships on smaller programmes before scaling them up, whilst a Research Council representative stated that they saw DFID treating ESPA as a small-scale endeavour initially, and it would have been desirable to launch into larger-scale activities from the outset.
- It took a number of years for the Programme Memorandum and logframe indicators to be agreed
- Academic stakeholders point to contradictory feedback received on proposals as evidence of the different perspectives on the relative importance of cutting-edge science and development impacts evident within the partnership
- There have been difficulties in reaching consensus on the overall aims and objectives of the ESPA Fellowships, which have led to delays in rollout.

6.2 Governance structure

The ESPA governance structure (see Section 2.3) is multi-faceted, and considered by many involved to be quite heavy. One view is that *"The Programme's governance is overly complex and needs to be simplified, with clearly defined and delineated roles and responsibilities assigned to relevant people and structures".* According to a funder involved in the Programme's inception, the complexity of the governance structure grew out of a desire for checks and balances between partners that had not worked together before. The MTR team understands that subsequent programmes that have sought to learn from ESPA have adopted simplified structures.

One member of the Programme governance feels that, though numerous, the lines of communication within the structure work well and the MTR found evidence of good working relationships between all the governance bodies. The hard-working ethos and approachability of the project-facing elements (Directorate, Secretariat) of the structure received positive commentary from some academic stakeholders.

However, some stakeholders from the governance bodies suggested that the structure operates, or has operated, less effectively than indicated on paper, due to differing expectations of the governance bodies by the funders, the blurring of strategic and operational responsibilities within governance bodies, some duplication of function, multiple responsibilities for certain individuals (which can lead to perceived conflicts of interest) and the dominance of certain management styles. This has resulted in ineffective decision-making, and confusion between the governance bodies. The MTR team has found evidence

to support these concerns. We understand that some of these issues are historic, or currently latent, so only those issues that are of current relevance are explored in this report.

6.2.1 Programme Executive Board (PEB)

The PEB is responsible for the delivery and strategic direction of the Programme. As such, its terms of reference do not address operational issues. Past and present members of PEB and the Directorate report that PEB has had a tendency to delve into operational details, rather than maintaining a strategic overview. This has been unhelpful to the Programme Management Unit, which is responsible for overall management, coordination and delivery. It is unclear to the MTR team whether this blurring of responsibilities has been led by the PEB, or in response to requests from other governance bodies. However, there is general agreement amongst relevant stakeholders that it has been due, in some part at least, to the management styles of PEB members. There are strongly divergent views amongst members of PEB and the Directorate as to whether this situation remains on-going.

Many members of the governance bodies report that PEB has experienced high turnover of DFID and ESRC staff, though this has stabilised recently. This is reflective of the way that these organisations work more generally. Some, including PEB's chair, report that this turnover has perpetuated a lack of common understanding and consistent messaging on some key issues. As such, long-serving members of governance bodies (e.g. PEB's chair, Programme Director, and Business Assurance Manager) are called upon as the repositories of valuable institutional memories. In contrast, some PEB members, past and present, see the turnover of representatives as an opportunity to prevent the development of personal or professional tensions, and introduce fresh perspectives.

6.2.2 PEB chairperson

Steve Bass of the International Institute for Environment and Development has been PEB's chair ever since the Board was established. He was involved in the original group that developed the concept of the ESPA Programme but was appointed to the role following an open competition. His terms of reference state that he is responsible for facilitating the working of the Board in an independent and impartial manner, and he sees his role as helping the three funders achieve consensus in making strategic decisions.

The chair reports that he is rarely involved between PEB meetings and is not kept informed of PEB actions outside of meetings. He is concerned that PEB needs to continue to act on the basis of consensus between meetings and ensure that relevant decisions are recorded by the Secretariat. He is available between meetings to assist consensus if called upon and would welcome being kept better briefed of interim developments. From his perspective, resolution of issues and differences between individuals/funders outside of PEB meetings is unhelpful if he is left unaware and tensions resurface.

6.2.1 International Programme Advisory Committee (IPAC)

The IPAC is a 10-strong committee, currently co-chaired by Katrina Brown of the University of Exeter and Atiq Rahman from the Bangladesh Centre of Advanced Studies. IPAC is tasked with providing independent strategic and technical advice to the Director and PEB, as required. In particular, one member of IPAC and one member of PEB share the view that IPAC is a useful bouncing board for the Directorate. A member of IPAC reports that it has taken a strong line on some issues of importance, but is keen not to slow the Programme's progress. However, an IPAC member reports that some feel that its engagement and involvement is tokenistic. They also note that IPAC has mostly met on the back of other ESPA events (e.g. the Annual Science Conference).

6.2.2 Programme Management Unit

6.2.2.1 Programme Management Group

The Programme Management Group (PMG) comprises representatives of the three funding partners and has the authority to make operational decisions. Like PEB, it has also experienced high staff turnover, which some others within the governance structure have suggested has contributed to PEB delving into operational detail. However, whilst some people suggest that this group may no longer be required, the Director values having people within the funding bodies that he can turn to for advice about their organisation's operational policies.

The MTR team understands that the revised governance document (being redrafted at the time of interviews) would define the PMG as a less formal grouping, with fewer meetings and more decisions made electronically.

6.2.2.2 Secretariat and Business Assurance Manager

Other than the overlap in some Secretariat functions with the Directorate, as described below, the MTR did not flag up any issues concerning the Secretariat or Business Assurance Manager. However, the MTR did flag a number of project management-related issues, some of which are the Secretariat's responsibility. These issues are explored in more detail in Section 6.3.

6.2.2.3 The Directorate

An overview of the Directorate structure and responsibilities is given in Section 2.3.1.1.

It is clear from the MTR that the Programme Directorate has extensive responsibilities, which are evolving as the Programme matures. The Directorate is involved in a number of overlapping meetings within the Governance structure, and the Director is required to face in many directions.

The MTR found that the Directorate benefits from a number of strengths:

- The Director, Paul van Gardingen is seen by many to be a suitable, charismatic figurehead for the public-facing responsibilities of the Programme.
- 62% (26/42) of (lead) principal investigators responding to the survey (strongly) agreed that the ESPA Directorate has developed and facilitated links between ESPA projects (Q42, survey)
- 67% (28/42) of (lead) principal investigators responding to the survey (strongly) agreed that the ESPA Directorate has developed and maintained a website that facilitates communication with and between ESPA communities and other interested parties (Q43, survey)
- 57% (24/42) of (lead) principal investigators responding to the survey (strongly agreed that the ESPA Directorate has helped to develop potential collaborations and co-ordinating activities to take advantage of other funding opportunities to promote further research and knowledge exchange activities (Q46, survey)
- A number of academic interviewees spoke highly of the level of support that they had received from the Directorate in managing their projects, particularly citing the personable efficient responses received from the team.

However, the MTR also revealed a number of issues currently facing the Directorate, as explained below.

Operational versus strategic input

The ESPA governance bodies terms of reference identify that that the Directorate's role is primarily operational: "to plan, organise, lead and coordinate…implementation". However the ESPA Directorate feels that "there is a need to define more clearly what differentiates strategic from operational issues".

PEB members commented that there is scope for the Directorate to act more autonomously on operational matters, and not necessarily always refer matters up to them. However, some stakeholders intimate that there is not a sufficient culture of empowerment to enable the Directorate to act autonomously. According to one stakeholder, this issue has been less apparent in 2013, though another claims that this issue is on-going. On the other hand, it is clear that the Directorate aspires to influence strategic-level decisions (e.g. open access to documents), which fall outside of its scope of responsibility.

Duplication of function

There appears to be some duplication of function between the Directorate and the Secretariat, particularly around commissioning additional research activities. For example, the ESPA Fellowships are being commissioned by NERC.

Scientific leadership and synthesis

The Director's terms of reference state that they will "provide overall scientific leadership of the Programme"[18]. However, more senior stakeholders from the academic community (i.e. not 'early career researchers'), indicate that following the Directorate restructure there is a now a gap in provision of scientific leadership (see text box below). .

As the Director needs to act as the Programme's figurehead, it was suggested by a number of high-profile stakeholders within the governance structure that he may not have the time also to provide the Programme's scientific leadership due to his many other responsibilities.

ESPA Senior Science Fellow

Many stakeholders from the academic community pointed to the former Associate Director (Science), as the scientist, who provided academic rigour and a steer, even though some project stakeholders felt this role was still 'behind-the-scenes' and would have liked it to have had greater visibility.

Changes to the Directorate structure in 2012, resulted in the Associate Director (Science) stepping down and instead becoming the ESPA Senior Science Fellow, a role that sits outside the Directorate. Many individuals within the governance structure feel this role lacks clarity, including the post-holder, and that there is a resulting hole in intellectual leadership.

During the design of the Programme, it was anticipated that as the Programme evolved, the Directorate would play a leading role in synthesising academic outputs, and some, albeit not explicit, terms of reference around this activity are provided in the Programme's governance document. Many academic stakeholders regard synthesis of project outputs by theme (e.g. ecosystem, ecosystem service or policy arena) or geography as an absolute priority for the Programme if its legacy is to be greater than the sum of its individual projects. Based on the challenges faced by projects to deliver impact, the MTR team suggests that it is more realistic to expect substantive impacts on development policy and practice to arise from such synthesis, its transmission and application than for individual projects to inform and catalyse sustained change. The ESPA Director is aware of the need for synthesis but feels that most of the science is not yet mature enough. He recognises that there is huge interest in the initial lessons learnt, based mainly on the outputs of the 18 framework projects, but raised concerns that seeking promotion of initial results in this way could create tensions with academics, who would prefer to wait for the science to mature and be synthesised.

The ESPA Director feels that while some synthesis could commence now, and opportunities in the near future can be identified through the Regional Opportunities Fund, it will be better

[18] Programme Governance Document

to wait until 2015 to allocate limited additional available resources to this task (currently £500k). The 2014 call ('ESPA Frontiers') is intended to secure a small team to use current knowledge as a platform for further development. However, the Director, along with a number of academics who discussed a requirement for synthesis, recognises that the types of syntheses required are varied (e.g. methodological, conceptual, and mechanistic), as are the means by which they might best be achieved.

Supporting delivery of development impacts

Following the resignation of the Associate Director (Impact) in 2011, the Programme Director took on responsibility for leading promotion of development impacts across the projects. Some stakeholders involved in the governance bodies report that this proved too much in addition to the Programme Director's existing responsibilities and, as a result, the impacts side of the Directorate's work appears to have been given less emphasis. There is also a perceived lack of support for the delivery of development impacts at the science-policy interface by a number of academics (Q47, survey) – see Section 5.2.7.

The implications for this lack of cohesive leadership in relation to development impacts appears to have had important knock-on effects on projects' abilities to deliver, as discussed in Section 5.2.

Management style

The Director sees it as the Directorate's role to encourage principal investigators to achieve more in the lifetime of their projects. However, a number of senior academic stakeholders highlighted that the management style and tone of delivery of the Directorate is pitched inappropriately. A number of interviewees suggested that the style of communication at some ESPA events (see Section 5.1.1.2.) is symptomatic of the Programme's top-down management approach (various). It is appreciated by academic stakeholders that introductions to certain concepts and processes are required for early-career researchers, but more experienced academics expressed a desire to be allowed to investigate issues for themselves, and receive training and meeting content more tailored to their capability.

A strong desire for ESPA's whole to be greater than the sum of its parts through its synthesis of outputs led a number of key programme-level stakeholders, past and present, to suggest that the Directorate needs to adopt a facilitating role not a "directing" role. It was suggested that it is not the role of the Directorate to tell ESPA researchers how their research should be undertaken, but to remind them of the ESPA concept and nudge and nurture, enable and facilitate, convene and promote synthesis (see Section 7.4).

It is the understanding of the MTR team, following a holistic review of all the evidence available, that the management style of the Directorate is at least partly encouraged by project's lack of accountability for delivery of outputs (see Sections 5 and 6.3.3). With (perceived) demands from funders for projects individually to deliver academic and development impacts, but no specific contractual obligations for projects to do so, the ESPA Director appears to feel obliged to lead from the front and adopt top-down tactics in an effort to ensure that projects strive to match funders' expectations.

6.3 Project management

Project stakeholders identified a series of issues related to systems and management issues, which are explored in this section.

6.3.1 Grant application process

The process of applying for ESPA funding has greatly improved in recent years, following improvements made to the process, based on stakeholder feedback gathered after the award of the 2011 grants, which was widely recognised as a difficult process. The 2011 ESPA-funding call went live at the same time as the Directorate was launched, which meant it had insufficient input to the proposals. The overall ESPA vision was unclear, as there was

no knowledge strategy at that time. The 2012 grant-award process was deemed more streamlined, and comments on the 2013 process are largely positive. However, on the whole there is a feeling that the Programme has learnt from the past and recent calls have attracted interest and success from beyond the group of 'usual suspects'. Almost a quarter of individual recipients of the 2013 Consortia Grant recipients were new to the Programme, as were almost a third of the institutions, which addresses some of IPAC's concerns. The process has received good feedback, and has not only built capacity through developing research application skills, but also through peer-reviewer's skills (via guidance and training days). The process, including the reviewer training days, has been picked up by other Programmes (e.g. the NERC/ESRC/DFID Unlocking the Potential for Groundwater for the Poor Programme – UPGROW).

The process, while improved, is still considered by some to have flaws. These include:

- The Je-S system remains biased towards northern-led submissions, due to the instructions, the need to register institutes/individuals, and internet issues in many southern nations
- The moderating panel training session was pitched in an inappropriate way for those already involved in the ESPA Programme, and was not a good use of time
-

6.3.2 Reporting

6.3.2.1 Reporting process

The reporting system for projects is done in two phases – via inputting data into the Research Outputs System (ROS) and through (lead) principal investigators' discussions with the Director. These meetings take place twice a year, and result in a two-page summary report. The Directorate also issues *ad hoc* requests for data as required. The ROS data is used to assess scientific quality and academic impacts, and the supplementary Directorate-led discussions allow for additional logframe indicators to be tracked. End-of-project reporting is relatively light-touch, but it is intended that the regular six-month reports will supplement these. Reporting and analysis around impact is pending a new appointment before it will be developed.

