Building Awareness of the Ecosystem Approach

Edward Maltby and Roger Crofts

A partnership initiative of DEFRA, JNCC and RHIER

RHIER
Royal Holloway Institute for Environmental Research

Programme

- The Ecosystem Approach
- Interpreting The Ecosystem Approach
- Helping deliver WSSD
- Practical examples
- Discussion groups on implementation
- Implications for policy, legislation, organisation and practice
- Reporting progress and conclusions

RHIER
Royal Holloway Institute for Environmental Research

Changing Approaches to Conservation

1960s	Single species management
1970 -80's	Protected Areas
1990's	Integrated conservation and development projects
2000	Holistic, multi-stakeholder broad-scale approach (eco-region based conservation)

RHIER
Royal Holloway Institute for Environmental Research

CBD and ecosystems

- ‘Fundamental requirement for the conservation of biological diversity is the *in situ* conservation of the ecosystems…’
- ‘ecosystem means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit’

RHIER
Royal Holloway Institute for Environmental Research

Ecosystem Services

(Constanza et al. 1997)

- Gas regulation
- Climate regulation
- Disturbance regulation
- Water regulation
- Water supply
- Erosion control/sediment retention
- Soil formation
- Nutrient cycling
- Waste treatment
- Pollination
- Biological Control
- Refugia
- Food production
- Rain materials
- Genetic resources
- Recreation
- Cultural

RHIER
Royal Holloway Institute for Environmental Research

Values

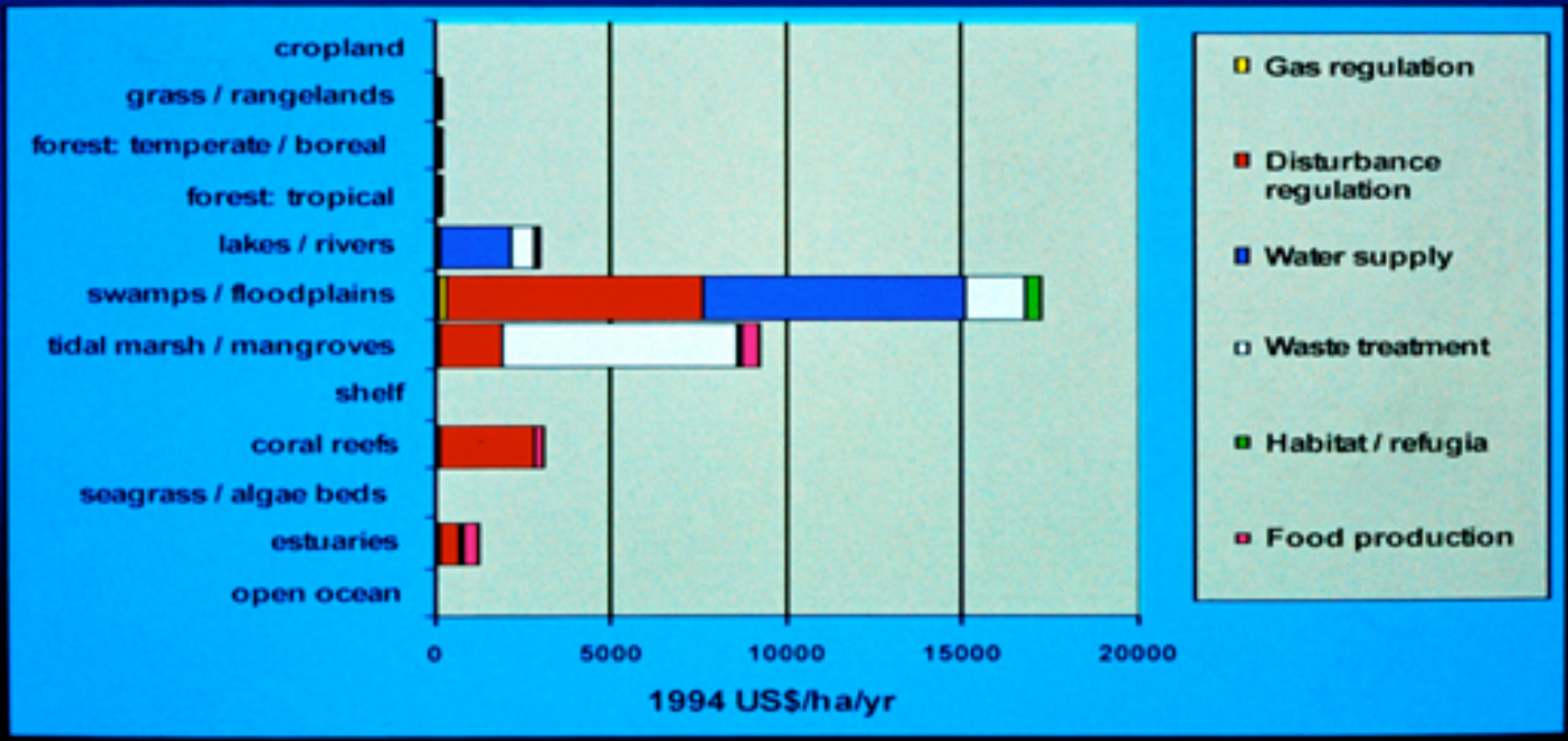
- Services to ecological systems $16-54 trillion per annum ($33 trillion p.a. avg)
- Global GNP - $18 trillion ($10^{12}$) per annum

- (Constanza et al. 1997)

