

Managing risks to create opportunities

IFAD's Social, Environmental and Climate Assessment Procedures



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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AFDB	African Development Bank
ASAP	Adaptation for Smallholder Agriculture Programme
CI	Conservation International
COSOP	Country Strategic Opportunities Programme
CPMT	Country Programme Management Team
DBSA	Development Bank of South Africa
DRM	Disaster Risk Management
EB	Executive Board
ECCA	Environmental and Climate Change Assessment
ECD	Environment and Climate Division
ENRM	Environment and Natural Resources Management
ESIA	Environment and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
FAO	Food and Agriculture Organization of the United Nations
FPIC	Free Prior and Informed Consent
FSP	Financial Service Provider
GEF	Global Environment Facility
GS	Guidance Statements
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
IFDC	International Centre for Soil Fertility and Agricultural Development
ILRI	International Livestock Research Institute
IPP	Indigenous Peoples Plan
IUCN	International Union of Conservation and Nature
LDCF	Least Developing Countries Fund
MFI	Multilateral Financial Institution
NRM	Natural Resource Management
OECD	Organisation for Economic Co-operation and Development
OSC	Operational Strategy and Policy Guidance Committee
PB	President's Bulletin
PCR	Physical Cultural Resources
PDR	Project Design Report
PMP	Pest Management Plan
PPP	Policy, Plan, Programme
PRSP	Poverty Reduction Strategy Paper
PTA	Policy and Technical Advisory Division
QA	Quality Assurance
QE	Quality Enhancement
RAF	Resettlement Action Framework
RAP	Resettlement Action Plan

RIMS	Results and Impact Management System
SECAP	Social, Environmental, and Climate Assessment Procedures
SCCF	Special Climate Change Fund
UNIDO	United Nations Industrial Development Organisation
WB	World Bank
WSSD	World Summit on Sustainable Development
WWF	World Wildlife Fund

Executive summary

IFAD's commitment to advancing sustainable development

1. As a development institution, IFAD has been involved in addressing environmental and social issues for many years. IFAD's Environmental and Social Assessment Procedures (ESAP) were reviewed by the Executive Board in April 2009.¹ The procedures established guiding principles and defined a course of action to assess environmental and social risks in projects. This document sets out revised Social, Environmental and Climate Assessment Procedures (SECAP).

Why has IFAD revised its environmental and social procedures?

2. Revised procedures are needed to (i) apply lessons learned over five years' of implementing ESAP, (ii) align more closely with similar safeguard standards and practices across multilateral financial institutions as the standards of the Global Environment Facility, and (iii) reflect a range of new policies and initiatives in IFAD since 2009 such as the Environment and Natural Resource Management (NRM) Policy² (2011), the Climate Change Strategy³ (2010), and (iv) complement other relevant policies⁴ – including a new commitment to comprehensive climate risk screening in IFAD's 10- point plan for climate mainstreaming.⁵ These procedures and standards apply to the implementation of programmes and projects by borrowers/recipients and project parties in accordance with section 7.01(a) (v) of the General Conditions for Agricultural Development Financing. The primary audience for this document is technical staff and/or country portfolio managers who are typically responsible for developing, and supervising the implementation of, IFAD-supported programmes and projects.
3. These new procedures set out a minimum risk assessment process that recognizes the necessary heterogeneity of responses given widely different country and community circumstances. Through better risk identification, they aim to avoid environmental or social harm and also create space for doing good. The procedures are not an articulation of, nor do they represent, the entirety of IFAD's ambitious social, environmental and climate mainstreaming efforts. The Fund's wider efforts on these key cross-cutting themes are set out in its Strategic Framework 2011-2015 and in the various IFAD policy documents mentioned above.
4. The procedures are designed to enable IFAD to (i) improve its decision-making and promote the sustainability of project outcomes, (ii) ensure greater harmonization with similar procedures of other multilateral financial institutions and with its own environment and NRM policy and climate change strategy, and (iii) continue to access environmental and climate financing such as the Global Environmental Facility and the Green Climate Fund.
5. SECAP are the product of a broad consultation process that has involved staff from IFAD and selected resource persons from multilateral and bilateral development agencies.

¹ <http://www.ifad.org/gbdocs/eb/96/e/EB-2009-96-R-7.pdf>

² <http://www.ifad.org/events/enrm/index.htm>

³ <http://www.ifad.org/climate/climate.htm>

⁴ Including but not restricted to policies on targeting (2006), gender equality and women's empowerment (2012), indigenous peoples (2009), available at:

<http://www.ifad.org/operations/policy/policydocs.htm>

⁵ See paragraph 38 of IFAD 10 programme of work.

<https://webapps.ifad.org/members/repl/10/2/docs/IFAD10-2-R-4.pdf>

What are the main procedural changes?

6. A summary of key measures and changes introduced in the procedures is presented in the table below.

Key measures and changes in IFAD's Social, Environmental and Climate Assessment Procedures

<i>Key measures</i>	<i>Key changes in SECAP</i>
Enhanced systematic integration of social, environmental and climate change considerations.	<ul style="list-style-type: none"> • Detailed and clear description of the steps, entry points and responsibilities in the project cycle to improve quality and impact of IFAD-funded projects and programmes. • Focus on adaptation opportunities for climate-resilient investments. • Use of preparatory studies for country strategic opportunities programmes, when necessary. • Screening for climate risks in projects at early stage of design.^{a/} • Reference to key adaptation knowledge products.
Re-emphasis on commitment to principles of transparency and accountability, and support for resolution of complaints for alleged non-compliance with IFAD social and environmental policies and standards.	<ul style="list-style-type: none"> • Disclosure of draft environmental and social impact assessments and other relevant documents (draft resettlement plans, draft mitigation plans and frameworks, documentation of the indigenous peoples' consultation process) at quality assurance stage (or other key stages during project implementation)⁶. • IFAD Complaints Procedure to respond to alleged non-compliance with its social and environmental policies and mandatory aspects of SECAP. • Clear guidance for consultation with communities and stakeholders who are likely to be affected by IFAD-funded operations and compliance with the principle of free prior and informed consent whenever relevant.
Emphasis on a precautionary approach to resettlement, physical and cultural resources, chance finds, ^{b/} safety of small dams and subprojects	<ul style="list-style-type: none"> • Clarified definition of physical and economic resettlement and new screening guidance • New screening guidance for physical and cultural resources • New screening guidance to ensure the safety of small dams • New screening guidance for risks associated with subprojects by financial service providers
Strengthening of social, environmental and climate risk classification of projects and the steps needed.	<ul style="list-style-type: none"> • Indicative list under each category revised – criteria for classifying projects with potential for physical and economic resettlement and physical and cultural resources issues added. • Eight steps in the SECAP assessment clarified. • A new climate risk classification of “high”, “moderate” and “low” in projects' environmental and social screening exercise.

Notes:

a/ Climate risk screening will be piloted in 2015 and fully implemented in 2016.

b/ In the event that cultural heritage is subsequently discovered, either during construction or operations.