6.3.2.2 Reporting issues

Some stakeholders, including seven of the 17 lead principal investigators asked in the survey (Q49, survey) feel that the degree and method of reporting is appropriate and cite the reporting requirements as 'relaxed' compared with the milestones and deadlines imposed within the development community. Some stakeholders appreciate the opportunity to meet with the Director and receive guidance. However, many principal investigators find the method and/or frequency of reporting onerous and duplicative.

The main concerns about reporting raised by researchers include:

- A number of lead principal investigators stated that the ROS system is reportedly slow and not user-friendly. Some ESPA users have difficulties translating their project activities into the available ROS options – a point also raised during the ESPA Academic Outputs Analysis (see Appendix 7). However, the MTR team understands that the ROS system will be replaced by a new system, which will be used by all Research Councils from September 2014.
- It is time-consuming for senior academics to input data into ROS and fulfil the additional reporting requirements. The Directorate have explored adding fields to ROS to capture the supplementary information, but this has not proved possible.

Some of the negativity around reporting may stem from cultural issues. The levels of project reporting to which academics are accustomed are far less than those in the development community. Many researchers are uncomfortable with feeling like they are being held to account.

6.3.3 Terms and conditions of contract

As mentioned in Section 5.1.2, a multiple-component contract system (i.e. individual contracts set up with each PI on a project) affected all the ESPA-2011 grants, though grantees in subsequent rounds have been given the option to undertake work under a single contract. However, affected lead principal investigators identified the system as problematic, and challenging for facilitating mutual accountability of project delivery. The set-up means that lead principal investigators (and the Directorate) have no funding leverage over principal investigator-led components of projects. It is understood that these projects' budgets are available only at a top-line level that does not allow allocations among partners to be reviewed. This lack of transparency can hamper projects' management.

As also introduced in Section 5, ESPA projects are not held to account in relation to delivery of specified outputs, i.e., no project specific terms and conditions have been set in relation to the delivery of impacts. The terms and conditions that projects are held to focus on processes (e.g. reporting), rather than outputs. This standard approach is adopted by the Research Councils, so as not to hamper innovation. However, there have been indications from some senior members of the governance structure that, in the case of the ESPA Programme, it is accepted that it would be helpful to ensure that future calls seek SMART proposals, and that it should be possible to attach conditions to awards that identify specific outputs without unduly constraining scientific endeavours.

7 Discussion of potential areas for development and improvement in the ESPA Programme

Whilst most of ESPA's budget has now been committed, it has a further three years to run and retains a certain degree of flexibility to be able to adjust its direction to meet future needs. The remainder of this report signposts potential future pathways for the Programme that build upon successful processes and outputs, address opportunities, and identify where alternative approaches may be advantageous in to relation to issues arising from the review of documents, and interviews and survey of stakeholders.

This Section draws together the evidence presented to highlight potential areas for the development and improvement of the ESPA Programme, and similar future programmes. The main areas for development and improvement are split out into six high priority issues and a series of other issues, and are linked to the conclusions and recommendations set out in Section 9. The high priority issues identified in Sections 7.1– 7.6 below all directly relate to the issue of 'legacy building'. As demonstrated throughout this report, it is unclear from the MTR what plans there are to fill the gap left by ESPA in 2017, or indeed what groundwork is being laid to ensure that a meaningful legacy, both in terms of research and development impacts, is left behind. It is critical that the ESPA Programme ensures that by the end of 2017 that its legacy is a cohesive story that is greater than the sum of its parts.

7.1 Resolving tensions

Conceptual tensions

The MTR research has revealed conceptual tensions at the heart of the programme. The main issues are around the treatment of the links between ecosystem services and poverty alleviation – it is unclear to many stakeholders to what extent these links are meant to be explored and questioned. Some see the Programme as an advocate for the relationship, and take major issue with this pre-judgement of the science and its implications for application. Another question posed by stakeholders – potentially as a result of historic programme messaging on this issue - is whether ESPA projects can, and should, help the poorest. As detailed in Section 8, the on-going conceptual conflicts pose reputational risk to the Programme, as well as internal operational difficulties for individual projects.

Science versus impact

It is clear that there is mixed understanding from academics, around the degree to which the Programme's academic impacts are expected to translate into on the ground economic and social impacts. Some academic stakeholders are particularly unclear on the funders' stance on impacts. They have the strong impression that DFID expects ESPA to deliver development impacts. However, DFID representatives have made clear to the MTR team that achieving direct poverty reduction (beyond pilots in which the Programme is involved) is not within the remit of the ESPA Programme; it may happen incidentally at the local level but it is not likely to occur at a wider scale within the Programme's timeframe. However, academic stakeholders feel under pressure to deliver tangible development impacts, but feel that this is in direct conflict with delivering world-class research. Based on these two tensions, the ESPA Programme's conceptualisation of poverty and vision of development impacts need to be clarified in order to make a good and robust judgement of the scale and scope of its projects' development impacts. These are likely to vary widely depending on their specific bias towards research or development and local/ national contexts. Clarification is also required on the extent to which ESPA research needs to be relevant to policy

development as opposed to development delivery. This balance may be context specific, and vary between funding calls. Hence, resolving differences in messaging about what development impact means to the different funders is a priority, including in terms of scope, timeframes, poor versus poorest, prevention of falling into poverty, or assisting in emerging from poverty etc.

7.2 Development impacts

Development impacts are at the heart of the Programme, despite the lack of clarity amongst different stakeholders as to expectations. Unless projects are appropriately supported to deliver these impacts, this will reflect negatively on the long-term contribution of the Programme to research, policy and practice. The question was raised of whether the Programme is generating the new understanding to have such impacts. The MTR's findings suggest this is not a major concern, given the scientific quality of the work being produced and the current and emerging impacts on the ground. However, the Programme, should at a strategic level, continue to ensure that newly commissioned projects are filling evidence gaps in a cutting-edge and creative manner, and doing 'interesting science'.

As raised in Section 5.2, there is a distinct role for the Programme in supporting projects to identify and act on opportunities to deliver development impact. Whilst there are current and emerging development impacts, improved support to help projects deliver them would be beneficial. This is also linked with the requirement for clearer messaging around expectations of impact. There is a need to consider how to use ESPA science as it evolves to help inform policy development rather than wait for the science to mature before communicating comprehensive results. The communication and implementation of the Programme's Theory of Change and other key strategy documents may not be suitable across all projects, and flexibility or alternative approaches could be considered in future similar programmes. Furthermore, some stakeholders indicate the need for greater, tailored, support at the science-policy interface. This may be fulfilled by building on the former Associate Director (Impact) role. The MTR team understands that this has been under discussion with the PEB since 2012.

7.3 Links to relevant initiatives

As discussed in Section 5.2.3, developing working relationships with national and international research platforms and development impact delivery agencies will be vital to building an ESPA legacy post-2017. Currently, there is little evidence of this active engagement happening at a programme level. Such engagement will ensure that current ESPA researchers can continue to develop and build on their research in this field, develop, as well as retain and share, institutional and contextual memory with other organisations. For example, ESPA is a great counterpart to the World Bank's Wealth Accounting and Valuation of Ecosystem Services (WAVES) Initiative and UN Poverty-Environment Initiative, as both need strong science. It could work with such initiatives by focusing on a few countries where the programmes are coincident and forge coalitions to scale up academic and development impacts. Engagement with such initiatives could also give the Programme collaborative opportunities to shift its focus into new areas, such as looking at the market and governance conditions where ecosystem services can assist poverty alleviation. This potential area is not limited to engagement with international initiatives. It also encompasses opportunities for ESRC (particularly) and NERC to strengthen and formalise their links between ESPA and their other work on poverty. There is also further potential to raise awareness of the ESPA Programme within the UK with key stakeholders (e.g. Ministers outside of DFID, NGOs etc.).

7.4 Synthesis

As echoed by stakeholders from across the Programme, ESPA must attempt to make the whole greater than the sum of its parts, and draw together the lessons and research being undertaken by its diverse project portfolio. There is a clear desire and requirement for the Programme to start synthesising its projects' scientific understanding. This feeds not only into the Programme's short-term knowledge sharing and impact potential, but also its longer-term legacy building. Whilst precise timeframes are unclear, this is envisaged to be an on-going task until, and likely beyond, the end of the Programme. There are a number of options for managing and conceptualising this exercise. Management options include project-led or programme-led models. Scientific understanding developed across projects could be synthesised in relation to concepts, methodological developments, and applications by ecosystem, ecosystem service, community type, policy arena and/or geography.

7.5 Accountability

An important issue raised in the stakeholder interviews and discussions with the Programme's management team is the lack of clarity around project accountability. This is both in relation to each project's delivery of impacts (which links directly to perceptions about requirements for delivering development impacts), and to the ability of some lead principal investigators, and the Directorate, to hold principal investigators to account. The first point links directly to the issue of 'science versus impact' and it is realised that there is a careful balance to be achieved between ensuring academic exploration is not stifled at the expense of delivering specified impacts. However, the MTR team feels there is potential for future contracts to be revised (if not during ESPA's lifetime, then in future programmes) to ensure that projects can be held to account to deliver on agreed objectives, in such a way to as not hinder innovation. This could encourage the Programme's Director to adopt a different management style with projects. There is value in conducting a consultation exercise between DFID, the Research Councils and the academic community on this matter. There are also lessons to be learned from the ESPA-2011 contract experience. In future programmes, contract management should be designed to empower project managers sufficiently to hold necessary leverage over the wider team.

7.6 Governance

Section 6 identified that while the governance structure works well in some areas (e.g. Business Assurance Manager), there may be ongoing confusion between the split of operational and strategic responsibilities between the governance bodies. There is, therefore, potential to ensure that operational and strategic activities are clarified and delineated more clearly within the governance structure, particularly between the Directorate and PEB. A member of PEB also suggested that more clearly defined topics for each PEB meeting would help ensure that PEB remained focused on strategic guidance. Further, there is a lack of clarity amongst some people across the ESPA community over the role of the Senior Science Fellow.

Whilst the governance structure is recognised as heavy, pragmatic steps have been taken to reduce resourcing of certain groups where appropriate (e.g. PMG). However, comments were made about the overlapping role between the Directorate and Secretariat. As the division of some activities between the two bodies is based on practicalities, the MTR team did not find evidence to suggest that this was a major threat to the on-going success of the Programme. However, there may be merit in further discussion between these two bodies to consider streamlining options. In doing so, the funders should be mindful of the need not to have a detrimental impact on relationships between the organisations and individuals involved in the final few years of the Programme.

Finally, linked with the points made around providing academic leadership, synthesis and supporting projects to deliver development impacts, there is a need to consider increasing staffing to support these areas (e.g. see Section 6.2.2.3). The MTR team understands that discussions about regional evidence brokers (see Section 7.8) and an 'impact' related role are underway within the governance bodies. It is likely that these roles would be hosted, or supported, by the Directorate. It is not clear what plans, if any, are in place to develop the academic leadership function of the Directorate.

With these practical considerations in mind, a complete overhaul of the ESPA Programme governance structure is not suggested. However, it is necessary to:

- Review the structure to learn lessons for similar future programmes
- Work on clarifying roles and responsibilities for some components of the ESPA structure, e.g., the strategic versus operational roles of the PEB and Directorate. In addition the role of the Senior Science Fellow should also be reviewed and clarified amongst the ESPA community.
- Progress ongoing discussions about new roles to support synthesis, evidence brokering, academic leadership and supporting projects at the science-policy interface.

7.7 Other areas for development

A series of other issues, which are not directly related to the Programme's legacy, have also been raised over the course of the MTR, which may warrant further examination and improvement.

7.7.1 North-South engagement and participation

As explored in Section 5, North-South engagement and participation has been improving. However, there is room to improve both developing country partners' participation in ESPA projects and impact delivery, as well as improve northern research engagement with activities in southern countries.

7.7.2 Logical framework indicators

Section 3.1.1 indicated that there is potential to review and stretch a number of the logframe targets, which are achieving A+ or A++ according to DFID's Project Scores. A couple of examples are given below, which were reviewed as part of the wider analysis presented in Section 4.

Indicator 1.2.1

72 articles attributed to ESPA research have been published to date, far exceeding the 2017 Target of 60 articles. A suggested revised target is 120 articles. This would be a stretch, but should be achievable as the volume of completed and on-going research increases.

Indicator 1.3.1

To date, there have been 380 external citations of publications from ESPA projects in research publications[19]. An academic expert suggests that there could be 760 citations to ESPA academic outputs in the peer-reviewed literature by 2017. This should be achievable due to the increased volume of academic outputs, and as recent ESPA research (2012, 2013) will start to accumulate citations from next year onwards. If the publication target of 120 articles (suggested above) is achieved, the articles only need to achieve three citations

[19] The total of external citations is heavily weighted by the top five publications which account for 59 % of the citations. The agreed targets were for 20 journal articles with 2 citations (10%) for the 2013 milestone, so these results suggest that ESPA is producing a wealth of high-impact science, which is already influencing other research projects and articles.

on average or less than one citation per year. This is achievable and was exceeded in the first phase.

There are also a few instances indicated in Appendix 4, where it is unclear how much progress is being made against the 2017 target, as the unit is not comparable with the 2013/2015 milestones; these should be reviewed and clarified.

7.7.1 Knowledge sharing

Research capacity building tends to be discussed only in terms of knowledge sharing by ESPA academic stakeholders. There are opportunities to build on and tailor existing knowledge events to ensure that content is appropriately tailored for different ESPA stakeholders, e.g., depending on regional context, or experience in academia. Furthermore, the format of certain ESPA events (e.g., the Annual Science Conference) could be improved to ensure that delegates are given sufficient engagement opportunities. Linked to all these points is the MTR team's finding that engagement between ESPA projects is not conducted systematically. ESPA projects which have been linked up and given opportunities to share information on methods, processes and research content have found the experience valuable.