RHIER
Royal Holloway Institute for Environmental Research

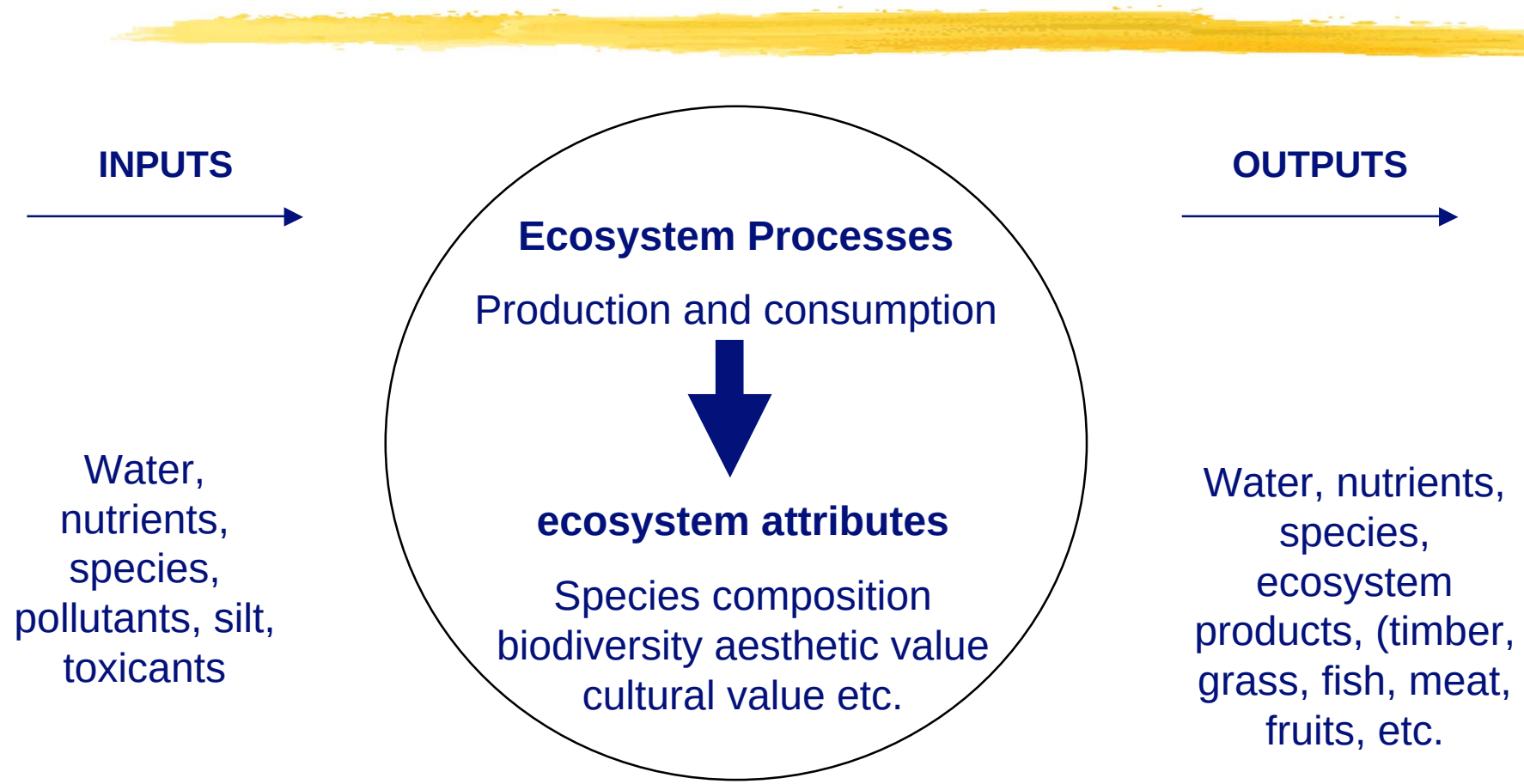
Average global value of selected annual ecosystem services

Source: Costanza *et al.* 1997



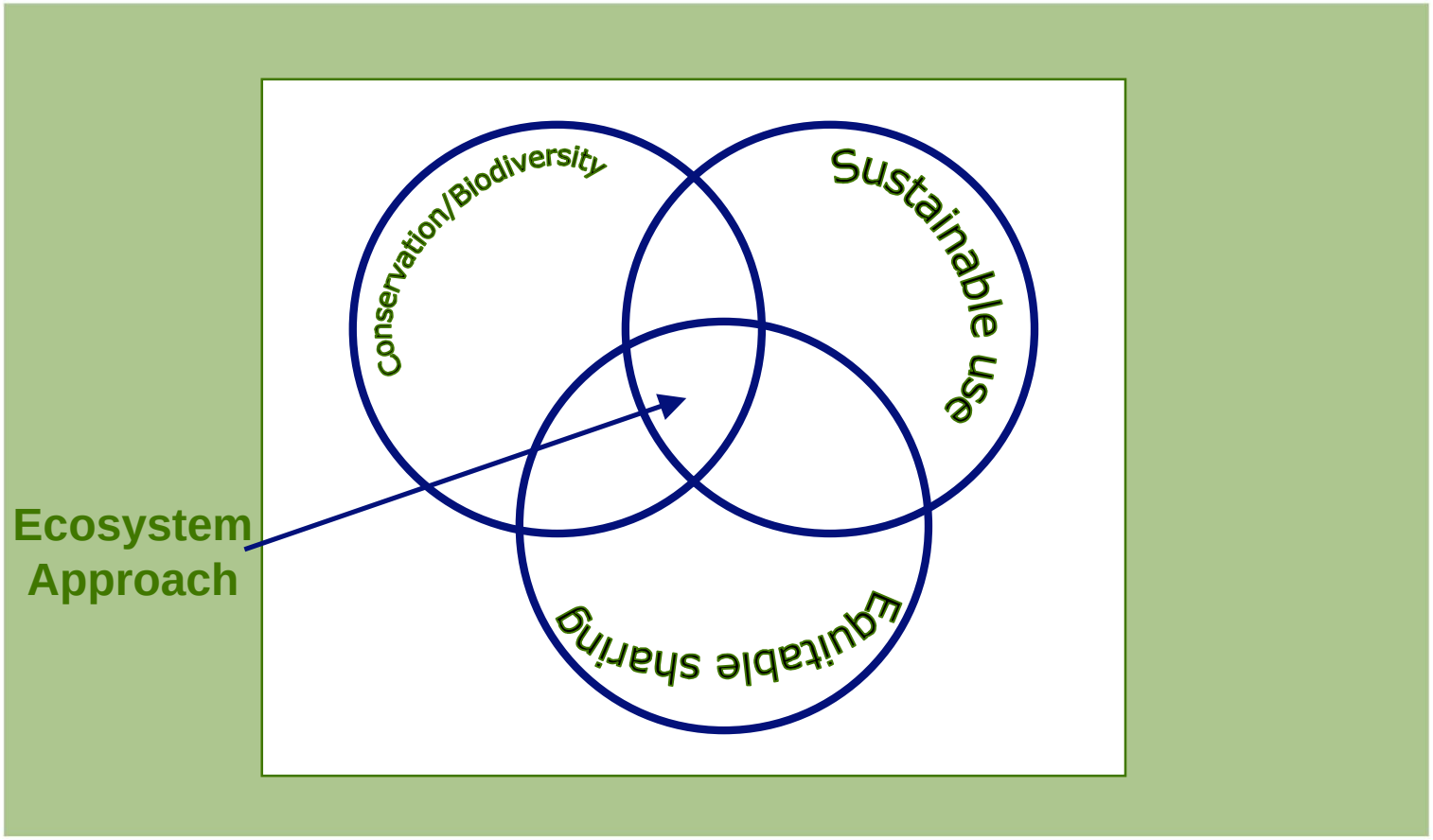
RHIER
Royal Holloway Institute for Environmental Research

Ecosystem Service	Ecosystem Function	Society Benefit
Soil formation	Support soil formation processes	Long-term natural capital for food and fibre maintained
Erosion Control	Retail within system	Greater natural production capacity, less use of artificial production stimulants
Water Regulation	Regulation of hydrological flows	Reduced flood risk to farmland and settlements, provision of wildlife sanctuaries and recreational use, waste sink
Landscape and biological diversity	Retain diversity of life forms and landscapes	Emotional, health, recreational and economic benefits and more wildlife



RHIER
Royal Holloway Institute for Environmental Research

Ecosystem Approach



RHIER
Royal Holloway Institute for Environmental Research

CBD COP V/6 ecosystem approach

- ‘The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way…. Application will help to reach a balance of the three objectives of the Convention.’