7. Some elements of SECAP are mandatory (marked with *), and some sections are provided as technical guidance. Key tools set out in the procedures are:
- (i) Social, environmental and climate change preparatory studies that can be undertaken during the development of country strategic opportunities programmes where this is considered necessary;
 - (ii) *Social, environmental and climate assessment screening at concept or early formulation stages of all programmes and projects. and the findings reflected in the resultant – SECAP review note;

⁶ Where frameworks (ESMF/RAF) were disclosed at QA stage.

- (iii) *Environment and social impact assessments at formulation stage of projects classified as Category A.⁷ The draft ESIA report and relevant documents⁸ will be disclosed in a timely and accessible manner at the quality assurance stage (or other key stages during project implementation)⁹ as part of the free, prior and informed consent (FPIC) process;
 - (iv) *Climate risk analyses at concept stage or early formulation of projects and programmes classified as "high";
 - (v) Environmental and social clauses and/or covenants, including FPIC, in financing agreements, as deemed necessary;
 - (vi) Social, environmental and climate change monitoring during the implementation stage of programmes and projects; and
 - (vii) Ex-post environmental and social impact assessment at completion of programmes and projects classified as Category "A";
 - (viii) *FPIC for interventions that might affect land access and use rights of communities has been obtained by the borrower or grant recipient.
8. The procedures comprise nine revised guidance statements and four new statements. The latter are guidance statement 12 on rural finance, guidance statement 8 on the safety of small dams, guidance statement 9 on physical cultural resources and guidance statement 13 on physical and economic resettlement. Guidance statements are prepared to assist in the development of projects and programmes, and their number is limited to what is required to achieve the objectives and optimal functioning of the procedures involved.
 9. The procedures are integrated into IFAD's quality enhancement and quality assurance processes and entry points. The procedures are designed to enable country programme management teams, governments, communities, producers' organizations and development partners with which IFAD works to fulfil shared environmental, social and climate adaptation objectives.
 10. The procedures and the guidance statements are "live" documents that will undergo continuous improvement¹⁰ as knowledge and experience evolve, and as IFAD policies and priorities change.

⁷ In addition, depending on the impacts, some Category B activities may require specific analysis to be undertaken.

⁸ ESIA's, draft resettlement plans/frameworks, draft mitigation plans and frameworks, documentation of the IP Consultation process.

⁹ Where frameworks (ESMF/RAF) were disclosed at QA stage.

¹⁰ This will be carried out in close coordination with the Programme Management Department's project implementation units and development partners, including international financial institutions and client countries.

CONTEXT

IFAD's Commitment to Advancing Sustainable Development

IFAD tagline "Investing in rural people"

1. As a development institution, IFAD has been involved in addressing environmental and social issues for many years. IFAD's Environmental and Social Assessment Procedures (ESAP, PB/2008/23) were reviewed by the Executive Board in April 2009¹. The 2009 Procedures established the guiding principles and set forth a course of action to assess environmental and social risks in projects. This document sets out revised Social, Environmental, and Climate Assessment Procedures (SECAP).
2. Revised procedures are needed to (i) apply lessons learned over five years' of implementing ESAP, (ii) better align with similar safeguard practices and standards across Multilateral Financial Institutions, and (iii) reflect a range of new policies and initiatives in IFAD since 2009: the Environment and Natural Resource Management Policy² (2011), Climate Change Strategy³ (2010), and other relevant policies⁴ - including a new commitment of comprehensive climate risk screening in IFAD's 10 Point Plan for Climate Mainstreaming.⁵ The primary audience for this document is technical staff and/or country portfolio managers who would typically be responsible for developing and supervising the implementation of IFAD-supported programmes and projects.

¹ <http://www.ifad.org/gbdocs/eb/96/e/EB-2009-96-R-7.pdf>

² <http://www.ifad.org/events/enrm/index.htm>

³ <http://www.ifad.org/climate/climate.htm>

⁴ Including but not restricted to policies on Targeting (2006), Gender Equality and Women's Empowerment (2012), Indigenous Peoples (2009) available at: <http://www.ifad.org/operations/policy/policydocs.htm>

⁵ See paragraph 38 of IFAD 10 programme of work. <https://webapps.ifad.org/members/repl/10/2/docs/IFAD10-2-R-4.pdf>

Box 1: Guiding Values and Principles for SECAP

Values and principles in many of IFAD's policies and strategies are relevant to these procedures, for example:

A. Address the vulnerability and adaptation priorities of rural people. Examine the cause-effect relationship between rural poverty, environmental degradation, and climate change. Ensure the efficient use of natural resources, subject to their regenerative capacity. Promote approaches to (re)build social cohesion and good governance of natural resources. Respect and make use of endogenous knowledge & gender-sensitive technologies drawing especially on the unique knowledge of women and Indigenous Peoples. [ENRM Policy and Climate Change Strategy]

B. Promote the sustainable use of natural resources and protection of key ecosystems in an integrated manner. Ensure that IFAD operations do not lead to natural or cultural resource degradation, including clearing of tropical forests, unsustainable use of natural resources, the threat/loss of biodiversity or threats to resources of historical, religious or cultural significance. This applies especially to agricultural intensification activities and value chain development. [ENRM Policy]

C. Incorporate externalities and minimize social costs. Avoid or mitigate any potential diseconomies imposed by an IFAD-financed operation on the environment external to the project boundaries. Where possible, address the affected areas through joint projects (which may constitute an entire command area or watershed) and partnerships to minimize social, economic and environmental costs in the affected area and, where possible, to incorporate the externalities. [ENRM Policy]

D. Implement participatory approaches, with special emphasis on the participation of and benefits to women and youth. Strengthen local institutions including user groups, essential for promoting environmental sustainability and social cohesion. Promote appropriate incentive systems at all levels and maximize the opportunities for local grassroots organizations and clients, with special emphasis on equal participation of women and youth in project/programme design and implementation, as well as in cost recovery and delivery systems. [Gender and Targeting Policy]

E. Promote the development of Indigenous Peoples and other marginalized groups. Enhance their livelihoods: secure ownership/access to ancestral land and territories; strengthen their institutions; promote free, prior and informed consent; and value indigenous knowledge systems. Apply the principles and procedures in the IFAD Engagement with Indigenous Peoples Policy. [Indigenous People's Policy]

F. Avoid involuntary resettlement wherever possible. While working on 'doing good', IFAD will adhere to a 'do no harm' principle at all times, so as to minimize physical and potential economic impacts. Explore viable alternative project designs to address risks, restore livelihoods to improve the standards of living of affected persons. The approach and level of measures taken will be proportional to the range of IFAD's operations. [Land Policy]

G. Promote sound agricultural and manufacturing processes. These include traditional, indigenous, and climate-smart technologies, integrated pest management, and use of biological control. When the use of agrochemicals is necessary, ensure (through enhanced environmental awareness, farmer training, improved field extension services, etc.) that their application, storage, and disposal is in line with international standards. Encourage clients to promote safe and healthy working conditions. [ENRM Policy].