7.7.2 Gender

The topic of gender empowerment is treated relatively neutrally by most academics at present. This is reflective of the Programme's strategic position on gender. Should the Programme wish to, there is an opportunity to shine a spotlight on gender empowerment with researchers to encourage its greater consideration in relation to academic and development impacts.

7.7.3 Reporting

Section 6.3 reflected a number of project stakeholder views on various systems and processes; issues that they would like to see improved and streamlined. These include: having one or more trouble-shooters or subject experts within the Directorate; the use of ESPA strategies; and the difficulties of managing multi-contract projects. However, the most common issue mentioned was the frequency and duplicative nature of reporting. Of all the project management issues raised, this may be the most practicable and important to tackle, for both operational and reputational reasons.

7.7.4 Funding PhDs

The Programme is not able to fund overseas-based PhD studentships due to legal considerations. It is apparent from the MTR that this point is either not well understood or not supported by a range of ESPA researchers. This presents a potential reputational risk for the Programme. There is a case for the Programme to clarify its legal position with the ESPA community to assist with easing discord on this matter. Furthermore, there may be opportunities for the Programme, or similar future initiatives, to explore alternative funding models.

7.8 Future activities

A few of the areas flagged for development will be partially addressed through forthcoming ESPA activities.

The **Regional Opportunities Fund** enables projects to propose suitable capacity building and knowledge sharing activities. The proposed **regional evidence brokers** will have a development impact focus and an understanding of the science-policy interface. The planned role will be specified to add value to individual and groups of projects via sharing evidence. Finally the **ESPA Fellowships** will contribute to southern capacity building. The Fellowships

are generally viewed as a good use for ESPA resources by a number of researchers and those within the governance structure (e.g. Q15, survey), although one lead principal investigator did raise a concern over where resources would be found within academic institutions to mentor the ESPA Fellows.

As detailed in Section 2.4, there is still some unallocated funding available for future activities in 2014 and beyond. The commissioning of future activities should be mindful of these areas for development, as well as the potential risks (Section 8) and this report's recommendations (Section 9).

8 Risk analysis and assessment of risk management

This section provides an overview of whether the Programme is able to respond to new challenges and emerging risks in a changing context. Over the course of the MTR a number of risks and new challenges have been identified and are categorised as either operational or reputational. These risks are listed here, and their implications are highlighted.

8.1 Operational risks

There are a number of operational risks that face complex multi-donor programmes such as ESPA. These cover financial, management and systems issues. These risks have a potential impact on the management of projects as well as the running of the overall programme.

A number of these topics have been covered in Section 6. From a Directorate perspective, these risks are well documented and monitored via a 'Risk Log'.

On-going operational risks include

- Differing priorities between funders resulting in slower than anticipated decision making
- Unstable access to, and inadequate functionality of, ROS for users
- Lack of clarity around the degree of Directorate autonomy
- High reporting load for project teams

Emerging and future operational risks include

- Lack of clarity over the Senior Science Fellow role amongst some people across the ESPA community
- The requirement for some new roles to broker/synthesise evidence
- The possibility of a new UK Government in 2015, resulting in shifting political and funding priorities.

The Programme funders and governing bodies are aware of these risks, and there are measures in place (e.g. the 'Risk Log') to monitor most of them.

8.2 Reputational risks

Reputational risk relates to losses from damage to the Programme's reputation or 'brand'. Such losses could impact future related programmes that seek to deliver poverty alleviation through provision of ecosystem services, as well as undermine the value of ESPA's work during its lifetime.

The main on-going risk in this category is that the underlying conceptual and practical conflicts highlighted in this report remain unresolved. In particular, the balance between emphases on the science versus the development impacts should be addressed with the academic community. Secondly, the Programme should also engage academic circles in the discussion around whether, what, where and how links between ecosystem services and poverty alleviation exist. Conceptualising, synthesising and improving the understanding of this relationship will be an important legacy for the Programme. Although the Programme has supported PhD students in some research calls, another potential reputational risk is the perceived refusal of the Programme to fund PhDs, which may be based on a lack of information about the legal status of such funding.

A further reputational risk is the on-going challenge of the tri-partite funding relationship. In addition to differing priorities on operational versus strategic matters, it is also clear that

some stakeholders have very different perceptions of the three funders' roles on the Programme, which may have a reputational impact.

Finally, a fundamental reputational risk to the Programme is that it leaves behind no positive or lasting legacy. At present this seems unlikely to happen, but it is unclear what strategic foundations are being laid to ensure that the potential legacy is maximised.

9 Conclusions and recommendations

Overall the Programme has been very well received, and is seen to be breaking ground in an exciting and valuable multi/inter-disciplinary research gap. The Programme is one of 'firsts'. It is achieving the vast majority of targets in relation to its logical framework indicators. ESPA projects are breaking new ground in terms of research and, as a body of work, ESPA research looks on track to achieve high scientific quality. Although weighed down with issues of clarity and expectations, there are visible and emerging development impacts in terms of conceptual advances, impacts on policy and practice and capacity building. The governance structure seems largely fit for day-to-day operations, with the exception of a few areas where improvements could be made.

As demonstrated throughout this report, it is unclear what plans there are to fill the gap left by ESPA in 2017. So, it is now important that the Programme uses this timely MTR to push the Programme forward to: leverage its potential; maximise its opportunities to deliver world-class science and development impacts in the next 3 years; and create a lasting legacy.

9.1 Value for Money

For the purposes of this review, Value for Money is defined as maximising the impact of each pound spent to achieve ESPA's goals. In reviewing whether the ESPA Programme is delivering Value for Money, the MTR team has considered the evidence presented across a variety of the issues discussed in this report including:

- The commissioning model
- The roles carried out by the governance structure
- Project performance against ESPA's goal (at a general level).

To date, the evidence collected by the MTR team suggests that the Programme has been delivering value for money (this judgement is not based on an economic cost-benefit analysis). As has been made clear in the preceding sections, the ESPA Programme is on track to contribute to its goal of '*sustainably managed ecosystems contributing to poverty reduction and inclusive growth in developing countries'.* The Programme is not perfect, and a number of areas for development have been highlighted in Section 7. However, overall, the Programme has demonstrated an ability to learn from past experience (e.g. the improvements made to the application and commissioning process), adapt with the evolution of the Programme (e.g. re-balancing of some responsibilities within the governance structure, e.g. PMG), and commission different types of projects dependent on the findings of scoping work and gap identification (e.g. the different requirements of each of the ESPA calls, and improved alignment of projects in the 2012 and 2013 calls).

It is less certain to what extent the Programme will continue to deliver value for money, as much depends on what strategic plans are in place to ensure that the Programme's contribution to its goal will outlive the Programme. In this regard, there are some key activities that are critical, as highlighted in Section 7, including support to projects with delivery of development impacts, and synthesising the Programme's research.

As identified in Section 2, the Directorate (at the time of writing) still has £5.5m left to spend before 2017 and there is a relatively small sum of money in the pot for further research calls. The allocation of these funds should take into account the conclusions and recommendations of the MTR to ensure that ESPA's contribution to its goal extends far beyond 2017.

9.2 Detailed conclusions and associated recommendations

Building on the analysis in Chapters 7 and 8, a series of related conclusions and recommendations have been developed and are presented in Table 4. A number of the recommendations look beyond the lifetime of the ESPA Programme, and are intended for the funders' consideration during the design and development of similar future programmes. The majority of recommendations presented here relate to the high priority issues associated with legacy building outlined in Chapter 7. Some recommendations on the other issues identified in Chapter 7 are also detailed.

Table 4 Conclusions and recommendations of the MTR

Area for development	Related conclusions	Recommendations for the remainder of the ESPA Programme	Recommendations for future related programmes
Priority issues			
Resolving tensions	• Fundamental issues in relation to the balance of science vs impact, are resolved, which may otherwise lead to reputational risks for: ○ The concept of ESS for PA ○ The ESPA Programme ○ Similar future programmes.		
	• Balance of science vs impact: there is currently, mixed understanding about the speed, scope and scale of development impacts that projects are expected to deliver	• Ensure funders are all on the same page with respect to expectations around impact. PEB to revisit the impact strategy, component strategies and ToC together with the Director. • Minimise turnover of representatives on PEB • Clarify messaging to academic stakeholders through facilitating common understanding and commitment.	• Clarify the Programme's strategic objectives and strategies before issuing any Announcement of Opportunity (AO)
	• Links between ESS and PA: there are currently mixed messages at both a programme- and a project-level about the need to clarify whether, how, when and where ESS can deliver for PA or to assume that they do	• Ensure funders are all on the same page with respect to expectations around academic outputs from projects. PEB to revisit the Knowledge Strategy and research framework together with the Director. • Minimise turnover of representatives on PEB • Clarify messaging to academic stakeholders through facilitating common understanding and commitment.	
	• It is unclear whether the poorest communities can benefit from provision of ESS or whether the focus should be on the poor more generally.	• ESPA should now give more attention to the market and governance conditions where ESS can deliver for PA. It could be the subject of: ○ A synthesis of findings from existing projects ○ A funding call ○ Proper engagement and cross-fertilisation of ideas with WB WAVES and UN Poverty-Environment Initiatives, as both are considering related issues. • A continued focus on the poor rather than the poorest is likely to be more productive, as they are not a minority group.	• "ES for wealth creation and safeguarding against poverty" might do more to attract inward investment, governments and businesses. It would also automatically lead to a helpful focus on markets and governance.

Area for development	Related conclusions	Recommendations for the remainder of the ESPA Programme	Recommendations for future related programmes
Development impacts	• ESPA should continue to target evidence gaps strategically in future calls and look outside its 'comfort zone' • Academics need to support with knowledge transfer at the science-policy, science-practice interfaces • There is a need to use ESPA science as it evolves to help inform policy development rather than wait for the science to mature before communicating comprehensive results • Academics are seeking greater flexibility in the application of the ESPA Theory of Change to their work	• Commission or appoint knowledge transfer specialist(s) to: ○ Map emergent conceptual or applied advances in scientific understanding across projects in relation to policy themes ○ Identify relevant, timely opportunities to provide policy briefings on ESPA research at international, regional or national scales ○ Provide programme-level support to introduce ESPA to national government stakeholders where there is more than one project ○ Produce impact case studies that exemplify the ways in which research can deliver development impacts rather than promoting a given pathway. • Review attitudes towards key documents with ESPA stakeholders, and consider revisions or a less formalised approach accordingly.	
Links to other relevant programmes	• The ESPA Programme and its projects are not intended to advocate a position but ESPA research should be used to inform development policy and practice. • ESPA fills an international research gap but it is unclear what will happen after ESPA is gone.	• It will be important for ESPA to sustain its reputation and extend its reach through engaging with other international research and policy platforms, which are likely to lead to the transfer and uptake of the evidence developed: ○ Future Earth ○ Belmont Forum ○ IPBES ○ WB WAVES ○ UN Poverty-Environment Initiative • There needs to be more focus on building awareness of the ESPA Programme in the UK with key stakeholders, e.g. with Ministers, international NGOs • Links between ESPA and other relevant Research Council initiatives (e.g. ESRC-DFID Poverty Alleviation Programme) should be formalised and strengthened.	

Area for development	Related conclusions	Recommendations for the remainder of the ESPA Programme	Recommendations for future related programmes
Synthesis	• Many ESPA projects are location and stakeholder specific. If ESPA as a whole is to be greater than the sum of its parts then there is a need to synthesise scientific understanding developed across projects in relation to concepts, methodological developments, and application by: ○ Ecosystem ○ Community type ○ Policy type ○ Geography	• Synthesis needs to be promoted by commissioning or recruiting an individual to develop and implement a plan: ○ Building upon existing reviews (e.g. Fisher et al. 2013, Suich *et al.* in press) ○ To facilitate identification and development of multi-author peer-reviewed papers: ▪ Across relevant ESPA projects ▪ Drawing upon non-ESPA researchers wherever relevant	
Accountability	• The application process, and terms and conditions of ESPA contracts allow researchers to minimise their liabilities and commitments to delivery. • The multiple-contract system in place for ESPA 2011 projects makes it hard for projects to be held to account or for lead PIs to hold PIs to account.	• Applications for Programme funding should be SMART. • Establish conditions that ensure that future projects can be held to account for delivery without it constraining the science. These conditions should clarify: ○ Minimum acceptable academic and development impacts ○ Reporting requirements	• Review best practice adopted by other applied science programmes (e.g. US National Science Foundation) in relation to requirements of applications , reporting and record-keeping • Applications for Programme funding should be SMART. • Establish conditions that ensure that projects can be held to account for delivery without it constraining the science. These conditions should clarify: ○ Minimum acceptable academic and development impacts ○ Reporting requirements
Governance	• The governance structure is complex. Past blurring of roles and responsibilities between different elements of the governance structure have led to conflicts and delays. There are strongly divergent views on whether this situation is on-going. • The mid-way point of the Programme presents an opportunity to tailor staffing to provide support to projects and enhance the Programme's legacy	• Clarify: ○ Roles and responsibilities for some elements of the structure, e.g. a consultation process between the Secretariat and Directorate on reducing any overlaps; clarify the purpose of the Senior Science Fellow to the ESPA community. ○ Definitions for what issues are strategic and what issues are operational ○ Reporting requirements	• The outline structure of the Programme (PEB, Directorate, administrative functions sitting within the Research Councils etc.) has worked well and could be applied, albeit in a simplified format, in future. The nature of any future Directorate role would be determined by the scale of a programme.