RHIER
Royal Holloway Institute for Environmental Research

Present approach

- observing and tracking trends,
- identifying causal effects,
- implementing Action Plans (species focus),
- influencing perverse policies and subsidies,
- ‘protect and preserve’,
- protected areas small and disconnected,
- habitats fragmented,
- policy shifts very slow,
- ecosystem dynamics marginalised

RHIER
Royal Holloway Institute for Environmental Research

Present approach

- sectoral policies and subsidies
- Top down process with limited stakeholder engagement
- Focus on species and protected areas
- Environmental functions ignored

RHIER
Royal Holloway Institute for Environmental Research

An emerging new paradigm

- Different ecosystems with different functional and biodiversity characteristics can occupy the same global space.
- Ecosystems are dynamic and respond to environmental as well as human-induced changes
- Human societies have been a key determinant of change since prehistoric times.
- “Recombinant Biology” is likely to be increasingly important
- Increasing recognition of links between ecosystem functioning, natural resource use and economic and conservation strategies.

≈RHIER≈
Royal Holloway Institute for Environmental Research

EsA demands paradigm shift

FROM	TO
Preservation	Adaptive Management
Sectoral	Integrated
Scientific	Multifaceted Knowledge
Environmental	People and Environment
Top Down	Both Directions
National	Appropriate Level
Conservationist	All Stakeholders
Nature	Social and Environmental well-being

≈RHIER≈
Royal Holloway Institute for Environmental Research

The ecosystem approach according to the CBD

- A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.
- Based on the application of appropriate scientific methodologies focused on levels of biological organisation, which encompass the essential structure, process, functions and interactions among organisms and their environment.
- Recognises that humans, with their cultural diversity, are an integral component of many ecosystems.

RHIER
Royal Holloway Institute for Environmental Research

Why take an ecosystem approach?

Classical nature conservation approaches as sole tool may:

- 1 - Lack recognition of importance of ecosystem functioning.
- 2 - Ignore site interlinkage.
- 3 - Ignore interlinkage of nature & culture
- 4 - Focus on species or protected areas.
- 5 - Lack of stakeholder participation in management of ecosystem
- 6 - Inappropriate division of costs & benefits
- 7 - Sectoral interests not integrated

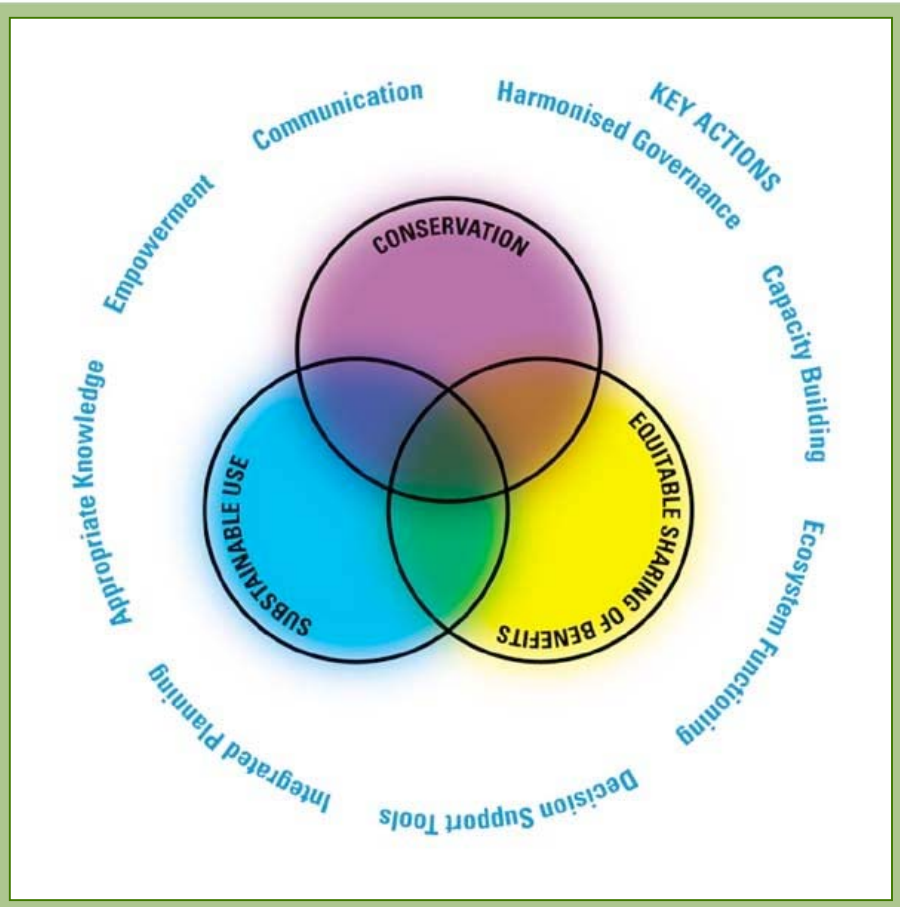
RHIER
Royal Holloway Institute for Environmental Research

An ecosystem approach:

- **1** - Defines appropriate management Level.
- **2** - Functioning ecosystems essential & dependent on biological diversity
- **3** - Understanding ecosystem sustainable use.
- **4** - People use and move between different ecosystems.
- **5** - Humans are residents of ecosystems
- **6** - Use of all sources of knowledge for best management
- **7** - Appropriate emphasis on goods, services and information such as:
  - Food
  - Construction materials
  - Medicine, biochemical & genetic information for pharmaceuticals
  - Wild genes for domestic plants & animals
  - Tourism and recreation
  - Maintaining the gaseous composition of the atmosphere and regulating climate
  - Pollinating crops and other important plants

≈RHIER≈
Royal Holloway Institute for Environmental Research

THE ECOSYSTEM APPROACH AND SOME KEY ACTIONS



RHIER
Royal Holloway Institute for Environmental Research

DELIVERING THE WSSD COMMITMENTS

The contribution of the Ecosystem Approach

WSSD KEY ELEMENTS

Interdependent and mutually reinforcing integration of 3 SD elements **through**

(1) Poverty eradication

(2) Changing unsustainable production and consumption

(3) Protecting and managing natural resource base of economic and social development

≈RHIER≈
Royal Holloway Institute for Environmental Research

Poverty eradication

- Environmentally sustainable systems of agriculture, and other production
- Developing skills for managing natural resources
- Working with nature on flood alleviation
- Development of renewable energy

RHIER
Royal Holloway Institute for Environmental Research

Changing unsustainable production and consumption

- Science-based assessments
- Methodology for internalising costs and measuring outcomes
- Integrated approach to policy
- Awareness raising and capacity building