H. Promote SECAP compliance monitoring. Focus on projects identified as 'at risk' or in 'sensitive areas' to ensure continued diligence in pursuing the project's development objectives. [ENRM Policy]

I. Ensure stakeholder consultation, transparency and accountability in programme/project operations. Engage the full range of stakeholders in formulation, implementation and monitoring of programmes/projects. Maintain transparency and accountability by disclosing draft environmental and social assessments and other relevant documents (at Quality Assurance stage) to stakeholders and by responding to their concerns/complaints in a timely manner. [Disclosure Policy]

3. These new procedures set out a minimum risk assessment process that recognizes the necessary heterogeneity of responses given widely different country and community circumstances. Through better risk identification they aim to avoid environmental or social harm and also create space for doing good. The procedures are not an articulation of, nor represent, the entirety of IFAD's ambitious social, environment, and climate mainstreaming efforts. Our wider efforts on these key cross-cutting themes are set out in the Strategic Framework and various IFAD policy documents mentioned above.
4. The Procedures are designed to enable IFAD to: (i) improve its decision-making and promote the sustainability of project outcomes; (ii) ensure greater harmonization with similar procedures of other multilateral financial institutions and with IFAD's Environment and Natural Resources Management Policy, Climate Change Strategy, and other relevant policies; and (iii) help IFAD continue to access GEF resources and other climate financing such as the Green Climate Fund resources.
5. The imperative to recognize and act upon the linkages between poverty, environmental, climate, and social issues in IFAD's operations is particularly strong, given the generally adverse evolution of the world's ecosystems. As a specialized agency of the United Nations, IFAD actively embraces the principles of sustainable development by: (i) adopting good international practices, including on climate change; (ii) working towards greater convergence and harmonization of safeguard practices among Global Environmental Facility (GEF) agencies, MFIs and other development partners; (iii) improving internal processes and capacity; and (iv) mobilizing environmental and climate finance.
6. As a GEF agency, IFAD has played a key role in dealing with threats to the global environmental commons, such as biodiversity loss, deteriorating international waters, climate change, desertification and land degradation, which endanger the livelihoods of nearly one billion poor rural people around the globe. Climate variability and change will further increase uncertainty and exacerbate weather-related disasters, biodiversity loss, and land and water scarcity. These threats present new and urgent challenges, especially to extremely poor rural communities, many of which (about three quarters of them) are dependent on agriculture and related activities for their livelihoods. The Fund's commitment to sustainable development is also illustrated in its Strategic Framework,⁶ wherein a balance of economic growth, social cohesion and equity, agricultural productivity/production, environmental protection and sustainable natural resource management is considered fundamental to its core mandate of rural poverty reduction. Through these efforts, the Fund has built up a portfolio of investments devoted to environmental issues, climate resilience and rural poverty reduction, and continues to make progress in "mainstreaming" environmental, social and climate adaptation objectives into its operations (loans, grants and policy dialogue). IFAD will take a proactive and innovative approach to promote projects and initiatives that are specifically designed to deliver significant environmental, social and climate adaptation benefits. It is about good business.
7. The Procedures draw on lessons learned from the experiences of IFAD and other partners on environmental and climate change issues. They are informed by the Framework for Advancing Environmental and Social Sustainability in the UN System⁷, reflect IFAD's commitment to meeting GEF minimum standards on environmental and

⁶ <http://www.ifad.org/sf/index.htm>

⁷ <http://www.unemg.org/consultative-processes/environmental-and-social-sustainability>

social safeguards⁸ respond to a changing global context and take into account current realities that influence environmental and social sustainability, such as: (i) the links between poverty reduction and sustainable natural resource management; (ii) the increased role of community participation, including Indigenous Peoples, in decision-making and governance processes; (iii) significant advances in refining approaches to risk management and development effectiveness; (iv) the changing roles of the private and public sectors, and civil society; (v) generating local and global environmental benefits and opportunities to address challenges such as climate change and desertification; (vi) country-level environmental and climate analysis to inform both country strategies and dialogue; (vii) innovative markets and mechanisms for global environmental public goods; and (viii) application of best practices and standards of the international community.

8. IFAD will monitor and evaluate the performance of its projects on a continuing basis and provide staff with appropriate training on the procedures. Table 1 presents an overview of the elements introduced in the new procedures and the tools/instruments required to put them into effect.

⁸ https://www.thegef.org/gef/policies_guidelines/safeguards

Table 1: What is IFAD's approach to social, environmental, and climate issues?

Key Elements	Actions	IFAD Tools/Instruments
<p>Lessons learned</p> <ul style="list-style-type: none"> ▪ Build on field-impact realities ▪ Set realistic targets ▪ Focus on community ownership 	<ul style="list-style-type: none"> ▪ Analyze poverty-environment-climate links ▪ Encourage climate risk analyses when necessary ▪ Focus on evidence-based innovative approaches and scaling up ▪ Promote institutional strengthening 	<ul style="list-style-type: none"> ▪ Country diagnostic studies ▪ How-to notes ▪ Guidance statements ▪ Portfolio reviews
<p>Changing context</p> <ul style="list-style-type: none"> ▪ Globalization ▪ Increasing role of public/private partnership ▪ Green growth ▪ Stronger role of regional organizations and civil society ▪ Increasing role of research ▪ Improved environmental governance ▪ Environmental and social safeguards ▪ Accountability and transparency 	<ul style="list-style-type: none"> ▪ Manage risks associated with climate change, physical and economic resettlement, small dams, physical and cultural resources and subprojects ▪ Build on comparative advantage and strategic partnerships ▪ Promote multiple-benefit approaches (best practices and policy dialogue) ▪ Promote stakeholder consultation ▪ Capitalize on international good practices and standards 	<ul style="list-style-type: none"> ▪ SECAP COSOP preparatory studies ▪ Earth observation tools ▪ Scaling-up approach ▪ Compliance with relevant international codes of conduct (i.e. distribution and use of pesticides) ▪ Complaints procedure ▪ Disclosure Policy
<p>Changing IFAD</p> <ul style="list-style-type: none"> ▪ Ten ENRM⁹ core principles ▪ Eleven ENRM best-practice statements ▪ Risk management ▪ Focus on quality at entry ▪ Focus on women, youth and Indigenous Peoples ▪ Focus on sustainable 	<ul style="list-style-type: none"> ▪ Focus on maximizing local and global environmental opportunities ▪ Support innovative environment and carbon financing mechanisms ▪ Focus on supervision and implementation support ▪ Develop integrated 	<ul style="list-style-type: none"> ▪ Adaptation for Smallholder Agriculture Programme (ASAP) ▪ ENRM Policy¹¹ and Climate Change Strategy¹² ▪ Results and Impact Management System (RIMS) ▪ Impact assessments ▪ Integrated social,

⁹ Environment and Natural Resources Management: <http://www.ifad.org/events/enrm/policy/>