Area for development	Related conclusions	Recommendations for the remainder of the ESPA Programme	Recommendations for future related programmes
		• Ensure that everyone adheres to their (revised) roles and responsibilities, e.g. this could include focusing the four annual PEB meetings on four specific topics. • Linked with issues of synthesis and development impact, PEB and the Directorate to take forward discussions about commissioning/recruiting evidence brokers and an 'impact' role. Consider the establishment of a project-facing Science Advisory Group to aid the Directorate with academic leadership	
Other issues			
Improving North-South researcher engagement and participation	• There are some excellent DC researchers involved in the current portfolio of projects and encouraging signs that they are being increasingly involved. However, issues remain around brain drain, hierarchical attitudes and insufficient resources.	• Ensure that proposals are explicit and transparent about the importance of DC partners' roles in design and implementation of research • Encourage funds for knowledge exchange (S-N and N-S) trips to be built into future proposals • Organise ESPA events outside of the UK • Review the Programme's stance on PhDs, or more clearly explain to PIs why the Programme does not provide such support • Actively involve DC researchers in: ○ Mapping emergent conceptual or applied advances in scientific understanding across projects in relation to policy themes ○ Synthesis of multi-author peer-reviewed papers	
	• There can be limited understanding of the infrastructural and context-related challenges faced by DC researchers and end beneficiaries	• Encourage travel funds to be built into future proposals: ○ For knowledge exchange (S-N and N-S) trips ○ Integration of work packages ○ Improved coordination.	

Area for development	Related conclusions	Recommendations for the remainder of the ESPA Programme	Recommendations for future related programmes

Logframe targets	• The Programme has performed strongly against the logframe indicators. There is potential to revisit and stretch some of these.
	• ROS reporting means that the quantity and nature of academic outputs are not fully reflected.
		• Review targets in relation to the logframe indicators taking care to:
		  ○ Maintain the commitment of stakeholders who regard the existing targets as realistic
		  ○ Set targets that remain achievable to avoid risk of appearing to under-achieve when the Programme has already exceeded expectations.
		• Expand the range of 'academic' outputs to include working papers, reports and academic conference papers and presentations.	

Knowledge sharing	On the whole, ESPA appears to provide its community with well-received events and opportunities for networking. There is space to tailor messages and content at these more effectively.	• Review the format of the Annual Science Conference to ensure sufficient networking and engagement opportunities, e.g. region-focused parallel sessions, intensive inter-project workshops, group dinners • Ensure content of knowledge sharing and training events is appropriately pitched and that old material is not repeatedly covered • Encourage/fund projects to develop links with one another and share content on methods, processes, outputs etc. in a facilitated environment, with clear follow-up actions.	

Gender issues	• Currently, gender issues appear to be a relatively neutral area of concern both at a programme strategy level, and at a project level.	• Review whether to make this a more focal issue at a programme level by reviewing key strategy documents
		• Review whether to make this a more focal issue at a project level through applying gender criteria to:
		  ○ Fellowships
		  ○ Future funding proposals.	

Reporting	• The frequency and duplicative nature of reporting is a source of frustration for many stakeholders.	• Consider whether it is feasible for the Directorate to alternate requests for written inputs and face-to-face meetings or calls on a six-monthly cycle. • Researchers would appreciate opportunity to feedback on the Programme at their regular meetings.	

Area for development	Related conclusions	Recommendations for the remainder of the ESPA Programme	Recommendations for future related programmes
		• If feasible, a review of ROS categories could be undertaken, to allow for clearer mapping of project outputs against ROS options	
Funding PhDs	• The Programme's inability to fund overseas based PhD studentships is unpopular within the academic community	• The Programme should clarify the legal reasoning behind this decision to the ESPA community	• Future Programmes could consider alternative funding models for overseas PhD studentships

Appendices

Appendix 1: MTR terms of reference (key excerpts)

Aims

The principal aims of the MTR are as follows:

a) Assurance that aims and objectives to date are being realised
b) Assessment of scientific quality and impact to date
c) Assessment of value for money added by the Programme
d) Identification of changes/improvements going forward
e) Assessment of whether/how the Programme is able to respond to new challenges and emerging risks in a changing context.

Objectives

The outcomes and recommendations from the MTR will need to reflect the way that the programme was designed in terms of it being administered as a collaborative partnership between the three funders and results delivered jointly by the ESPA Secretariat, Directorate and ESPA Projects.

Assessment of past activity and current performance

The consultant will assess:

a) Progress against the Programme's aims and objectives (noting any changes that have been agreed by the funders);
b) The scientific quality and academic impact to date of the research supported under the Programme, including the degree of innovation and international focus;
c) The role to date of the Programme in supporting researchers in developing countries;
d) The coherence and balance of the current funded activity, and the extent to which the programme's overall desired academic and development impacts are being realised;
e) The emerging economic and societal impact of the Programme to date, with particular a particular focus on the informing of policy and practice intended to reduce poverty in developing countries;
f) The added value of the Programme (a judgement, not an economic cost benefits analysis)
g) The appropriateness and performance of the Programme Directorate and governance structure.

Forward plans

In addition, the consultant will comment on:

h) The extent to which the Programme's objectives remain relevant going forward to the needs of the funders, research users and the intended beneficiaries in developing countries
i) The quality and potential scientific, societal and economic impact of the proposed future Programme investments activities, and the fit of these to the Programme's objectives
j) The appropriateness of the on-going resource allocation and measures to ensure efficiency, minimisation of risk, and value for money going forward

k) Any required amendments to the current Programme monitoring framework (the Logical Framework and Theory of Change) and Programme management and governance structure
l) The role of ESPA within the wider context of DFID, NERC, ESRC, and other relevant investments in the area.

Conclusions and recommendations

m) Overall strengths and weaknesses of the current Programme (including the reasons behind these)
n) Summary of lessons learned to date
o) Recommendations to improve the quality, impact and value of the Programme going forward.

Evidence

The Consultant will review the following evidence:

a) Programme Logframe

Key reporting indicators for whole programme with milestones

b) DFID Results Framework

DFID reporting tool that includes additional reporting from projects

c) Publications and outputs

Details of project outputs are reported via the Research Outcomes System (ROS)

d) Programme documentation

Documentation associated with the management of the Programme including Directorate Annual Reports, Directorate KPIs, Quarterly Directorate Reports and governance papers and agendas.

e) Researcher survey

The Consultant will design and administer a questionnaire to capture award-holders' views of the academic and non-academic impact of the initiative and the value added by the initiative organisation.

f) Non-academic consultation

The Consultant will design and administer a questionnaire and/ or interviews (as appropriate) to seek the views of non-academic users on the utility and impact of the research. Grant holders should be asked to suggest users in the first instance, but these should be supplemented by the evaluator as appropriate.

g) Interviews

The Consultant will conduct interviews with key figures in the Programme (including some members of the Programme Directorate, Programme Management Group, Secretariat, Programme Executive Board and International Programme Advisory Committee) and key non-academic research users.

h) Other material and methods

The Consultant is invited to propose the inclusion of any other materials, data sources or methodologies that they feel may add value to the evaluation.

Appendix 2: MTR methodology

In keeping with DFID's evaluation guidance[20], a mixed-method approach was used to collate, review and triangulate qualitative and quantitative evidence relevant to the MTR's aims and objectives in order gain an unbiased and representative view. Evidence was sourced from review of the Programme's documents, analysis of academic outputs, field visits to ESPA projects in Nepal and Bangladesh, interview of programme- and project-level stakeholders, and a survey of project-level stakeholders. In preparation for data collection, a scoping exercise identified 140 research questions (Appendix 3) and prioritised stakeholders for survey and interview.

The MTR team did not seek to assess individual ESPA projects. Instead it examined all academic outputs from projects and a sample of both project-level documentation and academics' views (via interviews and a survey), with the intention of:

- Understanding how the projects have, or are, contributing to the wider ESPA ambition
- How projects are engaged with the overall programme (for example at the application and review stages, through to support and reporting issues), and
- Gaining a sense of the impacts that projects are, or will have at a local, sub-national and national level.

A balanced view across the projects was sought by giving all academic stakeholders the option to participate in the survey, and conducting interviews with a diverse group of stakeholders associated with a range of ESPA projects.

Document review

Programme-level documents

Programme-level documents reviewed included:

- The Programme Memorandum
- ESPA's vision statements
- The ESPA Knowledge Programme, Impact Strategy and component strategies
- The Theory of Change (on using research to inform development impacts)
- The Programme's logframe (key reporting indicators and milestones)
- ESPA's governance bodies' Terms of Reference
- The ESPA Directorate's inception report
- The ESPA Directorate's Key Performance Indicators
- The Directorate's quarterly and annual reports
- Papers tabled at governance body meetings and associated minutes.

Project-level documents

These were supplemented by review of a small but wide-ranging sample of documents and reports associated with projects, including:

- Announcement of Opportunities
- Completed application forms
- Papers associated with review of proposals
- Amendments to project proposals

[20]The Magenta Book, Guidance for Evaluation, HM Treasury, April 2011 and Monitoring & Evaluation: A Guide for DFI-contracted Research Programmes, DFID Central Research Department, May 2006

- Terms and conditions
- Situation analyses
- Final reports
- Peer-reviewed publications
- Policy briefings.

Analysis of scientific quality of academic outputs

The scientific quality of the ESPA programme's academic outputs and impact was analysed by Professor Jouni Paavola, University of Leeds. He considered the number of academic outputs produced, the quality of publication outlets, and the number of citations. His full report can be found at Appendix 7.

Field visits

The MTR's funders recommended that the MTR team should visit Nepal and Bangladesh in the South Asia region, as:

- Activity reflects ESPA's scaled-up ambition
- It would provide a complementary insight into ESPA's vision
- A recently completed project in Nepal would provide insights into project impact
- It would provide an intimate understanding of how a project-cluster approach works
- The visits could be timed to coincide with an ESPA Bangladesh Projects' conference and major project meeting in Bangladesh
- It would be a great opportunity to engage with southern principal investigators and researchers, and gain a multi-project overview.

There was no intent that the MTR team should evaluate individual projects. Rather, the purpose was to inform the programme-level review.

Two MTR team members spent two days in Nepal and five days in Bangladesh visiting three very different ESPA projects:

- 'Impacts of community management of forests and floodplains' (Nepal and Bangladesh), which was awarded a £50,000 ESPA Evidence and Impact Research Grant in 2011. These small grants were to increase the impact of the ESPA Programme through influencing key policy processes. The project ran from May 2012 to July 2013.
- 'Whole decision network analysis for coastal ecosystems', WD-NACE (Bangladesh), which was awarded a £220,000 ESPA Programme Framework Grant in 2010. These grants were for major projects that explored new and innovative concepts, methodologies and models needed to successfully deliver ESPA's objectives. The project ran from October 2010 to September 2012.
- 'Assessing health, livelihoods, ecosystem services and poverty alleviation in populous deltas' (ESPA Deltas Project – Bangladesh); the largest ESPA project, which was awarded a £3.4 million ESPA 2011 Consortia Grant. Such grants were given to major projects that will provide significant new knowledge on the relationship between ecosystem services and poverty alleviation. The project commenced in March 2012 and will be on-going until March 2016.

The MTR team members undertook 16 interviews, group discussions and focus group discussions with ESPA researchers and other academics, local government officials (e.g. Munshiganj), multilaterals (e.g. UNDP) and individuals from NGOs engaging ultimate beneficiaries in ESPA research and helping to translate it for policy-makers and practitioners. They had in-depth discussions with community-based organisations (e.g. a local CBO coordination committee in Nepal) and CBO federations (e.g. the Federation of

Community Forestry Users Nepal; FECOFUN). The team conducted five focus group discussions with poor communities in Nepal and Bangladesh who had some involvement in ESPA research and other poor communities to whom it was potentially relevant. They also attended a conference on 'Sharing and synergy building in ESPA projects in Bangladesh' and a meeting of the ESPA Deltas Project.

Stakeholder interviews

The MTR team conducted a further 23 interviews with current and former representatives from all of ESPA's governance bodies and ESPA researchers. In order to secure fair representation of academic stakeholders, and to ensure that our data was not biased by the views of the three projects from the field visits, the other projects were mapped by their respective funding calls and countries of focus. A representative cross-section of academic interviewees were then selected and prioritised. A sample of past and present members of the Programme's governance structure from the three funders was also interviewed.

The interviews were semi-structured and drew upon the research questions identified by the MTR team but were tailored to each individual's role and involvement in ESPA. Individuals were asked if they: wished to review notes of their interview; agreed to the transcript being appended to this report; and/or wished to remain anonymous. The interviews were conducted face-to-face or by video-conference, Skype or phone.

Academic and project partner surveys

A questionnaire was developed to provide supplementary academic feedback for analysis alongside core data gathered via the document review, interviews and the field trip. This comprised 11 introductory questions about the respondent and their ESPA project and 50 questions based on those research questions that were relevant to project-level stakeholders. The answers were either multiple-choice (most in response to statements with answers on a five-point scale from 'strongly agree' to 'strongly disagree') or free text.

The survey addressed four types of stakeholders: lead principal investigators (LPIs), principal investigators (PIs) and co-investigators/researchers (Co-Is), and Government/NGO project partners. All 50 questions were posed to LPIs, PIs were asked to answer 43 of them, whilst Co-Is and other project partners were only asked to consider 16 multiple choice questions. This approach was intended to minimise the survey's burden on stakeholders and thereby encourage a high response rate, and to ensure that the MTR team was able to undertake timely and efficient analysis of the survey output.

The survey was made available online using SurveyMonkey (www.surveymonkey.com) and the Directorate emailed an invitation to 640 stakeholders encouraging them to complete it. Stakeholders involved in more than one ESPA-funded project were asked to respond with respect to a selected project of their choice. A total of 120 responses were received of which 98 were complete. The Table A2.1 below gives the completed breakdown of responses by role.

Table A2.1 Breakdown of responses by role to online survey

Breakdown of responses by role	Responses
Lead PI	17
PI	25
Co-investigator	52
Impact Partner	4
Total	**98**

Individuals associated with the Deltas Project submitted 32 responses. Analysis revealed that there were no notable differences in the Deltas Project stakeholders' response profiles compared with the other 66 respondents. As the data is not skewed, the data from all survey responses has been used to evidence and triangulate subsequent points made in this report.