RHIER
Royal Holloway Institute for Environmental Research

Protecting and managing natural resource base of development

- Integrated approach to resource management at appropriate scale
- Scientific understanding of resource management, including risks
- Reduction in loss of biodiversity
- Reduction in contribution to global warming

RHIER
Royal Holloway Institute for Environmental Research

How the Ecosystem Approach can help (1)

- Produce integrated strategies and actions for ecosystems, eg basins, mountains, coasts
- Focus on functional relationships
- Assess natural resource capacity
- Use scientific knowledge
- Develop monitoring and review mechanisms
- Raise awareness and build capacity

RHIER
Royal Holloway Institute for Environmental Research

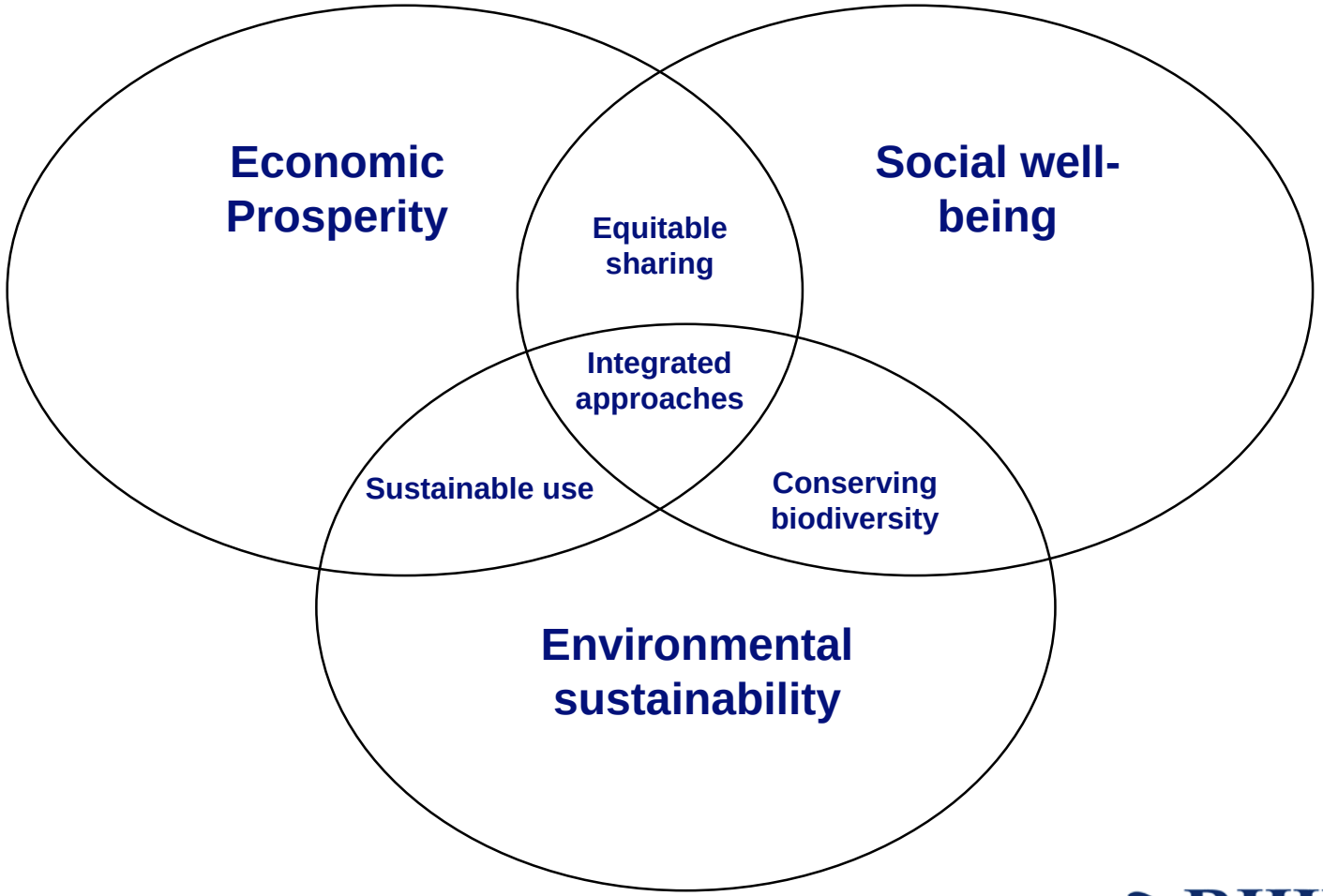
How the Ecosystem Approach can help (2)

‘Promote the wide implementation and further development of the Ecosystem Approach’

- Promote sustainable use of resources
- Identify biodiversity hot spots
- Develop ecological networks and corridors
- Biodiversity objectives in all relevant plans
- Promote participation in society

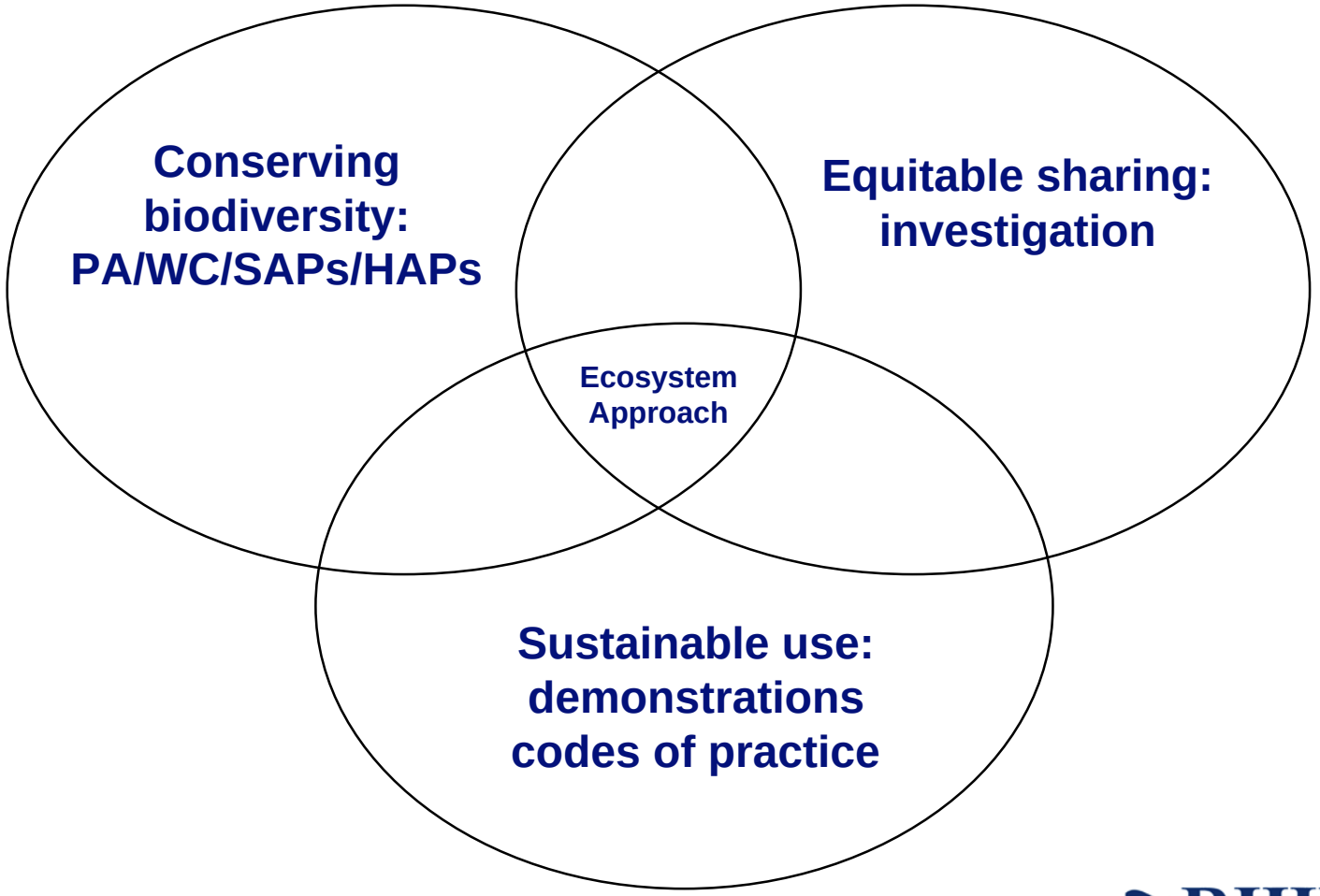
RHIER
Royal Holloway Institute for Environmental Research