¹¹ http://www.ifad.org/climate/policy/enrm_e.pdf

¹² http://www.ifad.org/climate/strategy/enrm_e.pdf

Key Elements	Actions	IFAD Tools/Instruments
agriculture intensification <ul style="list-style-type: none"> ▪ Focus on fragile states 	social, environmental, and climate screening <ul style="list-style-type: none"> ▪ Emphasize staff updates and training ▪ Introduce classification of climate risk¹⁰ ▪ Emphasize sustainable natural resource management ▪ Focus on involuntary resettlement ▪ Focus on climate issues 	environmental, and climate screening <ul style="list-style-type: none"> ▪ Institutional strengthening including Community-Based Natural Resource Management ▪ Household and Gender analysis¹³ ▪ Risk/vulnerability assessments ▪ Participatory tools ▪ Free, prior and informed consent

9. Some elements of SECAP are mandatory (marked with *), and some sections are provided as technical guidance. It is mandatory: (i) to subject all projects entering the pipeline to social, environmental, and climate screening at the concept or early formulation stages and for CPMTs to develop the resultant SECAP review note; (ii) for projects with an environmental and social category 'A' to have an ESIA and/or Resettlement Action Plan/Framework, and/or Indigenous Peoples Plan; and (iii) for projects with a classification of climate risk 'High' to conduct a more in-depth climate risk analyses to assess how to reduce these risks. It is also mandatory to disclose draft ESIA's and relevant documents (draft resettlement plans/frameworks, draft mitigation plans and frameworks, documentation of the IP Consultation process) in a timely and accessible manner at the project Quality Assurance stage (or other key stages during project implementation)¹⁴ as part of the free, prior and informed consent (FPIC) process. In line with good practice, SECAP encourages stakeholder consultation with communities and stakeholders as early as possible during design, especially in High-risk projects. It is mandatory that consultation recognize "free, prior and informed consent" as provided in the Land Policy.

10. The procedures include additional guidance material to further assist in project design and implementation. These include Terms of Reference and a set of guidance statements. And, for COSOP designs, CPMTs may choose to conduct a SECAP preparatory study to provide a better understanding of the environmental, social and climate change risks that might potentially affect the proposed IFAD programme.

11. The Procedures are the product of a broad consultation process that has involved staff from IFAD and selected resource persons from multilateral and bilateral development agencies. The consultations have played an important role in shaping these Procedures and in order to align them with those of other MFIs and country priorities, and to ensure their consistency with IFAD's new Quality Enhancement (QE) and Quality Assurance (QA) processes. Continuous communication and collaboration with borrower countries, partners and IFAD staff in the Programme Management Department, as well as systematic monitoring and assessment of the effectiveness of the Procedures, are essential to successful implementation and improvement. We

¹⁰ Climate risk screening will be piloted in 2015 and fully implemented in 2016.

¹³ See IFAD toolkit on targeting and gender in the project cycle.

¹⁴ Where frameworks (ESMF/RAF) were disclosed at QA stage.

expect that this approach will continuously result in further updating the Procedures to enhance quality-at-entry in IFAD operations.

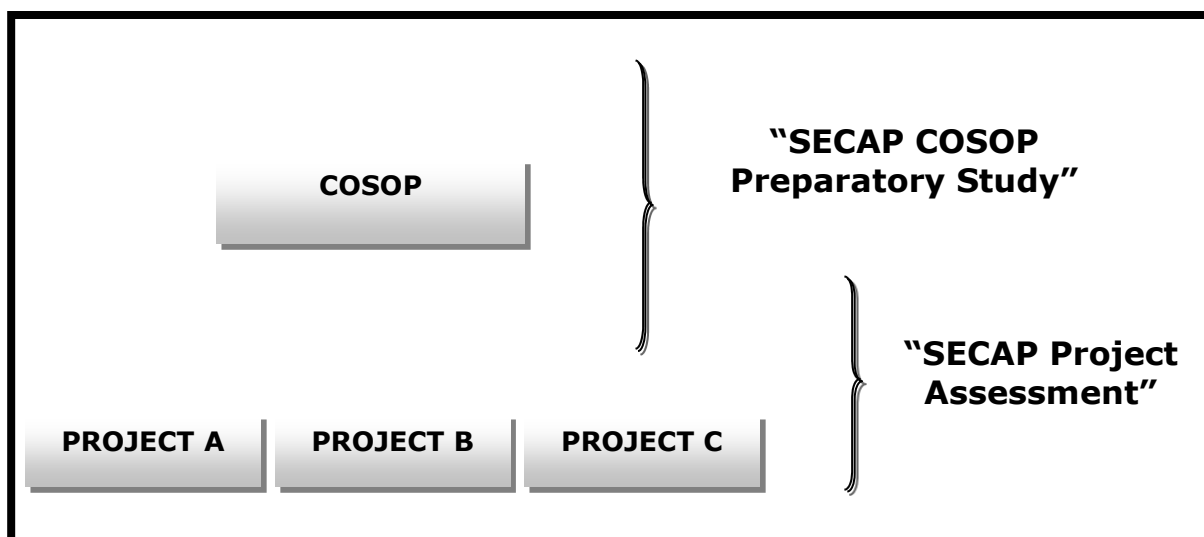
12. There are six main parts to the Procedures. The first and second parts are the Executive Summary and Context respectively. The third part is Chapter I, which provides information necessary to formalize IFAD's approach to Social, Environmental, and Climate Assessment in the quality enhancement and programme/project decision-making processes, and a set of supporting materials that will guide IFAD missions in introducing the necessary social, environmental, and climate dimensions systematically into all IFAD operations. The fourth part is Chapter II, which provides information on integrating Environment, Social and Climate issues in COSOPs including suitable entry points and supporting tools for the use of SECAP preparatory studies (as deemed necessary) in the design of Country Strategic Opportunities Programmes (COSOPs). The fifth part is a Glossary, and finally, the sixth part which consists of a set of Guidance Statements (GSs) designed to assist in social, environmental, and climate screening/scoping of projects and programmes, as well as to provide guidance for strengthening the respective designs.

Chapter 1. SOCIAL, ENVIRONMENTAL, AND CLIMATE ASSESSMENT IN PROJECTS AND PROGRAMMES

1.1. Introduction

13. These Procedures set minimum standards for the assessment of social, environmental, and climate change risks in IFAD projects. This is represented schematically in Figure 1 below.

Figure 1: IFAD entry points for mainstreaming social, environmental, and climate considerations in its operations



1.2 Reasons for applying social, environmental, and climate risk assessments

14. IFAD's overall objective is for full mainstreaming of environmental, social and climate issues throughout the project cycle. Clear procedures on risk assessment are one important element of this endeavour, to: (i) provide information and analysis that strengthen the social, environmental, and climate dimensions of projects and programmes; (ii) maximize social, environmental, and climate change adaptation benefits, and avoid or minimize negative impacts; and (iii) increase the consistency, transparency and accountability in decision-making concerning these dimensions of IFAD's COSOPs, projects and programmes in a timely fashion.