Appendix 3: Research questions by MTR criteria

#	***Progress against the Programme's aims and objectives (noting any changes that have been agreed by the funders)***
1	What are the Programme's aims and objectives?
2	What is ESPA's theory of change? How does it seek to realise the knowledge and impact strategies?
3	What were the changes in aims and objectives as agreed by funders?
4	How have the aims and objectives changed over time? To what extent has this been organic vs. structured? Why has change occurred?
5	What progress was expected for each indicator?
6	What progress has there been to date (since inception)?
7	What has gone well/not so well with respect to progress against each indicator? Why?
	The scientific quality and academic impact to date of the research supported under the Programme, including the degree of innovation and international focus
8	What types of outputs are the projects producing?
9	What does research excellence mean for ESPA?
10	How productive has the programme been in terms of academic outputs?
11	What is the quality and range of publication outlets for academic outputs?
12	What was the expected academic impact of the Programme's funded projects?
13	What was the expected degree of innovation of the Programme's funded projects?
14	What was the expected geographical focus of the Programme's funded projects?
15	What progress was expected?
16	What progress has been achieved? What academic impact have the outputs had?
17	To what extent have ESPA's research and resulting publications been **relevant** to ESPA's research agenda?
18	To what extent have ESPA's research and resulting publications been **attributable** to activities undertaken through ESPA projects?
19	How many of ESPA's resulting publications include **DC authorship** (%)?
20	How many of ESPA's resulting publications have been published in **high-impact, peer reviewed journals** (%)?
21	How many of ESPA's research and resulting publications have been published in **open access format** (%)?

22	How has the project cluster approach contributed to scientific and academic impact?
23	What further potential for academic impact is there? How could this be achieved?
24	What further potential for improving scientific quality is there? How could this be achieved?
25	What, if any, barriers are there around making greater academic impact/improved scientific quality? How can these be overcome?
26	What has gone well/not so well? Why?
27	What could be done more/differently?
	The role to date of the Programme in supporting researchers in developing countries
28	What is the definition of 'support' used by ESPA? Is support the same as 'strengthening researcher capacity' as defined by the impact strategy?
29	How does the Programme set out to support these researchers?
30	What capacity building outcomes have been seen to date? (e.g. number of events, number of MSC/PhD student funding)? Does this match expectations?
31	How many researchers have been 'supported'? (Split out by DC researchers and non-DC researchers; middle income and low income countries; gender)
32	Where are these researchers? Is there a pattern?
33	What role do DC researchers play in co-production of research and knowledge? Are they more/equal/less published than their developed country counterparts?
34	Is there a difference between the capacity of southern and northern researchers? (How) is ESPA helping to reduce the gap?
35	Which way does the research exchange tend to flow: North-South or both ways?
36	Does ESPA proactively engage researchers beyond the current portfolio? If so, how?
37	Does ESPA facilitate South-South research exchange and learning more broadly?
38	What outreach mechanisms are used? Are these different for those in the portfolio and those outside?
39	What, if any, barriers are there to more effectively supporting DC researchers?
40	Are the barriers more easily overcome in certain contexts? Why?
41	What has gone well/not so well? Why?
42	What could be done more/differently?
43	To what extent is ESPA's support focused on gender empowerment and change? What could be done to improve/change this?
	The coherence and balance of the current funded activity, and the extent to which the programme's overall desired academic and development impacts are being realised
44	What does 'coherent, balanced' funded activity mean to ESPA?

45	What themes of work does ESPA's portfolio (past and present) cover?
46	What geographies does ESPA's portfolio (past and present) cover?
47	Have ESPA's management identified any gaps in their thematic coverage themselves? If yes, what has been done to address this? If no, why is this?
48	What are ESPA stakeholder views on the balance of the portfolio?)e.g. thematically and geographically?)
49	Have ESPA stakeholders identified any gaps in thematic/geographical coverage? If yes, what has been done to address this? If not, why is this?
50	How is the Programme's thematic and geographic coverage helping to realise the Programme's overall aims?
51	What, if any, barriers are there to improving the balance & coherence of ESPA's funded activity?
52	What has gone well/not so well? Why?
53	What could be done more/differently?
	The emerging economic and societal impact of the Programme to date, with particular a particular focus on the informing of policy and practice intended to reduce poverty in developing countries
54	What does 'Development Impact 'mean for ESPA?
55	Who are the ultimate intended/actual beneficiaries of ESPA's research? Who are the end research users?
56	What are the expected societal impacts of the Programme?
57	What are the expected economic impacts of the Programme?
58	What development impact of ESPA is visible to date?
59	Which project outputs can be linked to emerging & societal impact? What do the project outputs tell us about emerging impacts?
60	At a high level what **conceptual advances** have been made by the ESPA Programme to date?
61	Through what mechanisms or tools does ESPA work to inform **policy** and planning?
62	Through what mechanisms or tools does ESPA work to inform development **practice**?
63	To what extent has ESPA contributed to **mainstreaming ecosystems issues** within the poverty alleviation discourse at regional, national or local levels to date? What is ESPA's full potential in this area? How can it be reached?
64	What 'additionality' benefits has ESPA's funding had for local communities to date? What is its full potential in this area? How can it be reached?
65	What have been the **distributional impacts** of ESPA's work (i.e. are those people/communities who are most vulnerable, those who are actually benefitting to date? What is ESPA's full potential in this area? How can it be reached?
66	What is the contribution of ESPA to **local capacity building of people and institutions** (beyond researchers) to date? What is ESPA's full potential in this area? How can it be reached?
67	Are ESPA development impacts uniform across countries, regions or project clusters? Why or why not?

68	What **gendered dimensions of change** have occurred? How has ESPA accounted for these?
69	What impact has ESPA has had in terms of enhancing gender equity dimensions?
70	What, if any barriers, are there to maximising the economic and societal impact of the Programme now or in the future?
71	What has gone well/not so well? Why?
72	What could be done more/differently?
	The added value of the Programme (a judgement, not an economic cost benefits analysis)
73	What novel, innovative approaches are taken to the design and delivery of the Programme?
74	Have ESPA projects made a unique contribution to the research and development agenda in the various countries they operate? How?
75	Do the benefits of ESPA exceed costs incurred? (Judgement based)
76	How has ESPA communicated research learnings to promote and advocate for wider learning and change?
77	Are there instances where the development/academic impacts of ESPA have been scaled out or up (horizontally or vertically?)
	The appropriateness and performance of the Programme Directorate and governance structure
78	What roles do the various parts of ESPA's governance structure set out to fulfil?
79	Are these roles fulfilled in reality?
80	Is there anything that the PEB/PMU/Directorate/Secretariat/IPAC/Business Assurance Manager do that is not in their job description? How does this impact the Programme's performance?
81	Is there anything that the PEB/PMU/Directorate/Secretariat/IPAC/Business Assurance Manager do not do that they/stakeholders think they should be doing? How does this impact the Programme's performance?
82	How well, or otherwise, do the different parts of the governance structure work together? What are the lines of communication? Do they work? Where could improvements be made?
83	How well, or otherwise, do the different parts of the governance structure work on their own? Where could improvements be made?
84	Are there any roles/tasks that are not fulfilled by any part of the governance structure that should/could be?
85	Did the changes in ESPA Directorate have any specific programme impact? Why or why not?
86	Is the governance structure fit for purpose to address the multi-regional and multi-donor mandate of ESPA?
87	What are efficiencies / inefficiencies introduced by the governance structure?
88	What implications has this governance structure had on how well ESPA works with developing country researchers, policy makers, research end users?
89	What other barriers, if any, do the various parts of the governance structure face? How, if at all, do these impact Programme performance?

90	What is done well/not so well?
91	What could be done more/differently? If there was one thing you could change to make the governance structure more effective, what would that be? (addressed only to key informants)
92	How is the Directorate fulfilling the roles set out for itself in the main Programme strategies (Impact, Knowledge etc)? How well is this working? What could be improved?
	The extent to which the Programme's objectives remain relevant going forward to the needs of the funders, research users and the intended beneficiaries in developing countries;
93	What are the future objectives of the Programme? How well do these marry with the objectives to date?
94	Who are the relevant stakeholders going forward?
95	What are their needs of DC researchers and research users and how are they changing?
96	What are their needs of end beneficiaries and how are they changing?
97	What are the research and evidence needs of policy makers and how is this changing?
98	What are the differences in stakeholder needs in middle income and low income countries?
99	What are their views on whether/how should ESPA be adapting itself?
100	What barriers, if any, stand in the way of ESPA making these identified changes?
101	Does ESPA's thematic and geographic coverage ensure that the most vulnerable populations are benefitting? If not, how should ESPA be adapting?
102	Should ESPA be doing something differently to better mainstream gender issues?
103	Is ESPA's knowledge strategy relevant for the future? Are there any changes required that could make it more fit for purpose going forward?
104	Is ESPA's impact strategy relevant for the future? Are there any changes required that could make it more fit for purpose going forward?
105	Is ESPA's communication strategy relevant for the future? Are there any changes required that could make it more fit for purpose going forward?
106	Is ESPA's Capacity Strengthening Strategy relevant for the future? Are there any changes required that could make it more fit for purpose going forward?
	The quality and potential scientific, societal and economic impact of the proposed future Programme investments activities, and the fit of these to the Programme's objectives;
107	What is being commissioned in the next funding round? What are the other proposed future investment activities?
108	What are the expected scientific impacts?
109	What are the expected economic and social impacts? (This is with reference to policy and practice).
110	What would be the thematic and geographical coverage of these impacts?

111	How would these impacts vary in middle income /low income / developed countries?
112	How well do these map against current and evolving Programme objectives?
113	What barriers, if any, are there to making these expected impacts in the future?
	The appropriateness of the on-going resource allocation and measures to ensure efficiency, minimisation of risk, and value for money going forward;
114	Summary of ESPA's financial situation and resource allocation to date?
115	What measures are taken to ensure efficiency?
116	What measures are taken to minimise risk?
117	What measures are taken to maximise value for money?
118	What measures will be best to take forward at the UK (PMU level) and what would be more suited to take forward in country?
119	How will stakeholders react to / perceive to changes?
120	What works well/not so well?
121	What could be done more/differently?
	Any required amendments to the current Programme monitoring framework (the Logical Framework and Theory of Change) and Programme management and governance structure;
122	What documents make up the Programme monitoring framework? Are these are cohesive body of documents? If not, why not?
123	Who uses the monitoring framework and its reports?
124	What reporting against the monitoring framework has been conducted to date?
125	How efficient is the data collection process for reporting at a project/programme level? Where could improvements be made?
126	What metrics of interest to stakeholders are not covered in the reporting framework?
127	Which metrics, covered by the reporting framework, are of least interest to stakeholders?
128	Does the monitoring framework facilitate learning as well? How are the lessons gleaned from the monitoring process shared with stakeholders? Can this be improved?
129	Is the monitoring framework fit for purpose going forward in terms of reflecting the changing stakeholder needs and aims of the donors?
	The role of ESPA within the wider context of DFID, NERC, ESRC, and other relevant investments in the area.
130	How do DFID, NERC and ESRC work together on ESPA - funding, allocation of responsibilities, management?
131	What are the channels of communication? How well do these work? What improvements could be made?
132	How does ESPA fit into the wider work done by DFID?

133	How does the development impact created by ESPA synergise with DFID's wider ecosystems, poverty alleviation or adaptation portfolio of work ?
134	How does ESPA fit into the wider work done by ESRC?
135	How does ESPA fit into the wider work done by NERC?
136	What are the challenges and opportunities that the different mandates of the funders (research excellence and international development) create for ESPA?
137	What works well in the relationships between the research councils? What could be improved?
138	What works well in the relationships between the research councils and DFID? What could be improved?
139	What are the other relevant investments in the area? How does ESPA differentiate itself? What is done well/not so well? What could be done more/differently?
140	What lessons does ESPA have for other DFID-ESRC or DFID/NERC programmes or ESRC/NERC initiatives?

Appendix 4: Summary of key ESPA strategies

Knowledge Programme

The Knowledge Strategy has been developed by the Directorate *"to stimulate and focus research projects, synthesise their findings with those from other research and ensure that outputs are communicated for use by the broadest spectrum of global users"*. Comprised of the Research Framework and Knowledge Strategy, the Knowledge Programme aims to:

- Stimulate and focus project teams by providing guidance on the ESPA concept and research direction
- Synthesise the findings of ESPA's projects with those from other research, and
- Ensure outputs are communicated globally to the widest range of users.

Figure A4.1 ESPA Research Framework

The Research Framework emphasises that a critical core goal of ESPA is for research to investigate the full complexity of interactions across spatial and temporal scales between its three components (Figure A4.1):

- People, human well-being, and poverty alleviation
- Ecosystems, and
- Enabling conditions.

However, it also acknowledges that this cannot be achieved by any one project. This is addressed by the Knowledge Strategy, which states that the ESPA Programme *"aims to help to deliver more than the sum of the outputs from individual research projects"*.

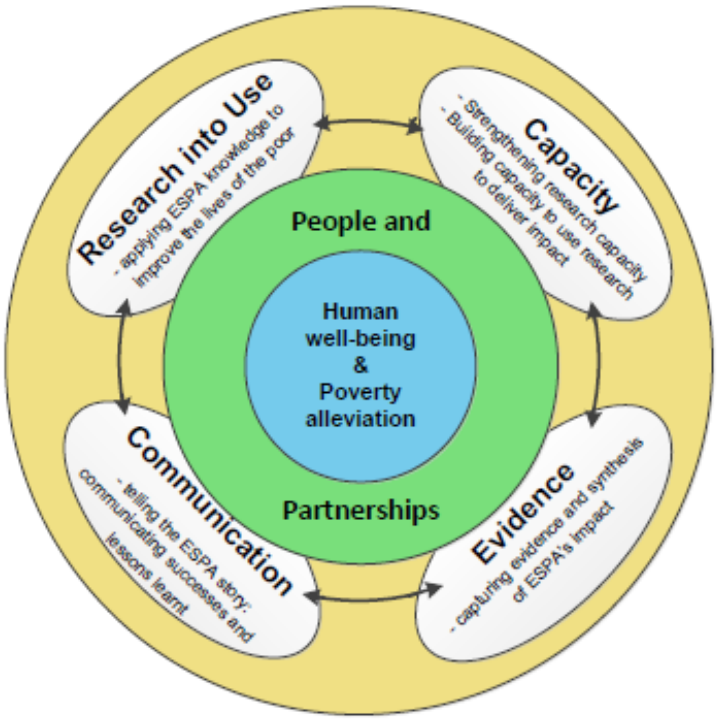
Impact Strategy

The Impact Strategy (dated 20 January 2012) describes how the Programme will ensure knowledge is used "*to deliver significant and sustainable development impact".* It acknowledges that ESPA "*is about research excellence but only insofar as the research can be used to improve the lives of poor people in developing countries*".