Implementing the CBD - where we should be



RHIER
Royal Holloway Institute for Environmental Research

Implementing the CBD – how we get there



RHIER
Royal Holloway Institute for Environmental Research

Biodiversity's Contribution to Sustainable Development

	Economic Prosperity	Effective Environment Protection	Social Progress	Prudent Use Natural Resources	Total
Ecosystem Services	5	5	4	5	19
Sustainable Use	4	3	4	5	16
Genetic Resources	3	4	3	5	15
Equitable Sharing	4	3	5	5	17
Nature Itself	1	5	5	3	14
Individual Species	3	3	3	2	11
Species and Habitat	2	5	3	4	14
Protected Areas	4	5	5	5	19
Total	26	33	32	34	

RHIER
Royal Holloway Institute for Environmental Research

WSSD PO1 In Context of Oceans, Islands, Coastal Areas

- Encourage application by 2010 (noting Reykjavik Declaration/COP V/6)
- Develop and facilitate diverse approaches and tools (sustainability, food security, ecosystem maintenance)
- Recognises need for protected areas, scientific principles, ‘proper’ coastal land use, watershed planning, sectoral integration of marine and coastal management.

≈RHIER≈
Royal Holloway Institute for Environmental Research

In context of biodiversity

- Promote wide implementation and further development
- Integrate into global, regional and national sectoral and cross-sectoral programmes and policies, especially economic and financial institutions
- Recognise the rights of local people
- Encourage and enable all stakeholders to participate

RHIER
Royal Holloway Institute for Environmental Research

In context of sustainable development for Africa

- Protect water resources
- Establish and support national and cross-border conservation areas to promote conservation according to EA
- Develop and implement integrated river basin and watershed management strategies and plans for all water bodies

≈RHIER≈
Royal Holloway Institute for Environmental Research

Develop integrated water resources management and water efficiency plans by 2005 (WSSD)

In Europe

- Implementation of Water Framework Directive
- Good status for all waters within 15 years
- Threats – excessive pollution, abstraction, transfer
- Lack of coordination.

RHIER
Royal Holloway Institute for Environmental Research

Towards a solution

- One system for water management
  - Ecological status
  - River basin natural hydrological unit
  - Obligatory cross-boundary coordination
  - River basin management plan for each basin
  - Program of measures and supplementary measures
  - Economic analysis/derogations

RHIER
Royal Holloway Institute for Environmental Research

River basin coordination

- Objectives for whole river basin
- Analyse impacts and determine status
- Identify measures needed
- Establish monitoring
- Register of protected areas

RHIER
Royal Holloway Institute for Environmental Research

River basin coordination

- Transparency involves public and users
- Common ecological objectives
- Single management system
- Monitoring and data collection
- Integrated planning
- Review

≈RHIER≈
Royal Holloway Institute for Environmental Research

CBD COP Decision V/6

- Endorses description of Ecosystem Approach
- Recommends its application
- Seeks case studies, demonstrations and workshops
- Requests technical and financial support for capacity building
- Seeks regional co-operation
- Requests reports of progress to COP VII

≈RHIER≈
Royal Holloway Institute for Environmental Research

Some steps in developing the Ecosystem Approach under the CBD

June '95	**Inter-Agency Task Force, USA** - outline framework; barriers
June '96	**Sibthorp Seminar, UK** - 'traditional approach' questioned
Sep '96	**Task Group, Canada** - challenges identified; case studies
Oct '96	**Keystone Policy Dialogue, USA** - disparate values can be accommodated; recommendations for implementation
Sep '97	**SBSTTA3 informal meeting** - implications for CBD examined
Jan '98	**Malawi workshop** - 12 Principles
May '98	**GBF 10, Bratislava** - adaptive management
Nov '98	**Vilm workshop** - European case studies
April '99	**Scottish Natural Heritage** - integrated planning / different scales
May '99	**CEM tech. mtg., Costa Rica** - policy alignment needed
Sep '99	**Norway/UN** - improved understanding of the Malawi Principles
Sep '99	**CBD Liaison Group** - synthesis of progress
Feb '00	**SBSTTA5** - recommends Malawi Principles
May '00	**COP5** - calls for case studies to assist application of the approach
Jul-Nov '00	**Regional Pathfinder Workshops**
2001-	**SBSTTA** - to produce guidelines for implementation based on case studies and lessons learned
Oct '02	**Vilm Workshop** - further elaboration of principles and case studies

≈RHIER≈
Royal Holloway Institute for Environmental Research

The Ecosystem Approach Principles, 1- 5 (DECISION V/6 CBD, 2000)

- **1** - The objectives of management of land, water and living resources are a matter of societal choice.
- **2** - Management should be decentralised to the lowest appropriate level.
- **3** - Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
- **4** - Recognising potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should:
  - **a)** Reduce those market distortions that adversely affect biological diversity;
  - **b)** Align incentives to promote biodiversity conservation and sustainable use;
  - **c)** Internalise costs and benefits in the given ecosystem to the extent feasible.
- **5** - Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.