15. There are two main stages for project origination– the COSOP and the project design. For COSOPs, the use of (voluntary) SECAP COSOP preparatory studies is set out below to ensure that key social, environmental, and climate change issues are appropriately addressed at the earliest stages of COSOP designs and decision-making processes (see Chapter II). This will help create an overall social, environmental, and climate change management framework to inform the COSOP design. For projects, the use of SECAP project assessments (see paragraph 27: The eight basic steps of

the SECAP process) will identify and address programme/project-specific social and environmental issues, informed by the considerations raised in the SECAP COSOP preparatory study, and incorporate appropriate preventive actions and/or mitigation measures into the respective programme/project design. The use of project assessments and SECAP COSOP preparatory studies is explained in Table 2 below.

Table 2: The use of SECAP COSOP Preparatory Studies and Project Assessments

SECAP COSOP Preparatory Studies	SECAP project Assessments
Is pro-active and informs development proposals	Is reactive to a development proposal
Is used to assess the effect of the existing environmental, climate change and socio-economic conditions on development opportunities and constraints	Is used to assess the effect of a proposed development on the environment and socio-economic conditions and assess the vulnerability/sensitivity of the proposed development to climate risks.
Relates to areas, regions or sectors of development	Relates to a specific programme/project
Enables the development of a framework against which positive and negative impacts can be measured	Enables the identification of programme/project-specific impacts and/or measures to manage climate risks
Is a process for developing a sustainability framework to inform continuous decision-making over a period of time	Has a well-defined beginning and end and focuses on informing a specific decision at a particular point in time
Is focused on maintaining a chosen level of environmental quality, adaptation to climate change and socio-economic conditions (e.g. through the identification of sustainability objectives and limits of acceptable change)	Is focused on the minimization of negative impacts and the enhancement of positive impacts
Has a wide perspective and includes a low level of detail to provide a vision and overall framework	Has a narrow perspective and includes a high level of detail
Inherently incorporates consideration of cumulative impacts	Is a limited review of cumulative impacts, often limited to phases of a specific programme/ project

(Source: Adapted from DEAT, 2004 and OECD, 2006)

16. It is expected that the use of SECAP COSOP preparatory studies and project assessments in IFAD operations will help Country Programme Management Teams

(CPMTs) continue to ensure high-quality risk assessment of social, environmental, and climate change considerations as an integral part of their work.

17. IFAD's approach with respect to applying these procedures may be subject to further modifications by the Associate Vice President/Programme Management Department and supplementary guidelines; further or amended Guidance Statements (GS) to guide the SECAP process may also be issued.

1.3 Process for Implementation of SECAP

1.3.1 Responsibility for preparing SECAP COSOP preparatory studies and Project Assessments

18. Any assessments required during programme/project design are the responsibility of the borrower country, as is the case for programme/project preparation in general and any further assessment deemed necessary during the implementation phase. In both cases IFAD will support the process to ensure that both IFAD and borrower procedures are met.

1.3.2 Financing of SECAP studies and assessments

19. The costs of the preparatory studies during the preparation of COSOPs and programmes/projects respectively will be part of IFAD's regular budget. For assessments – such as ESIA, Resettlement Action Framework/Plans, Indigenous Peoples Plans - undertaken during programme/project implementation, the associated costs are to be included in the loan provision, including any additional cost of ensuring full community participation.

1.3.3 Projects with co-financing institutions

20. In the spirit of harmonization, for projects initiated by GEF agencies with their own sound standards – such as the AfDB, ADB, CI, DBSA, EBRD, FAO, IDB, IUCN, UNDP, UNEP, UNIDO, WB and WWF – IFAD will apply the environmental and social requirements of the initiating institution. In these cases: (i) the initiating institution will support the SECAP process and ensure that borrower requirements are met; and (ii) IFAD will seek to collaborate with the initiating co-financier and agree on a common approach to project appraisal, project requirements and monitoring. The respective Terms of Reference of the assessments and draft project design will be shared with IFAD and go through the QE/QA processes. Unless otherwise specified, IFAD will perform additional due diligence only to the extent necessary to complete the social and environmental assessment to meet its own requirements. Where SECAP requirements differ from the regulations and safeguard requirements of the borrower and other co-financiers, IFAD will make efforts to collaborate with the borrower/cofinancier and agree on specific measures to ensure that IFAD SECAP requirements are fully complied with. Specific measures may include screening, ESIA planning process, consultation, disclosure, monitoring, reporting, and implementation support. The applicability of the initiating institutions' and other co-financiers' guidelines in projects (co-)financed by IFAD is reflected in the respective Social, Environmental, and Climate Assessments.

1.3.4 Projects involving financial service providers

21. IFAD outlines the instances in which due diligence should be conducted on a potential partner financial service provider (FSP) and its loan portfolio in attached Guidance Statement 12 on Rural Finance. The due diligence exercise aims to ensure that the FSP and activities being financed through its loans in the framework of the IFAD-financed project or programme meet IFAD's environmental and social policies, comply with applicable national laws and regulations, and adhere to the prohibited investment activities list produced by the International Finance Corporation.¹⁵ Focus will be on the capacity and commitment of the FSP to implement or adopt an effective environmental and social management system. The specific requirements pertaining to FSPs will be determined by IFAD on a case-by-case basis taking into account the nature, scale and risks of the FSP's current and likely future loan portfolio, recognizing that the type and operations of FSPs partnering in IFAD-financed programmes and projects vary considerably and in some cases may pose minimal environmental and social risk.

1.3.5 Consultation and participation in the SECAP process

22. In conformity with IFAD's emphasis on participation in programme/project design and implementation, greater consultation by communities (especially the marginalized poor) and stakeholders that are likely to be affected by IFAD's operations will continue to be sought during the respective programme/project cycle. The objective of such consultation is to receive feedback on the draft Environmental and Social Impact Assessment (ESIA) report and other relevant documents, ensure broad community support to the project (especially a Category A project or one that is highly sensitive to climate risks), and see that affected people endorse the proposed mitigation/ risk reduction and management measures. Consultation, leading to consent, should be initiated as early as possible during design and the results will be adequately reflected in SECAP assessments (and other relevant documents) reports. IFAD's policies on targeting, gender equality and women's empowerment, improving access to land and tenure security, and engagement with indigenous peoples contain further guidance on appropriate consultation mechanisms.

1.3.6 Disclosure of documentation related to the SECAP process

23. IFAD's policy on the disclosure of documents, approved in 2010, is based on the principle of "presumption of full disclosure"¹⁶. The sharing of draft ESIA's and other relevant documents¹⁷ with programme/project stakeholders and interested parties will be subject to the above-mentioned principle and the procedures as outlined in IFAD's disclosure policy. The draft documents will be disclosed in a timely manner prior to project appraisal at the QA stage (or other key stages during project implementation)¹⁸ in an accessible place in the project/programme-affected area and on IFAD's website, in a form and language understandable to stakeholders and other

¹⁵ IFC Exclusion List:

http://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/ifc+projects+database/projects/aips+added+value/ifc_project_exclusion_list

¹⁶ <http://www.ifad.org/qbdocs/eb/100/e/EB-2010-100-R-3-Rev-1.pdf>

¹⁷ Draft resettlement plans, draft mitigation plans and frameworks, documentation of the IP Consultation process.