The strategy sets out two key success criteria:

- *"New knowledge generated by ESPA will have the clear potential to lead to significant and sustainable improvements in the lives of many millions of poor people around the world*
- *ESPA's long-term development impact will be evidenced by alleviation of poverty, improved health and well-being, and by creating opportunities for poor people to benefit through the growth of the global green economy".*

Figure A4.2 ESPA Impact Framework



It highlights that ESPA's approach to achieving impact on people's lives consists of four interlinked components: evidence, research-into-use, communication, and capacity (Figure A4.2). The aspiration is that local communities will be involved at all stages of a project's cycle, so that ESPA's research addresses their needs.

The Impact Strategy includes further information and component strategies on research-into-use, communication and capacity strengthening.

Theory of change

A Theory of Change (ToC) has been developed for the Programme. It identifies the steps that ESPA research should be used to influence if it is to contribute to development impacts for people and ecosystems. At a programme level, the ToC is intended to provide a backbone for planning, managing and evaluating impact. From a project perspective, the

ToC provides a framework for identifying evidence needs, stakeholder and user groups, and required behaviour changes that are intended to assist researchers with mapping out impact pathways. It is suggested that projects develop their own ToC in order to link their research with its intended impacts, and a supporting guidance note has been developed. The ToC has also assisted in the evolution of the Programme's Logical Framework.

Appendix 5: List of ESPA projects

Funding round	ESPA project title
2012 Open Access Publication Grants	Addressing trade-offs in ecosystem services and multiple stakeholder wellbeing through participatory modelling
2012 Open Access Publication Grants	Conservancies, wildlife management areas and local wellbeing in East African rangelands and Understanding conservancies' effects on livelihoods and ecosystem services in Kenya's Maasai Mara
2012 Open Access Publication Grants	Conservancies, wildlife management areas and local wellbeing in East African rangelands and Understanding conservancies' effects on livelihoods and ecosystem services in Kenya's Maasai Mara
2012 Open Access Publication Grants	Ecosystem services, poverty alleviation and social justice
2012 Open Access Publication Grants	Extending the timescale and range of ecosystem services through paleoenvironmental analyses: the example of the lower Yangtze basin
2012 Open Access Publication Grants	Understanding the relationships between ecosystem services and poverty alleviation and Strengthening conceptual foundation: analysing frameworks for ecosystem services and poverty alleviation research
EIRG 2011	Biodiversity, Ecosystem Services and Poverty Alleviation: Assessing the current state of the evidence
EIRG 2011	Impact of Jatropha production on ecosystem services and poverty alleviation in southern Africa
EIRG 2011	Impacts of Community Management of Forests and Floodplains
EIRG 2011	Safe operating spaces for regional rural development: a new conceptual tool for evaluating complex socio-ecological system dynamics
ESPA Directorate	ESPA Directorate
ESPA Partnership and Project Development	Amazonia-Yungas Observatory on Biodiversity and Indigenous Health and Well-being: Development of a South-South-North Research and Partner Consortium
ESPA Partnership and Project Development	Biodiversity, agriculture, and livelihoods: Co-evolution and competition in an Andean-Amazonian watershed
ESPA Partnership and Project Development	Biomass energy - optimising its contribution to poverty reduction and ecosystem services
ESPA Partnership and Project Development	Capturing the value of coastal ecosystem services for poverty alleviation in East and southern Africa
ESPA Partnership and Project Development	Choosing Wise Investments in Natural and Built Water Infrastructure
ESPA Partnership and Project Development	Coastal ecosystems, governance and poverty: A case study of managing the Brahmaputra-Ganges mega-delta in a changing world
ESPA Partnership and Project Development	Dynamic Drivers of Disease in Africa: Interactions of livestock/wildlife, poverty and environmental change
ESPA Partnership and Project Development	Ecosystem management to alleviate poverty on the Qinghai-Tibetan plateau
ESPA Partnership and Project Development	Ecosystem service sustainability and poverty reduction under land use change: A case study in Yunnan Province, China
ESPA Partnership and Project Development	Ecosystem Services for Poverty Alleviation under Multiple Stresses in Mountainous Western China
ESPA Partnership and Project Development	Ecosystem services to alleviate iodine, selenium and zinc malnutrition in sub-Saharan Africa
ESPA Partnership and Project Development	Enhancing Water for Food: poverty reduction through improved management of ecosystem services for sustainable food production in sub-Saharan Africa

Funding round	ESPA project title
ESPA Partnership and Project Development	Food and Ecosystem Services in Eastern Africa
ESPA Partnership and Project Development	Food security at the forest-agriculture Interface: A complex systems analysis of ecosystem services trade-offs and tipping points
ESPA Partnership and Project Development	Forest dependent poor at the agricultural frontier: the complexity of poverty and the promise of sustainable forest ecosystems in Amazonia
ESPA Partnership and Project Development	Future impacts of agricultural contaminants on ecosystem services in South Asia
ESPA Partnership and Project Development	Greenhouse gas mitigation from Chinese agriculture (technical potential, economic efficiency and equity impacts)
ESPA Partnership and Project Development	'Indian Ecosystem Service Initiative to promote sustainable livelihoods' (IndES Initiative)
ESPA Partnership and Project Development	Livelihoods from ecosystems - reviewing dryland African experiences and opportunities, and developing novel research strategies and partnerships
ESPA Partnership and Project Development	Managing ecosystem services to reduce poverty and vulnerability in East African coffee landscapes
ESPA Partnership and Project Development	Managing land for carbon in southern Africa: relationships between carbon, livelihoods and ecosystem services
ESPA Partnership and Project Development	Mapping Ecosystem Services for Agricultural Improvement and Human Health in Sub-Saharan Africa
ESPA Partnership and Project Development	Mechanisms for human-induced changes in marine life: impacts on ecosystem services and poverty alleviation
ESPA Partnership and Project Development	Modeling Climate, Ecosystem Services and Livelihoods to Identify Resilient Governance Systems
ESPA Partnership and Project Development	Sustainable delivery of pollination services to strengthen rural livelihoods in Sub-Saharan Africa
ESPA Partnership and Project Development	Understanding and Managing Watershed Services in Andean and Amazonian Catchments
ESPA Partnership and Project Development	Valuing, Implementing and Evaluating Payments for Ecosystem services in rural West Africa
ESPA Partnership and Project Development	Water governance, livelihoods and wellbeing: adapting to change in African river basins
ESPA Programme Framework	Biodiversity, Ecosystem services, Social sustainability and Tipping points in African drylands
ESPA Programme Framework	BKS - Bridging knowledge systems for pro-poor management of ecosystem services
ESPA Programme Framework	East African Great Lake Observatory
ESPA Programme Framework	Human Adaptation to Biodiversity Change: Building and Testing Concepts, Methods, and Tools for Understanding and Supporting Autonomous Adaptation
ESPA Programme Framework	Integrated Carbon, Water and Land Management for Poverty Alleviation
ESPA Programme Framework	Integrating Forest Ecosystem Service Assessment with Pro-Poor Governance in India
ESPA Programme Framework	Just ecosystem management: Linking ecosystem services with poverty alleviation
ESPA Programme Framework	Landscape Diversity and Ecosystem Services in Agricultural Ecosystems: Implications for Sustainable Growth and Rural Poverty in China
ESPA Programme Framework	Negotiating Tradeoffs: Making Informed Choices about Ecosystem Services for Poverty Alleviation
ESPA Programme Framework	Participatory Modelling Frameworks to Understand Wellbeing Trade-offs in Coastal Ecosystem Services.
ESPA Programme Framework	Poverty and ecology: developing a new evolutionary approach

Funding round	ESPA project title
ESPA Programme Framework	Safeguarding local equity as global values of ecosystem services rise
ESPA Programme Framework	Swahili Seas
ESPA Programme Framework	The ESPA Framework: A socio-ecological systems analysis of the political economy of Ecosystem Services for Poverty Alleviation.
ESPA Programme Framework	The REDD Game: A didactic tool for designing effective, efficient and equitable policies to deliver REDD in Bolivia
ESPA Programme Framework	Towards a virtual observatory for ecosystem services and poverty alleviation
ESPA Programme Framework	What types of investment can most cost-effectively ensure ecosystem service provision? A randomized program evaluation
ESPA Programme Framework	Whole decision network analysis for coastal ecosystems (WD-NACE)
ESPA Strengthening Research Capacity	BESSA: Building Ecosystem Services Research Capacity in Semi-Arid Africa
ESPA Strengthening Research Capacity	Building Capacity for Sustainable Governance in South Asian Fisheries: Poverty, Wellbeing and Deliberative Policy Networks
ESPA Strengthening Research Capacity	CAMARV: Capacity Building for Mangrove Assessment, Restoration and Valuation in East Africa
ESPA Strengthening Research Capacity	Capacity building for carbon- and biodiversity-based payments for ecosystem services in the Peruvian Amazon
ESPA Strengthening Research Capacity	Farmer Innovation System in the Loess Plateau of China: An International Research and Training network
ESPA Strengthening Research Capacity	Strengthening Capacity to Alleviate Poverty through Ecosystem Services (SCAPES): Putting methodological developments into practice
ESPA Strengthening Research Capacity	Strengthening research capacity of China and South Africa (SA) in sustainable water resources management with UK and Australian experiences
ESPA Strengthening Research Capacity	The impacts of ecosystem services and environmental governance on human well-being in the Pongola region, South Africa
ESPA Strengthening Research Capacity	Transformation and shifts in production landscapes for livelihood improvements in the Sahel: building a partnership in research
ESPA Strengthening Research Capacity	Using climate change information in ecosystem services for poverty alleviation research in China
ESPA Strengthening Research Capacity	Valuing rainforests as Global Eco-Utilities: a novel mechanism to pay communities for ecosystem services provided by the Amazon
ESPA-2011 Grants	Assessing health, livelihoods, ecosystem services and poverty alleviation in populous deltas
ESPA-2011 Grants	Dynamic Drivers of Disease in Africa: Ecosystems, livestock/wildlife, health and wellbeing
ESPA-2011 Grants	Managing ecosystem services for food security and the nutritional health of the rural poor at the forest-agricultural interface
ESPA-2012 Grants	ACES: Abrupt Changes in Ecosystem Services and Wellbeing in Mozambican Woodlands
ESPA-2012 Grants	Adaptive governance of mountain ecosystem services for poverty alleviation enabled by environmental virtual observatories (MOUNTAIN-EVO)
ESPA-2012 Grants	ALTER - Alternative Carbon Investments in Ecosystems for Poverty Alleviation
ESPA-2012 Grants	Can capturing global ecosystem service values reduce poverty?
ESPA-2012 Grants	Exploring the ecosystem limits to poverty alleviation in African forest-agriculture landscapes
ESPA-2012 Grants	Sustainable poverty alleviation from coastal ecosystem services (SPACES): Investigating elasticities, feedbacks and tradeoffs

Funding round	ESPA project title
ESPA-2013 Grants	Agglomeration payments for catchment conservation and improved livelihoods in Malawi
ESPA-2013 Grants	CESEA - Coastal Ecosystem Services in East Africa
ESPA-2013 Grants	Ecosystem Services, Wellbeing and Justice: Developing Tools for Research and Development Practice
ESPA-2013 Grants	Institutions for Urban Poor's Access to Ecosystem Services: A Comparison of Green and Water Structures in Bangladesh and Tanzania
ESPA-2013 Grants	Poverty and ecosystem Impacts of payment for wildlife conservation initiatives in Africa: Tanzania's wildlife Management Areas (PIMA)
ESPA-2013 Grants	Risks and Responses to Urban Futures: integrating peri-urban/urban synergies into urban development planning for enhanced ecosystem service benefits.
ESPA-2013 Grants	Streamlining Monitoring for Smallholder and Community PES (SMS-PES)
ESPA-2013 Grants	The Political Economy of Water Security, Ecosystem Services and Livelihoods in the Western Himalayas
ESPA-2013 Grants	Under what conditions can Payments for Environmental Services deliver sustainable improvements in welfare? Learning from a Randomised Control Trial
ESPA-2013 Grants	Unravelling biofuel impacts on ecosystem services, human wellbeing and poverty alleviation in Sub-Saharan Africa
ESPA-2013 Grants	WISER: Which Ecosystem Service Models Best Capture the Needs of the Rural Poor?
RIU-2102 Putting Research Into Use	Poverty and Ecology: communicating complexity
Understanding how ESPA Research is put into Use	Understanding How Research is Put into Use

Appendix 6: Progress against logical framework

The table below summarises the ESPA Programme's progress against logframe indicators to date. It draws on Directorate published statistics and the academic outputs analysis conducted by Professor Jouni Paavola for the MTR.