RHIER
Royal Holloway Institute for Environmental Research

The Ecosystem Approach Principles, 6 - 12 (DECISION V/6, CBD, 2000)

- **6** - Ecosystems must be managed within the limits of their functioning.
- **7** - The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.
- **8** - Recognising the varying temporal scales and lag-effects that characterise ecosystem processes, objectives for ecosystem management should be set for the long term.
- **9** - Management must recognise that change is inevitable.
- **10** - The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
- **11** - The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
- **12** - The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

RHIER
Royal Holloway Institute for Environmental Research

The Ecosystem Approach Operational Guidelines (DECISION V/6, CBD, 2000)

- **1** - Focus on the functional relationships and processes within ecosystems
- **2** - Enhance benefit-sharing
- **3** - Use adaptive management practices
- **4** - Carry out management actions at the scale appropriate for the issue being addressed, with decentralisation to the lowest level, as appropriate
- **5** - Ensure intersectoral cooperation

RHIER
Royal Holloway Institute for Environmental Research

Salient features

- There is no single or unique ecosystem approach
- The final goals of the approaches acknowledge human participation and interests
- Emphasis is on maintaining the interactions within and functioning of natural systems
- The approach may be applied over a wide range of scales
- There may be many instances of applying an ecosystem approach without it being referred to as such

Issues from Friday's seminar

- ESA term unhelpful!
- Scale of application? Regions in England, scale appropriate to circumstance....not rigid
- Practical application? for major development decisions, eg airports
- Information on effectiveness of application?
- Link to biodiversity? Sufficient mindset change?
- Implementation through applying Darwin in UK?

RHIER
Royal Holloway Institute for Environmental Research

What it means in practice: species protection

Totemic species e.g. caper

Present + local pride, visitor satisfaction, local and regional economic benefit,

- loss of habitat to development, disturbance by visitors, protection imposed,

EsA: use of scientific and local knowledge, take account of effects of actions elsewhere, appropriate scale, all stakeholders, changes in practice

RHIER
Royal Holloway Institute for Environmental Research

What it means in practice: the coast

- Present position: rising sea level, loss of property, economic loss, habitat loss, loss of recreation space
- Traditional approach: hard engineering, with up and down coast negative effects
- EsA: use of scientific and local knowledge, stakeholder agreement of objectives and implementation, novel techniques of soft engineering

What it means in practice: agriculture

Present + food supply at affordable price

But - cost, biodiversity effect, landscape effect, natural systems effects

Applying EsA + view beyond farm, beyond food production, engagement other stakeholders, agreement on farmers wider roles and outputs: biodiversity, landscape, access, soil, water and flooding, reduction in deleterious inputs, new incentives and codes of practice.

RHIER
Royal Holloway Institute for Environmental Research

West Country Rivers Trust Objectives

- To secure the preservation, protection and improvement of watercourses in the West Country.
- To advance the education of the public in water management.
- This is achieved through.....
  - Adopting Ecosystem Approach
  - Research, Practical advice to land managers, Catchment Scale Projects, Environmental Education and the use of Demonstration sites.

RHIER
Royal Holloway Institute for Environmental Research

Tamar 2000 Support Project

- SUPPORT project (SUstainable Practices Project On the River Tamar)
- Combines knowledge and skills of scientists, landowners, experts in wildlife, land management and the environment over the whole catchment.
- Co-ordinated, integrated, large-scale catchment approach
- Applies techniques tried and tested on a small-acale over the whole catchment
- Re-establishment of wetlands will mitigate many of adverse effects of current agricultural practices
- Ultimate aim: testing, proving and delivery at a modest cost of a holistic and collaborative approach that encourages land owners to adopt more environmentally friendly management techniques

RHIER
Royal Holloway Institute for Environmental Research

Major Project Outputs To Date

- 1000+ farmers & landowners given advice
- 700+ Integrated Land & River Management Plans
- 100 km+ vulnerable riverbank fenced
- 16 wetlands restored/improved
- 32+ km ditches prioritised for re-vegetation
- 200+ sites of accelerated erosion controlled
- 14 demonstration sites developed and operational
- 180+ sites of habitat improvement
- 50+ buffer zones created……..

≈RHIER≈
Royal Holloway Institute for Environmental Research

How has this been achieved?

To restore and conserve environmental quality for both people and wildlife while delivering economic gains.

- Close working relations with farmers, riparian owners and wider community
- Incorporation of sectoral interests
- Practical demonstration of simple techniques
- Guidance notes and support measures
- Appropriate (catchment) scale

Lessons: Building confidence of stakeholders, voluntary participation, importance of economic benefits

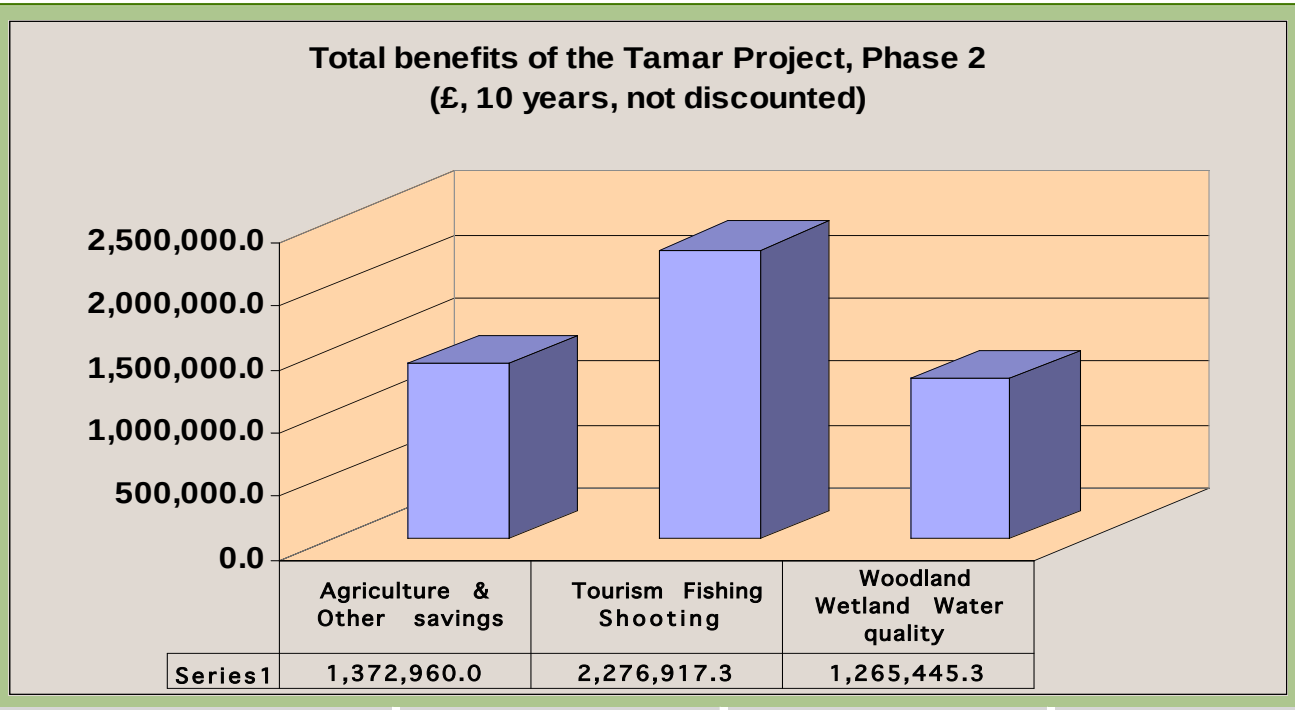
≈RHIER≈
Royal Holloway Institute for Environmental Research