¹⁸ Where frameworks (ESMF/RAF) were disclosed at QA stage.

interested parties, for the purposes of keeping them informed and obtaining their feedback.

1.3.7 IFAD's grievance and redress mechanism

24. IFAD has established a Complaints Procedure to receive and facilitate resolution of concerns and complaints with respect to alleged non-compliance of its environmental and social policies and the mandatory aspects of its Social, Environmental and Climate Assessment Procedures in the context of IFAD-supported projects. The procedure allows affected complainants to have their concerns resolved in a fair and timely manner through an independent process. Although IFAD normally addresses potential risks primarily through its enhanced QE/QA process and by means of project implementation support, it remains committed to: (i) working proactively with the affected parties to resolve complaints; (ii) ensuring that the complaints procedure is responsive and operates effectively; and (iii) maintaining records of all complaints and their resolutions.

1.4 Incorporation of SECAP Assessments into IFAD's Project Cycle

25. The SECAP process is fully incorporated into IFAD's QE process for IFAD-financed programmes/projects (PB/2008/01 'Guidelines for project design, for internal project review and for quality assurance'). CPMTs and particularly Country Portfolio Managers (with the support of the Environment and Climate Division) are assigned the central role of overseeing the implementation of SECAP with respect to their COSOPs and project proposals. The intensity of action required at each step will depend on the nature and complexity of the project and the geographical location.

26. The integration of SECAP into IFAD's project cycle is represented schematically in Table 3 below.

Table 3: SECAP process mainstreamed in the project cycle

Project stage	Modality	Reference	Purpose	Main contents	Responsibility
COSOP phase	SECAP COSOP preparatory study - if considered necessary	COSOPs (contains pipeline with indicative ly three proposals) Project Life File	- Integrate environmental and climate change considerations into policy and planning - Evaluate the inter-linkages with economic/social considerations - Guide IFAD's strategic orientation	Diagnostic evaluation of environment and climate change issues Strategic priorities to enable the COSOP to effectively respond to NRM, climate adaptation	CPMT/ Env and Climate Division (ECD)

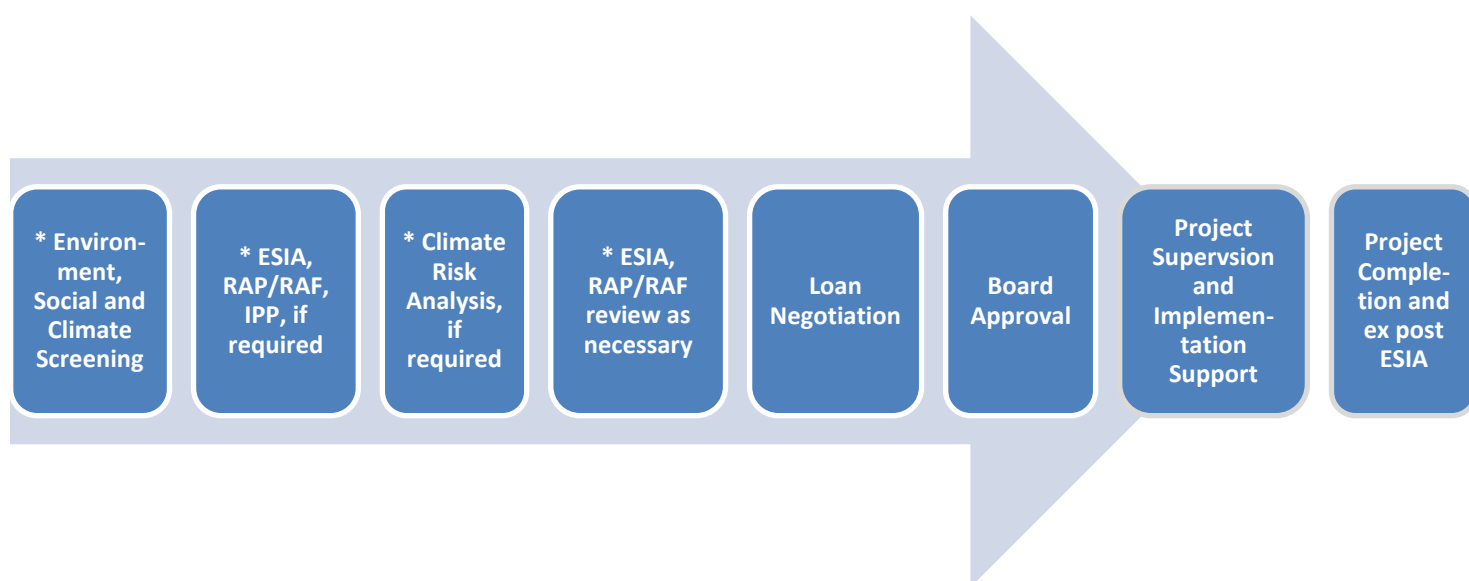
Project stage	Modality	Reference	Purpose	Main contents	Responsibility
			and/or investment priorities in a country		
Project Concept (within the COSOP, or Concept Note for countries without a COSOP)	SECAP Project Review Note – to screen all projects (preliminary note and rating at concept stage)	COSOP Mission report Concept Note Project Life File	- Collect environmental, climate-related and disaster risk management (DRM) information on proposed activities - Suggest environmental enhancement for “greening” the project - Screening and preliminary categorization (environment and climate risk)	Government policies; institutions addressing environment, climate change adaptation and DRM; country’s environmental and adaptation regulatory framework; main site characteristics; major environmental and climate-vulnerability concerns Linked poverty, environment and adaptation indicators	CPMT/E CD
Early Project Design	Finalisation of SECAP Review Note for all projects. If necessary conduct ESIA, RAP/RAF, and Climate Risk Analysis as required for Category ‘A’ and/or ‘High’, projects respectively Disclose	Project Design Report (PDR) Mission report Project Life File Relevant Guidance Statements	- Confirm social, environmental, and climate category - Identify magnitude and detail likely environmental and social impacts, propose alternatives, preventive actions, mitigation measures and any design changes required - Carry out a	Project description, issues in NRM, potential social and environmental impacts and risks, climate change and DRM challenges Recommended features of project design to improve NRM and mitigate environmental concerns, build beneficiaries’ resilience to climate shocks Monitoring aspects, components (if any) including the justification of category assigned	CPMT/E CD

Project stage	Modality	Reference	Purpose	Main contents	Responsibility
	draft ESIA and other relevant documents at the QA stage.		climate risk analysis and, propose adaptation responses - Develop the management plan ¹⁹ (based on the ESIA, climate risk analysis and SECAP project assessment		
Final Project Design (includes loan negotiation)	SECAP Review Note completed for all projects. ESIA report and other relevant documents, such as the ESIA, ESMP, RAP/RAF for category A projects	PDR Project Life File	- Integrate design changes, describe climate change context, propose environmental, adaptation and DRM plans, if any, into the Project Design Report	Description of environmental/NRM, adaptation related activities in the project, description of modifications to project design, environmental, climate adaptation and DRM plan details, monitoring and evaluation, conditions in financing agreements, outstanding risks	CPMT/E CD
Implementation (includes supervision)	Analysis of social, environmental, and climate change issues during supervision and implementation support	Project Supervision and progress reports Project Life File	- Monitor and/or supervise implementation of activities specified in the Management Plan	Analysis of environmental impacts and climate change in the local context, performance of the environmental, climate adaptation and DRM monitoring plan according to objectively verifiable indicators	CPMT/co-financiers

¹⁹ Develop a Management Framework instead when uncertainty remains on the project component or exact location. The Framework establishes a mechanism to determine future social, environmental, and climate impacts.