Sources:

- ESPA Logframe V2.0 January 2013
- ESPA Statistics, 1-Nov, 2013
- ESPA Logical Framework Report 2013 v1.0
- MTR analysis of academic outputs

The final column of the table gives a 'Project Score', which sets out to what extent outputs have met expectations. The methodology for this scoring process is detailed in DFID's 'How to…Reviewing and Scoring Project Note' (November 2011). The scoring is summarised here:

Score	Output description	Outcome description
A++	Outputs substantially exceeded expectation	Outcome substantially exceeded expectation
A+	Outputs moderately exceeded expectation	Outcome moderately exceeded expectation
A	Outputs met expectation	Outcome met expectation
B	Outputs moderately did not meet expectation	Outcome moderately did not meet expectation
C	Outputs substantially did not meet expectation	Outcome substantially did not meet expectation

Indicator	#	Baseline	At November 2013 – achievement of milestone?			Progress against target	DFID Output Score[21] & Comment
			Milestone 2013	Milestone 2015	Target 2017		
Outcome: To positively influence end users and decisions makers though the generation of cutting edge evidence on ecosystems services, their full value and links to sustainable development.							
O.1 ESPA research findings evident in policy dialogues, decision making forums and networks.	O.1.1	No evidence that policy documents, development strategies and Gov't white papers in partner countries use or reference evidence of ES for PA research	✓	✓	✓	*Progress*: 7 instances of evidence provided to policy makers *2017 Target*: Policy documents, development strategies and Gov't green/white papers from partner countries that show evidence of ESPA research.	A+ Progress moderately exceeds expectations. Potential to stretch target
O.2. Policy actors demonstrate recognition of ES for PA as a major development intervention and show increased demand for evidence on ecosystem services to support implementation.	O.2.1	£40.5 million committed from DFID/NERC/ESRC at ESPA launch in 2010	✓	✓	✓	*Progress*: £37.3 m of additional funds committed by ESPA funders and other agencies. *2017 Target*: £20 m of additional funds committed by ESPA funders and other agencies	A++ Progress substantially exceeds expectations. Potential to stretch target
	O.2.2	No agencies utilising the ESPA approach	✓	✓	✓	*Progress*: £20.8 m committed by other agencies to adopt an ESPA approach to research on ES for PA6. *2017 Target*: £10 m committed by other agencies to adopt an ESPA approach to research on ES for PA.	A++ Progress substantially exceeds expectations. Potential to stretch target
	O.2.3	No Payment for Ecosystem Service (PES) or equivalent schemes informed by ESPA research.	✓	×	×	*Progress*: 3 PES schemes informed by ESPA research *2017 Target*: 10 new PES or equivalent schemes informed by ESPA research.	A Progress meets expectations

[21] Based on guidance in https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67344/HTN-Reviewing-Scoring-Projects.pdf

Output 1: A high quality, multi/ interdisciplinary and extensive body of knowledge on ecosystem services, their dynamics and human use generated.							
1.1 Understanding of the gaps in current knowledge of ES for PA research that can meet the demand and needs of sustainable management of ES for PA	1.1.1	Programme Memorandum produced	✓	×	×	*Progress*: Annual Review of Knowledge Strategy complete *2017 Target*: Annual review of strategy documents identifies gaps and opportunities that shape ESPA Programme focus (on-going)	A Progress meets expectations
1.2 ESPA research projects produce high quality research outputs addressing issues of ecosystem services and their link to poverty alleviation in a range of formats disaggregated by ESPA call.	1.2.1	4 journal articles linking ES and PA prior to 2010.	✓	✓	✓	*Progress*: 72 journal articles attributed to ESPA Projects *Target: 2017*: 60 journal articles attributed to ESPA projects	A++ Progress substantially exceeds expectations. Potential to stretch target
	1.2.2	42 other research outcomes (briefing papers, conference papers, briefing notes, grey literature) from SRC projects prior to 2010.	✓	✓	×	*Progress*: 142[22] other research publication outcomes (briefing papers, conference papers etc.) from ESPA funded research projects. *2017 Target*: 150 other research outcomes from ESPA funded projects	A+ Progress moderately exceeds expectations. Potential to stretch target
	1.2.3	No academic papers published as open access from SRC projects prior to 2010.	✓	✓	Too early to achieve this	*Progress*: 32.4% of ISI-listed papers were published as open access. *2017 Target*: 100% of papers by post-2012 ESPA grantees are published or accepted for publication in open access Journals.	A+ Progress moderately exceeds expectations

[22] From J.Paavola's analysis of ESPA Project Outputs:72 intermediate research outputs such as working papers, conference papers theses ; and 72 reports and impact summaries

1.3 Citations of ESPA research outputs in research publications and by users of research disaggregated by ESPA call and UK REF Journal Index (Natural Science, Social Science, Arts and Humanities).	1.3.1	130 citations of publications from SRC projects up to 2010 in research publications.	✓	✓	✓	*Progress*: 380 external citations of publications from ESPA projects in research publications[23]. *2017 Target*: 40 external citations of publications from ESPA projects in research publications.	A++ Progress substantially exceeds expectations. Potential to stretch target
Output 2: Capability built amongst ESPA researchers to conduct multi/ interdisciplinary ecosystems services and poverty alleviation research, supported by new interdisciplinary methods, frameworks, data, tools and syntheses.							
2.1 Multi-/ inter-disciplinary (linking the social and natural sciences) frameworks, methods and tools developed by ESPA and ESPA researchers applied to support delivery of interdisciplinary research.	2.1.1	Zero ESPA funded projects delivering multi/ interdisciplinary research.	✓	?	?	*Progress*: Guidance for researchers complete *2017 Target*: 25% of ESPA-funded research projects develop multi-/inter-disciplinary research methods and tools that support further multi-/inter-disciplinary research.	ESPA funders to review – unclear where progress stands against ultimate target
2.2 Number and proportion of new ESPA projects delivering high quality multi-/inter-disciplinary research outputs disaggregated by ESPA call.	2.2.1	Zero ESPA-funded projects delivering high quality multi/ interdisciplinary research prior to 2010.	✓	✓	× (Too early to achieve this)	*Progress*: 48% of projects funded in 2010 that have published academic papers that are of a multi/ interdisciplinary nature. *Target 2017*: Each project of the ESPA 2012-13 intakes has been published/been accepted for publication of at least one paper of a multi-/inter-disciplinary nature.	A Progress meets expectations

[23] The total of 322 external citations is heavily weighted by the top five publications which account for 59% of the citations. The agreed targets were for 20 journal articles with two citations (10%) for the 2013 milestone, so these results suggest that ESPA is producing a wealth of high-impact science, which is already influencing other research projects and articles.

Output 3: Increased demand for and uptake of ecosystems for poverty alleviation research.							
3.1 ESPA projects are engaging in knowledge exchange and forming partnerships and networks across disciplines.	3.1.1	Zero ESPA projects engaging in knowledge exchange.	✓	✓	✓	*Progress*: 734 new ROS impact-related records *2017 Target*: 600 new ROS impact-related records	A++ Progress substantially exceeds expectations. Potential to stretch target
	3.1.2	Zero new partnerships and networks formed by ESPA projects and the ESPA programme and the % (50%) of these that are multi/ interdisciplinary.	✓	✓	✓	*Progress*: 27 new partnerships and networks formed by ESPA projects and the ESPA programme and 60% of partnerships and networks are multi/ interdisciplinary *2017 Target*: 18 new partnerships and networks formed by ESPA projects and the ESPA programme and the % (50%) of these that are multi-/inter-disciplinary.	A++ Progress substantially exceeds expectations. Potential to stretch target
3.2 ESPA researchers invited to present and/or share knowledge on national (incl. UK), regional and international development agendas.	3.2.1	Zero ESPA researchers invited to present their evidence to national/ regional/ international development panels/ committees on the policy relevance of their work.	×	×	?	*Progress*: ESPA Directorate and 13 ESPA researchers invited to present their evidence to national/ regional/ international development panels/ committees on the policy relevance of their work. *2017 Target:* ESPA Directorate and researchers are setting national, regional and international development agendas evidenced by 3 invitations to policy committees to present ESPA research outcomes	A Progress meets expectations – only fell short by 3 researcher invitations for the 2013 milestone. However it is unclear how much progress is being made against the target, given the unit is nor comparable with the 2013/15 milestones
	3.2.2	Zero ESPA researchers invited to join national/ regional/ international processes.	✓	✓	?	*Progress*: 14 ESPA researchers invited to join national/ regional/ international panels/ committees. *2017 Target*: 5 examples of ESPA research being reflected in UK/target country national development policies	A+ Progress moderately exceeds expectations However it is unclear how much progress is being made against the target, given the unit is nor comparable with the 2013/15 milestones

	3.2.3	Zero ESPA research outputs reflected in national, regional or international development policies.	✓	✓	?	*Progress*: 7 instances of ESPA research reflected in national, regional or international development policies. *2017 Target*: 15 records of feedback from research users of the way that ESPA knowledge has influenced their actions	A+ Progress moderately exceeds expectations However it is unclear how much progress is being made against the target, given the unit is nor comparable with the 2013/15 milestones
3.3 Value of new investment in ESPA-related research provided by agencies outside the ESPA partnership.	3.3.1	No additional co-financing for ESPA funded research.	×	×	×	*Progress*; £0.2m of additional co-funding provided for ESPA projects. *2017 Target*: £20 m of additional co-funding provided for ESPA projects.	B Outputs did not meet expectation
	3.3.2	No new ESPA-related projects or activities funded by agencies outside the ESPA programme.	✓	✓	✓	*Progress*: £20.9m of new ESPA-related projects or activities (29 instances) funded by agencies outside the ESPA programme. *2017 Target*: £10m of new ESPA-related projects or activities funded by agencies outside the ESPA programme.	A++ Progress substantially exceeds expectations. Potential to stretch target
3.4 Value of new development investment informed by or utilising ESPA research and evidence.	3.4.1	No development activities or investments informed by or utilising ESPA research.	✓	✓	✓	*Progress*: £16.3 m of development funding informed by or utilising ESPA research. *2017 Target*: £12 million of development funding informed by or utilising ESPA research.	A++ Progress substantially exceeds expectations. Potential to stretch target
	3.4.2	No Payment for Ecosystem Service (PES) or equivalent schemes informed by ESPA research.	✓	×	×	*Progress*: 3 PES schemes informed by ESPA research. *2017 Target*: 10 Payment for Ecosystem Service (PES) or equivalent schemes informed by ESPA research.	A Progress meets expectations

Output 4: Developing country-led partnerships and networks formed, delivering ecosystems services and poverty-alleviation research, influencing and impact.							
4.1 Proportion of projects in the ESPA portfolio where developing country institutions and researchers play a significant role in research design and delivery, disaggregated by role on project (PI, co-PI, RA).	4.1.1	55% of SRC projects with developing country researchers listed in project applications.	✓	✓	× (Too early to achieve this)	*Progress*: 84% of projects have developing country staff as part of their project teams. *2017 Target*: 100% of ESPA Projects from the final ESPA call (2014-15) have developing country researchers listed in project applications.	A+ Progress moderately exceeds expectations On track for 2017 target.
	4.1.2	-	No target set	No target set	No target set	*Progress*: The proportion of staff costs going to DC institutions and researchers is within the range of 25-60%.	No target set
4.2 Number of developing country researchers that contribute to the production of high quality, multi/ interdisciplinary research outputs on the links between Ecosystem Services and Poverty Alleviation disaggregated by discipline, level (PI, co-PI, RA) and location of organisation (developing country/UK/other).	4.2.1	-	✓	×	×	*Progress*: 70% of ESPA publications in WOK-listed journals with a developing country author or co-author. (42/60 articles) *2017 Target*: 100% of 2012-13 ESPA projects produce at least one academic research output that is authored and/or co-authored by developing country co-researchers	A Progress meets expectations
	4.2.2	-	× (-1%)	×	×	*Progress*: 20% of ESPA publications in WOK with a developing country lead author (12/60 articles). *2017 Target*: 45% of ESPA publications in WOK with a developing country lead author.	A Progress meets expectations
4.3 **Developing country researchers involved in ESPA projects advise national and international processes that impact on ecosystem services and poverty alleviation.**	4.3.1	-	✓	×	×	*Progress*: 7 developing country researchers who are recognised for the quality of their research by being invited to advise or participate on national or international advisory, planning or decision making bodies related to ecosystem services and poverty alleviation. *2017 Target*: 5 developing country processes and 1 international process that impacts on ecosystem services and development have been influenced by advice or evidence provided by one or more developing country ESPA researchers.	A Progress meets expectations However it is unclear how much progress is being made against the target, given the unit is nor comparable with the 2013/15 milestones

Appendix 7: Academic impact analysis report

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Scientific quality

The scientific quality of the ESPA programme is discussed below in terms of the number of academic outputs it has produced, in terms of the quality of publication outlets of academic outputs, and the number of citations to academic outputs. The breakdown and nature of other outputs is also explored.

What types of outputs are the projects producing?

The research projects funded by the ESPA programme have produced a total of 92 academic publications (which include journal articles, books and book chapters), 18 models and data sets, and 624 other outputs by October 2013.

How productive has the programme been in terms of academic outputs?

To date, the projects funded by ESPA programme have produced a total of 92 academic publications. The majority of these publications are articles (78%), followed by book chapters (15%) and books (7%) (see the table below).

Breakdown of ESPA academic outputs by type.

Output types	Number	%
Books	6	7%
Chapters	14	15%
Articles	72	78%
Total	92	100%

60 (83%) of the articles have been published in peer-reviewed ISI listed journals. This meets ESPA's 2017 target of 60 (Programme logframe indicator 1.2.1). This figure is slightly higher than the one (56) reported in the ESPA Achievements newsletter published in November 2013. The difference is explained by minor ambiguities in the data registered in the output database, which has led to misclassification of a few outputs. Further outputs are likely to materialise from the projects commenced in the first term when the projects mature and results become publishable.

'Academic' outputs have been defined somewhat narrowly to date: only articles, books and book chapters have been considered academic outputs and working papers, reports and conference papers and presentations have been reported as 'other' ESPA outputs. Considering the heterogeneity and large number of other outputs (see below), it could be justified to expand the range of outputs considered 'academic', so as to include working papers, reports and academic conference papers and presentations in the future.

What is the quality and range of publication outlets for academic outputs?

The quality of academic publication outlets is usually characterised on the basis of whether they are peer-reviewed and in terms of their impact factors (IFs). Impact factor is a figure, which reflects the average number of citations to articles that have appeared in a journal in the recent years. Most commonly used are 3-year and 5-year impact factors and they can range from a little over zero to well over 30 in the cases of Nature and Science.