- Fencing and rotational clearing of ditches to encourage vegetation, attenuating run off, reducing sediment delivery and diffuse pollution

- Improved track and stream crossing to minimise sediment inputs

RHIER
Royal Holloway Institute for Environmental Research

Total benefits of the Tamar Project, Phase 2



BENEFIT/COST RATIO	DIRECT Benefit/ Cost	INDIRECT Benefit/ Cost	TOTAL Benefit/ Cost
without discounting	4.3	3.9	8.2
with discounting (6%)	3.4	3.0	6.4

RHIER
Royal Holloway Institute for Environmental Research

Economic, Environmental & Social Benefits

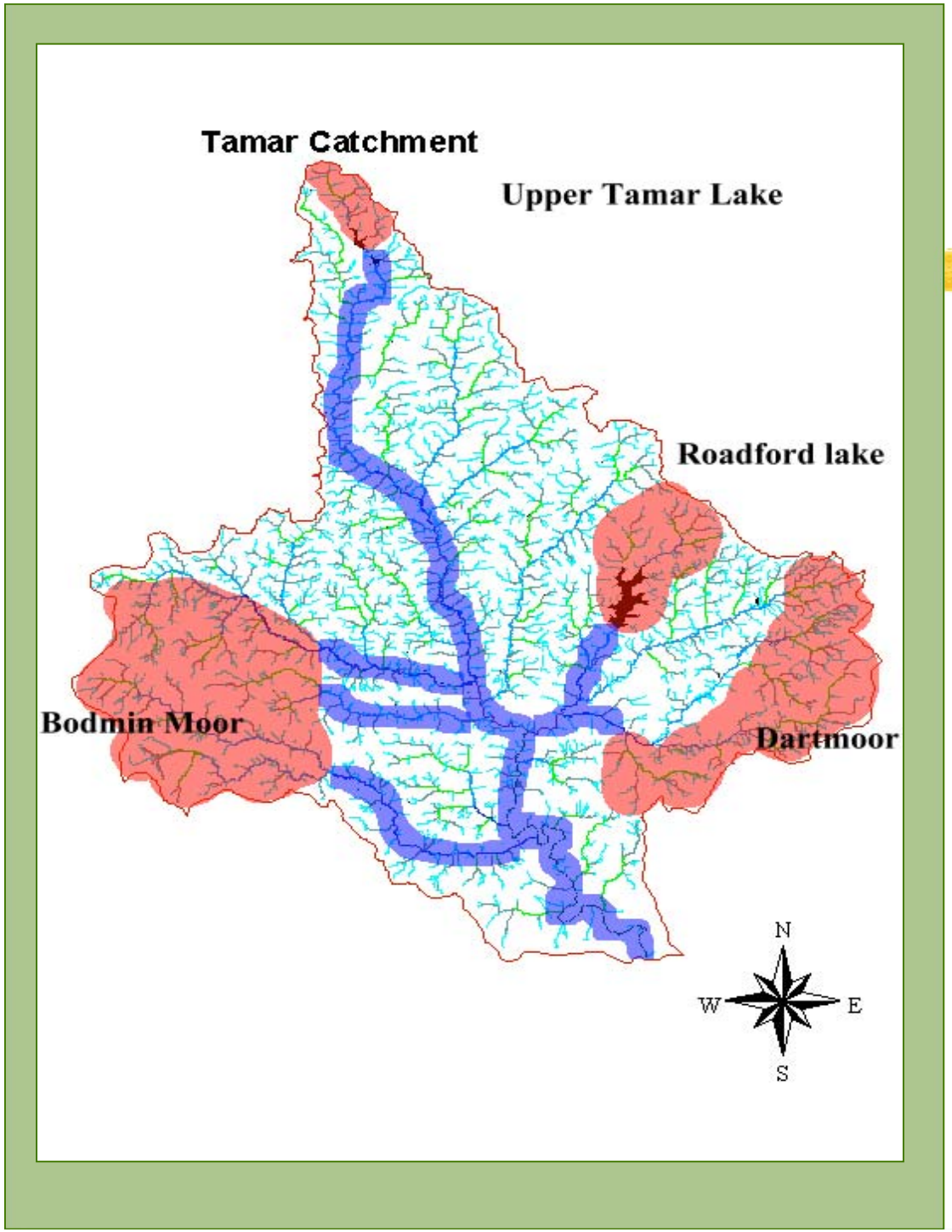
- DIRECT BENEFITS predominantly to farmers - average £2,300 per farm, for example through optimising farm inputs, water separation and leak reduction, improved stock health, diversification.

- INDIRECT BENEFITS to community, tourist & anglers - difficult to value, examples include improved water quality, flow regime, improved wildlife habitats and fisheries.

RHIER
Royal Holloway Institute for Environmental Research

Some Comparisons

EA	WFD
Societal choice, consider all information	Public consultation
Economic context	Economic analysis
Structure and functioning	Ecological quality
Appropriate scale effects on other ecosystems	River basin
Change inevitable long-term	Review planning
Involve all relevant sectors	Best practice by sector, issue and joined-up action
Manage within functional limits	Derogations
Management at lowest appropriate level	Appropriate administrative arrangements



Bio-Regional Approach at River Basin Scale

- Begin with protection of key headwaters and water supply reservoir catchments
- Provide buffered corridors for water transmission and to link up fragmented habitats

RHIER
Royal Holloway Institute for Environmental Research

What we need to do ……

- A new vision for agriculture and the countryside is required
- Develop indirect economic and environmental indicators
- Implement the Ecosystem Approach
- Give consideration to Bio-regional Planning at catchment scale
- Empower communities to take action

RHIER
Royal Holloway Institute for Environmental Research

Pathfinder workshops: from concept to action

- Use case studies to provide lessons for practical implementation of the EA
  - Problem abatement
  - Description
  - Features highlighting EA
  - Lessons learned
- Global scope – Southern Africa, South America, SE Asia
- Partnership activity – IUCN (CEM), UNESCO, WWF, RAMSAR, CBD, RHIER, National bodies