Project stage	Modality	Reference	Purpose	Main contents	Responsibility
Completion	Ex post ESIA for Category A projects	Completion Reports Project Life File	- Assess activities specified in the Management Plan	Assess project outcomes, and results of the environmental adaptation and DRM monitoring according to objectively verifiable indicators.	CPMT/co-financiers

1.5 The eight steps in the SECAP for projects and programmes



27. The eight basic steps of IFAD’s SECAP process are described in the text that follows.

Figure 2: The eight steps of the SECAP assessment²⁰

1.5.1 Step 1: Initial SECAP Assessment to screen all projects

28. The first step in the SECAP assessment process is an initial project screening that outlines the social, environmental, and climate issues that are likely to be associated with an IFAD-supported project. The exercise will be conducted on a preliminary basis at project concept stage for consideration at the OSC review stage, and then finalized in advance of QE review. The purpose of this screening is to identify the main social, environmental, and climate risks²¹ associated with a potential project and define the necessary steps for further analysis. For example, this exercise allows IFAD to identify and avoid programmes/projects that may involve any involuntary taking or restriction on the use of land that may result in physical or economic displacement (see “do-no-harm principle” in the Land Policy), identify programmes/projects that may involve or affect indigenous peoples (see Policy on Engagement with Indigenous Peoples), and identify programmes/projects that may damage or destroy physical

²⁰ * These are mandatory elements of SECAP. In addition FPIC should be obtained by the borrower/grant recipient for interventions that might affect land access and use rights of communities.

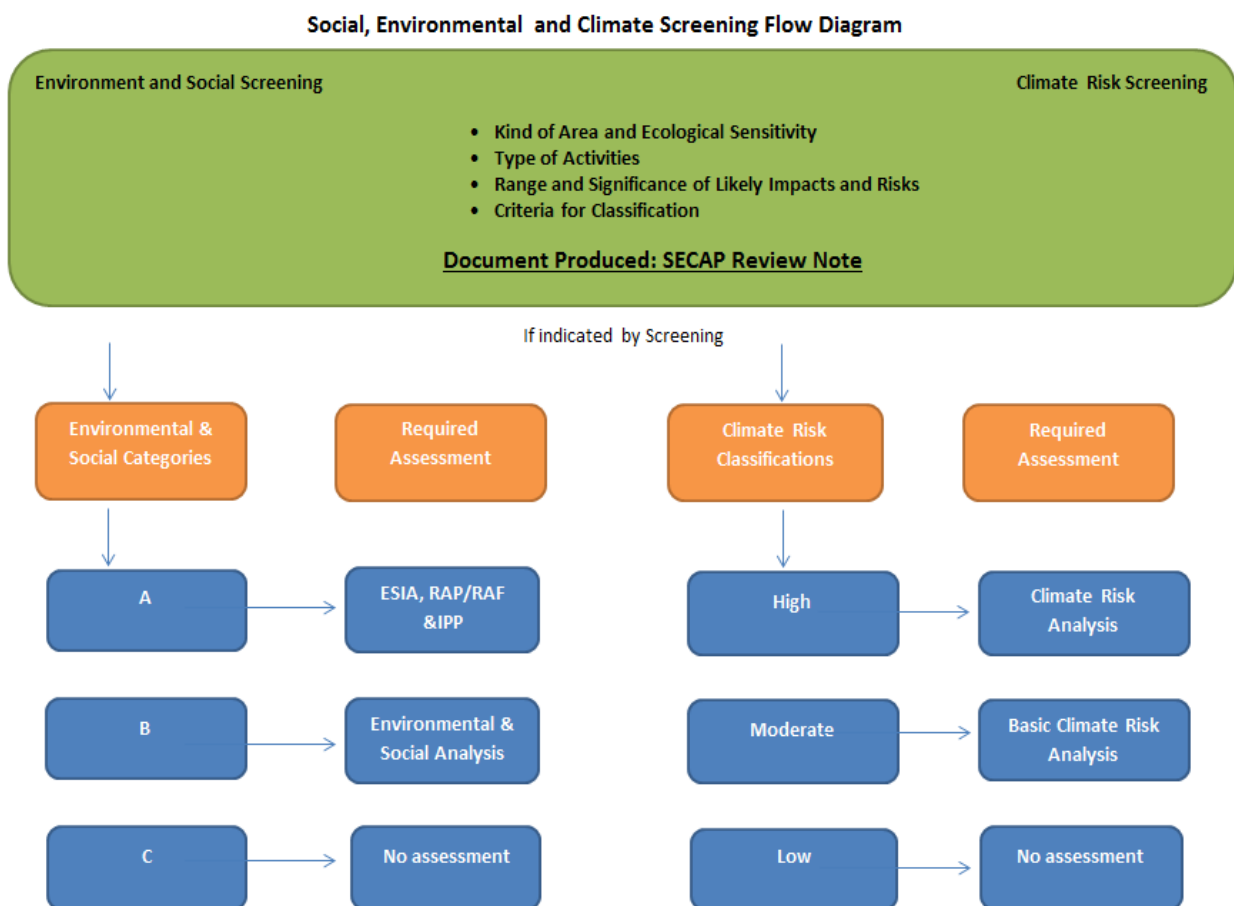
²¹ Climate risk screening will be piloted in 2015 and fully implemented in 2016.

resources of historic, religious or cultural significance (see Guidance Statement 9 on Physical Cultural Resources). With a view on climate risks, this scoping exercise allows IFAD to highlight investments with a higher probability of losses and damages from climate-related events, which can also help IFAD make a case for the allocation of additional climate finance.

29. The SECAP project screening exercise is a twin process incorporating (a) the environment and social aspects and (b) the climate risk aspects. The screening will result in a proposed environmental categorization and climate risk classification for the project.

30. Where feasible, the exercise should draw on and be informed by the issues raised in the SECAP COSOP preparatory study and other climate-related studies. The exercise culminates in the preparation of the SECAP review note, which is part of the Project Life File. This is set out in Figure 3 below:

Figure 3: SECAP Project Assessments – screening and categorization



31. A template for the SECAP project Review Note is set out in Annex 1.1. The note should contain the following (simply cross-referencing the project document where the issues are addressed in there):

- (i) A preliminary overview of the main environmental/NRM and social issues in the programme/project area and identification of any significant impacts (positive

and negative) and social concerns likely to be associated with the programme/project (clearly indicating any community concerns). The overview should be informed by a rapid appraisal of environmental, social and climate issues to determine if an in-depth environmental and social impact assessment and/or climate risk analysis is warranted. The screening is considered a minimum requirement for all projects, including those which do not warrant further analysis (i.e. where the environmental/social and/or climate risk of the programme/ project is Category C or low, respectively).