About one fifth (19.5%) of the ESPA articles have been published in journals that have an impact factor of five or larger – these are among the most respected publication outlets in their respective fields. Another 44% per cent of articles have been published in high-impact journals that have impact factors ranging between 2.0 and 4.99. That is, two thirds (63.5%) of the journal articles produced by ESPA projects have been published in journals that have impact factor of 2.00 or higher. This can again be considered a commendable achievement.

ESPA journal articles by impact factor of outlets.

Output types	Number	% of all articles
Articles	72	100.0%
ISI listed	60	83.0%
IF 0.0-1.99	14	19.5%
IF 2.0-4.99	32	44.0%
IF 5.0-40.0	14	19.5%
Other	12	17%

What progress and academic impact has been achieved?

There are a total of 380 citations attributed to the 72 ESPA journal articles published by the mid-term review. This exceeds the Programme's 2017 target of 40 external citations of publications from ESPA projects in research publications. (Programme logframe indicator 1.3.1). The citation count to publications from projects initiated in the first term of ESPA is likely to grow further as a result of the lags between commencing research, publishing results, and gaining citations.

ESPA articles have earned on average five citations, and the average is over 6 for ISI listed journals. While there are ESPA articles that have appeared as early as in 2009, many of them have appeared quite recently: as a pool they could be considered to have been available for citing since 2012 or for two years. This is equates to approximately three citations per year per article published in ISI listed journals. These figures compare well with the average citation counts per year for social scientific and natural scientific journal articles, which are 0.7 and 2.1 citations per year, respectively.

In the table below the academic impact of ESPA articles is examined by comparing how many ESPA articles have met specific benchmarks of disciplinary citation rates. The benchmarks used below are a) average number of citations in social science (SS1x); b) twice the average social science citation count per year (SS2x); c) four times the average social science citation count per year (SS4x); d) twice the natural science (atmospheric science) mean citation count per year (NS2x), and e) four times the average natural science (atmospheric science) citation count per year (NS4x). The second column indicates the numerical value of benchmarks (citations per year). The third column indicates the number of ESPA outputs meeting or exceeding the benchmarks in terms of their citation count. The fourth column indicates the percentage (of ISI listed) articles meeting the benchmarks. In the calculations, total citation counts of articles have been divided by the number of years they have been out since publication, counting the year of publication as the first year. This is somewhat crude measure which suggests comparatively lower citation counts for articles

that have appeared late in the year.

Number of ESPA articles meeting different citation benchmarks

Criteria	Value	No of outputs	% of articles in ISI listed journals
SS 1X	0.7 cit/y	29	48%
SS 2x	1.4 cit/y	20	33%
SS 4x	2.8 cit/y	8	13%
NS 2x	4.2 cit/y	5	8%
NS 4x	8.4 cit/y	3	5%

The Research Excellence Framework (REF) suggests that, in those areas of research where metrics can be used, twice the mean disciplinary citation count would suggest 3* outputs ("quality that is internationally excellent in terms of originality, significance and rigour but which falls short of the highest standards of excellence"), and four times the average citation count to be associated with the best 4* outputs ("quality that is world-leading in terms of originality, significance and rigour").

About 13% of ESPA outputs would meet the four times the mean social science citation count criterion, and 5% would meet the comparable natural science criterion. A third of ESPA outputs have more than double the average social science citation count and 8% meet the same natural science criterion. As already highlighted above, these results reflect the recent vintage of most ESPA academic publications – they have appeared recently, have had limited amount of time to accumulate citations, and will continue to do so in the future.

Another way to look at the quality of publications is to determine to what percentile they belong in terms of citations among the articles published in the same year: this goes some way in addressing the bias against the more recent articles in the above approach. Here the citation counts of ESPA articles are compared to the citation counts to all articles in Geosciences, which encompasses Earth and Environmental Science. The top 10% of articles in terms of citation counts are associated with 4* outputs, the articles in the 10-20% band with 3* articles, and those falling between 20-50% band with 2* ("Quality that is recognised internationally in terms of originality, significance and rigour") articles[24]. When assessed in this way, about 15% of ESPA academic articles published in ISI listed outlets meet the 4* criterion, and another 10% meet the 3* criterion. The results resemble those obtained by using the first approach with social science citation criteria. But even this approach cannot fully account for the relatively large number of outputs published in 2013 which have not had much realistic chance of being cited to date.

Citation percentiles of ESPA articles

Percentile	No of outputs	% of articles in ISI listed journals
10% (4*)	9	15%
20% (3*)	6	10%
50% (2*)	12	20%

[24] Thresholds determined by REF. Articles in 50th percentile have the average number of citations.

Another and somewhat complementary way to look at the academic impact of ESPA outputs is to focus in a more qualitative way on some of the publication highlights to date. The most cited ESPA articles have all been published in natural science focused outlets and report research that has at least substantial, albeit not necessarily exclusive, natural science focus. The article lead-authored by Bradley Cardinale on "Biodiversity loss and its impact on humanity" and published in *Nature* (IF=38.597) in 2012 has already earned 98 citations, making it very highly cited paper. Other highly cited ESPA outputs with a natural scientific focus include a 2009 article lead-authored by J.A. Marengo in *International Journal of Climatology* (IF=2.886) with 52 citations and a 2012 article lead-authored by Georgina Mace in *Trends in Ecology and Evolution* (IF=15.389) with 37 citations. These papers clearly substantiate the ability of ESPA projects to generate high-impact outputs and also highlight the impact of publication date on citation counts.

While the more social science focused research outputs are not in general gaining citations as quickly as the more natural science-oriented one, there are also strong contributions from the social science-focused ESPA outputs. For example, Sarah Coulthard's 2011 article on "Poverty, sustainability and human wellbeing: A social wellbeing approach to the global fisheries crisis" published in *Global Environmental Change* (IF=5.236) has already earned 14 citations, and the 2012 article lead-authored by Lindsay Stringer on "Challenges and opportunities in linking carbon sequestration, livelihoods and ecosystem service provision in drylands" published in Environmental Science & Policy (IF=2.978) has in turn already earned eight citations.

To conclude, there are examples of very highly cited ESPA outputs from both natural science and social science leaning work, and a good proportion of this work has been published in high-impact outlets. Because of their recent vintage, the quality of publication outlets is at the moment a better indicator of research quality than citation counts, as the ESPA outputs are likely to continue to accumulate citations in the next several years. This is particularly true of the more social-science oriented research.

How many of ESPA publications include DC authorship?

The role of developing country authors in the generation of ESPA outputs has been deemed on the basis of affiliations of authors. If an author had a developing country affiliation, he or she was deemed to be a developing country scholar. Developing countries were deemed to be all countries outside of Europe, North America, Australia and Japan. Both first authorship and co-authorship was looked at.

Of the 92 academic ESPA outputs, a total of 16 were first-authored by developing country scholars. This amounted to 17% of the outputs. A total of 39 outputs or 42% of the total were co-authored by developing country scholars. Latin American scholars made up a significant proportion of DC first and co-authors, but also Asian and African scholars appeared as first and co-authors.

The extent of co-authorship of DC country researcher is in line with their proportion of ESPA researchers. About 54% of ESPA researchers were from high-income countries, 19% from middle-income countries and 25% from low-income countries[25].

Model and dataset outputs

By the time of the MTR, ESPA projects had generated eight computer models and 10 datasets. These are typically fairly specific in terms of their substantive and geographic focus. They can be best considered as intermediate outputs from projects necessary as steppingstones for the publication of results.

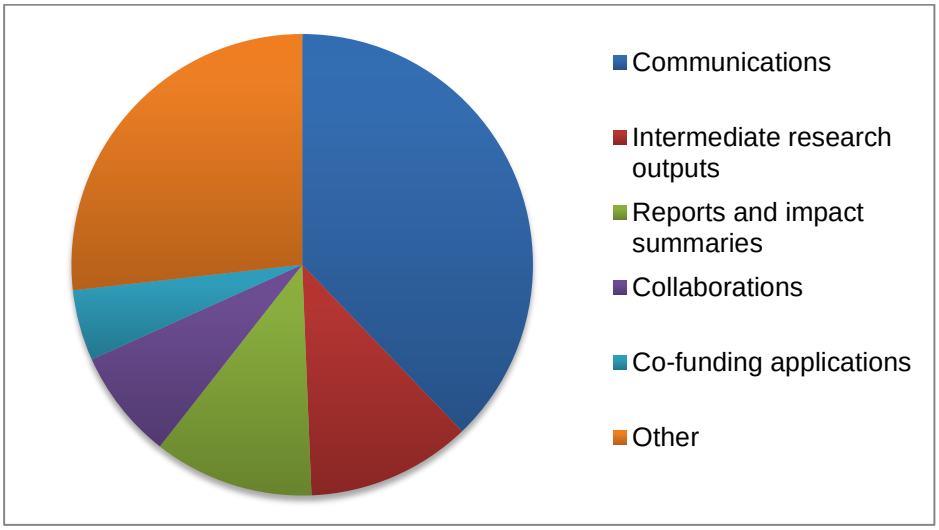
'Other' ESPA outcomes

[25] ESPA Statistics 1-Nov-2013. 3% of 'unknown nationality'

There were a total of 624 'other' ESPA outcomes, which consist of large number of subtypes. Communications of different kinds are the largest sub-category (N=236)**.** There are also

- 72 intermediate research outputs such as working papers, conference papers theses are the second largest group.
- 72 reports and impact summaries
- 48 research collaborations
- 31 co-funding proposal
- 167 other outputs.

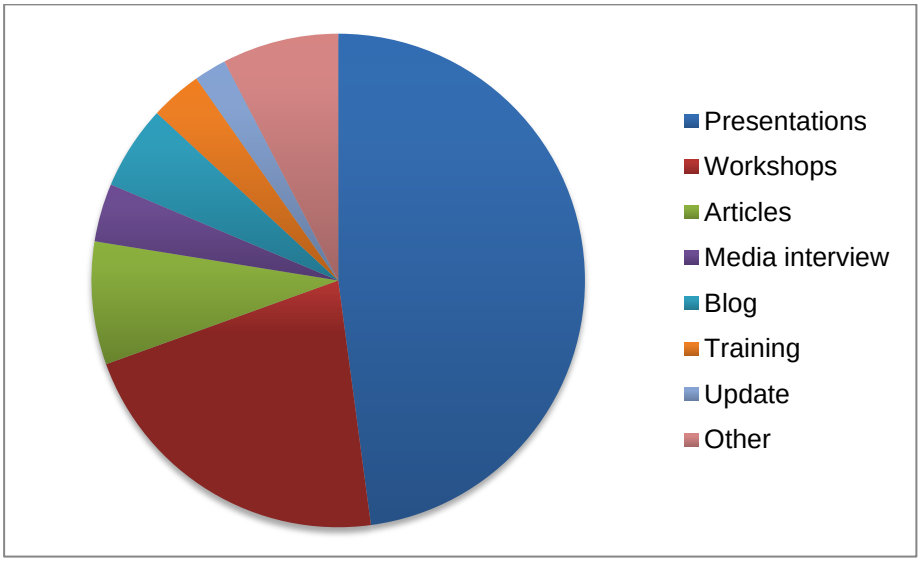
Breakdown of other ESPA outcomes by key types



Communications were the most numerous (236) subcategory of other outputs. Communications include varied outputs such as different kinds of presentations, workshops, newsletters, media interviews and presence, blogs, and articles. Presentations account for almost half of the outputs (N=113), including the presentation of academic papers and posters and talks at varied events. Workshops and events were the second largest category (N=51), encompassing stakeholder and other workshops organised as part of the research process as well as more conventional workshops where results are communicated to academic or research user audiences. Articles (N=19) include research outputs and online and print articles targeted for a wider audience.

Good examples of workshops include the workshops organised by the project NE/I003924/1 in Belgaum in India in December 2011 to understand local perceptions of ecosystem services, changes in the past two decades and interventions to protect or enhance the flows of those ecosystem services. Sixty local villagers attended the workshop from six villages selected for the study in the Western Ghats site. Similar workshops involving a comparable number of participants from local communities were organised in another project site in Palampur. Separate expert and local decision maker workshops complemented the above workshops.

Breakdown of ESPA communication outcomes by key types



Intermediary academic outputs amounted to 72 'other outputs' of ESPA. They included conference papers (31), technical reports (21), working papers (18) and theses (2). There is clear overlap between "communications" and the types of outputs clustered here as "intermediary academic outputs". The implication is that the number of intermediary academic outputs is actually much larger than 72, as many of the presentations referred to above in communications are academic in nature and could have been classified differently.

The remaining 'other outputs' included for example impact summaries and reports (N=70), research collaborations (N=48), co-funding proposals (N=31), as well as policy influence, staff development, panel memberships, prizes and awards and electronic communications. Of these, research collaborations include both collaborations with NGOs and other actors to undertake research, as well as collaborations with governmental and non-governmental entities and networks to communicate results and to manage the impact of research. The latter types of collaborations overlap with outputs reported as "policy influence" which also seek to enhance the impact of ESPA research and its results.

The heterogeneity of 'other outputs' within and across the categories and overlaps between them suggests that in the next phase more attention could be given on reporting. As suggested above, some of the outputs now reported as 'other outputs' could be reported as new categories of academic outputs. The category of 'other outputs' could in this way be confined to primarily non-academic outputs, focused on obtaining resources, having impact and engaging stakeholders.

To what extent have ESPA's research and resulting publications been attributable to activities undertaken through ESPA projects?

The list of excluded outputs reflects a level of scrutiny regarding what is recognised as an ESPA output. A good number of excluded outputs were reported twice and were removed to avoid double counting. The relevance/fit to ESPA goals have been another key factor leading to exclusion of outputs.

What capacity building outcomes have been seen to date?

The review of other ESPA outputs suggests that it is difficult to discern what amounts to capacity building. There are some theses, staff development and training events but most of the capacity building would take place "on the job" and be reflected in DC authorship (which would give very good assessment of capacity building). Other areas of reporting are similarly un-transparent about capacity building. Therefore, it is difficult to make informed judgment on capacity building on the basis of evidence.

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