RHIER
Royal Holloway Institute for Environmental Research

Key Objectives

- Build awareness
- Examine constraints with stakeholders
- Identify opportunities for action
- Identify key measures for implementation
- Indicate capacity building priorities
- Suggest where other approaches more appropriate

RHIER
Royal Holloway Institute for Environmental Research

Case study: Zambezi Basin wetlands

Problem: conserve wetland ecosystems **and** facilitate sustainable use

Description: integrated, multinational approach; wetlands conservation and community well-being

Achievements: Zambezi basin biodiversity assessment; resource-based management regimes; economic evaluation wetland resources; enhanced social & economic conditions

Features: socio-economic conditions before conservation; multiscale approach – basin to village

≈RHIER≈
Royal Holloway Institute for Environmental Research

Case study: Zambezi Basin wetlands - lessons

- Conservation/sustainable use impossible unless education, health, gender equity, transport and incomes improved
- Local level resource valuation improved awareness
- Popular media important
- Biodiversity report needs to be packaged according to stakeholder needs

≈RHIER≈
Royal Holloway Institute for Environmental Research

Case study: Choco Ecoregional Project,

Problem: biodiversity jewel threatened by socio-economic and development pressures

Description: WWF questioned conservation priority; regional project with range of objectives: protection indigenous people, sustainable forestry and agriculture, strengthening capacity, influencing regional policies

≈RHIER≈
Royal Holloway Institute for Environmental Research

Case study: Choco, Colombia

Achievements: variety protected areas; forestry management plan; sustainable forestry/agriculture systems; reduced erosion; improved stock rearing; capacity built

Features: ecosytems functional relations & adaptive management ignored; locals recognised as ecosystem beneficiaries; variety of scales important; institutional alliances

RHIER
Royal Holloway Institute for Environmental Research

Case study: Choco - lessons

- Indigenous information essential
- Territorial management reliant on local communities
- Inter-institutional alliances effective for delivery of policy and decisions

RHIER
Royal Holloway Institute for Environmental Research

Case study: Galapagos Marine Reserve

Problem: major conflict between fishermen and other users

Description: legally weak; institutional capacity insufficient; management plan rigid, not known by fishermen and not implemented

Achievements: New participatory process for biodiversity conservation, human benefit, science and education involving all stakeholders

- Core group local stakeholders
- New management plan
- Special law
- Area Reserve extended
- Industrial fishing prohibited

RHIER
Royal Holloway Institute for Environmental Research

Case study: Galapagos Marine Reserve

Features: goods and services assessed; all beneficiaries/ stakeholders identified; appropriate scale management; need for adaptive strategy; flexible decision making to cope with change

RHIER
Royal Holloway Institute for Environmental Research

Case study: Galapagos Marine Reserve - Lessons

- Solution achieved by engaging all stakeholders
- Appraisal natural resources generates political and economic interest
- High level of communication and political support necessary

RHIER
Royal Holloway Institute for Environmental Research

Ameliorating land degradation, Mekong Delta

Problem: increase acid sulphate soils; drainage; severe reduction productivity, economic benefit, environmental quality, health; economic & social pressures

Achievements: research outcomes – *Melaluca* forest improves water quality, reduces acidity, delivers biodiversity & other use benefits; demo plots, farmer education, integrated system

≈RHIER≈
Royal Holloway Institute for Environmental Research

Case study: Mekong Delta - Features

- Balance wetland conservation/agriculture
- Understanding ecosystem functioning
- Ecosystem benefits captured
- Poverty alleviation main driver
- Working with individual farmers
- Inter-sectoral cooperation

≈RHIER≈
Royal Holloway Institute for Environmental Research

Case study: Mekong Delta - Lessons

- Integrated *Melaluca* reafforestation practicable
- Essential to work with individuals & address socio-economic priorities as entry point
- Natural ecosystem functioning can overcome environmental degradation & economic loss

≈RHIER≈
Royal Holloway Institute for Environmental Research

Implementing the ESA: discussion & report back

- What good examples of integrated solutions equivalent to Ecosystem Approach to show case?
- What opportunities for using the Ecosystem Approach and constraints to be removed?

RHIER
Royal Holloway Institute for Environmental Research

Policy challenges

The process: from prescription to choice using collaborative process

Policy: integration and coherence

Policy: review biodiversity strategies to meet EsA

Incentives: review to test perversity/synergy

Incentives: devise incentives to provide multiple benefits and compliance

Taxes: to stimulate new behaviour change towards the environment

RHIER
Royal Holloway Institute for Environmental Research

Legislative change

- Formal duties for sustainable development on administrations, departments and bodies
- Wider basis for biodiversity duty to embrace all aspects of CBD
- Regulations; where appropriate in relation to ecosystem damage and proper functioning, eg water , forestry, agriculture

RHIER
Royal Holloway Institute for Environmental Research

Organisational change

- Culture of co-operation between and within organisations
- Inter-organisational liaison mechanisms
- Establish multi stakeholder collaboration mechanisms
- Delegation to lowest appropriate level within national framework
- Scale of delivery takes into account natural systems operation

RHIER
Royal Holloway Institute for Environmental Research

Increasing understanding

- Environmental accounting: intangibles,eg ecosystem services
- Environmental footprint assessments
- Audits of trends and causal effects
- Practical guidance on carrying capacity and critical limits
- Show case adaptive management methods
- Model changes and effects
- Wider roles for protected areas

RHIER
Royal Holloway Institute for Environmental Research

Building awareness

- Provide guidance and explanation
- Encourage case studies and demonstrations
- Convene workshops
- Bring scientific understanding to all
- Use traditional and local knowledge
- Bring on board hostile and apathetic interests

RHIER
Royal Holloway Institute for Environmental Research

Overall Results

- Misconceptions still exist
- Case studies rarely recognised relevance of all principles
- Significance of structural/institutional issues
- Benefit sharing and incentives extremely important
- Wide-ranging scale of implementation
- Relationship to other conservation strategies needs clarification
- Guidance required on mainstreaming the EA
- Considerable capacity building needs
- Strong regional/case study variations

≈RHIER≈
Royal Holloway Institute for Environmental Research

Some next steps

- Facilitate access to case studies/analyses
- Promote relevance to implementation wide-ranging environmental legislation/policy
- Encourage new pilot projects
- Develop guidance on application
- Examine means of integration with existing structures
- Analyse capacity building needs
- Determine ways of involving non-conservation community

RHIER
Royal Holloway Institute for Environmental Research

Reporting progress

- National Focal Point for CBD key role
- Should be able to report progress on guidance and explanation, case studies and demonstrations, workshops, stakeholder input, incorporation in BAPs, means measuring progress

RHIER
Royal Holloway Institute for Environmental Research

Headlines from Friday's seminar

- Hard-edged serious management approach
- Conceptual and practical basis for implementing biodiversity and sustainable development agendas
- Build on existing approaches rather than totally new start

RHIER
Royal Holloway Institute for Environmental Research