- (ii) A justification for the environmental category (A, B, C) and Climate Risk Classification²² (High, Moderate, Low) assigned to the programme/project proposal on a preliminary basis, with references to country social and environmental policies, legislation and institutions, as well as the social, environmental, and climate change screening requirements of any co-financer. (See Section 1.5.1.1 to 1.5.1.4 below for more details.) For programmes/projects initiated by the co-financer, this includes a description of the social, environmental, and climate requirements of the co-financing agency and the extent to which they satisfy IFAD requirements (see 1.3.3 above).
 - (iii) An identification of the specific requirements for future project processing, including: (i) preliminary indications of the scope of the Environmental and Social Impact Assessment, Climate Risk Analysis and Resettlement Action Plan and corresponding ESMP likely to be required during project formulation for Categories A and High climate risk project proposals, or the type of additional environmental analysis required for Categories B and Moderate climate risk proposals; (ii) any consultation requirements on the environmental and social dimensions of the project proposal (and if available, views of interested parties on these dimensions of the proposal); and (iii) budgetary requirements.
32. To ensure an integrated approach to environmental management, the relevant SECAP Annexes and Guidance Statements, and IFAD how-to-do notes (such as on Free Prior and Informed Consent, and Community-based Natural Resource management), and case studies should be consulted. Appendix 12 of the PDR "Compliance with IFAD Policies", the QE Memo and the QE Panel Report shall all refer to how the project is aligned to the procedures. An annotated outline of an SECAP review note is provided in Annex 1.1 below.

1.5.1.1 Environmental and social categorization and criteria

33. The three categories (A, B, C) are defined according to the likely significance of environmental and social concerns in relation to criteria laid out below:
34. **Category A:** The programme/project may have significant adverse environmental and/or social implications that: (i) are sensitive, irreversible or unprecedented; (ii) affect an area broader than the sites or facilities subject to physical interventions; and (iii) are not readily remedied by preventive actions or mitigation measures. For Category A programmes/projects a formal ESIA is required for the whole programme/project or for one or more components with ESMP elaboration.

²² Climate risk screening of projects will start in 2016.

35. Projects supporting/inducing the following activities would normally be considered Category A (although this will depend on the location and magnitude of impacts):

- Construction or rehabilitation of rural roads in ecologically sensitive or hazard-prone areas;
- Conversion of significant areas of natural forests or other wild lands;
- Loss of natural habitat and loss of biodiversity or environmental services provided by a natural ecosystem;
- Wetland development,
- Groundwater-based development where there is reason to believe that significant depletion may occur from the effects of climate change or from overutilization;
- Fisheries development in situations where little information exists on sustainable yield;
- Significant increased use of agrochemicals;
- Risk of destruction and pollution as a result of climatic or geophysical hazards (storms, flooding, landslides, earthquakes);
- Conversion and loss of physical cultural resources; and
- Projects which may result in significant social adverse impacts to local communities (including Indigenous People) or other project-affected parties.

36. In addition, although not currently financed by IFAD, projects supporting/inducing the following would be considered Category A:

- High probability to have physical resettlement or economic displacement;
- Large-scale dam/reservoir construction (more than 15m high, or 5-15 m high with a reservoir exceeding 3 million m³);
- Large-scale irrigation schemes;
- Production forestry;
- Drainage or correction of natural water bodies (e.g. glacier lake drainage, river training);
- Industrial plants (other than small-scale artisanal production);
- Manufacture and transportation of hazardous and toxic materials; and
- Lines of credit to financial service providers and on lent for any of the above activities.

37. **Category B:** The programme/project may have some adverse environmental and/or social impacts on human populations or environmentally significant areas, but the impacts: (i) are less adverse than those for Category A; (ii) are site-specific and few are irreversible in nature; and (iii) can be readily remedied by appropriate preventive actions and/or mitigation measures. While no formal ESIA is required for Category B programmes/projects, in many cases further environmental analysis could be undertaken during project preparation or implementation. Category B operations

usually require an ESMP, which may be a stand-alone document or an output from an environmental analysis²³.

38. Projects supporting/inducing the following activities would normally be considered Category B, depending on the location and magnitude of impact:

- Construction or rehabilitation of rural roads in “non-sensitive areas”²⁴;
- Small-scale irrigation and drainage projects, and water impoundment including small dams (except in wetlands);
- Agricultural intensification and/or expansion of cropping area in “non-sensitive areas”;
- Rangeland and livestock development;
- Artisanal fisheries where there is information on sustainable yield;
- Aquaculture and mariculture;
- Watershed management or rehabilitation;
- Large-scale soil and water conservation measures;
- Small and micro enterprise development projects;
- Projects involving credit operations through financial service providers,²⁵ including credit for pesticide/other agrochemicals, livestock purchasing, irrigation, etc.;
- Natural resources-based value chain development;
- Projects involving operations that might have minor adverse impacts on physical cultural resources; and
- Low probability to have physical resettlement or economic displacement.

39. **Category C:** The programme/project will have negligible or no environmental or social implications²⁶ – no further environmental analysis is required.

40. Projects in Category C generally do not require additional environmental analysis because the activities have positive environmental impacts, or negligible or minimally adverse environmental impacts:

- Technical assistance grants for agricultural research and training;
- Grants to generate global environmental impacts;

²³ Where it is unlikely that resettlement or economic displacement may occur, the ESMP and Project Design Document will indicate what will be the consultation processes leading to Free Prior and Informed Consent for reaching agreement with those potentially affected and mitigation and monitoring measures required to ensure that those affected will not be negatively impacted - see Guidance Statement 13.

²⁴ See section 1.5.1.3

²⁵ It should be noted that credit operations and small and medium enterprise development components present unique problems during screening because the details of the sub-components may not be known at the time of project screening. In addition, financial intermediation projects present challenges because activities to be financed through credit may be difficult to anticipate accurately.

²⁶ Note that gender inequalities tend to be perpetuated unless active measures are taken to engage and empower women, so that even though an intervention is considered Category C, gender analysis and related actions will still be necessary.

- Research;
- Extension;
- Health;
- Nutrition;
- Education; and
- Institutional building.

1.5.1.2 Climate risk classification

41. The Screening exercise is also used to determine the exposure of the project objectives to climate-related risks (High, Moderate or Low), based on available information about historic climate hazard occurrences, current climate trends and future climate change scenarios. The screening will also assess the likelihood of the project/programme increasing the vulnerability of the expected target populations to climate hazards. In addition, the screening should examine the potential opportunities that arise from a better integration of climate issues. The classifications²⁷ for climate risk are defined as follows:
42. **High Risk:** The project/programme can be expected to be highly vulnerable to climate-related hazards and thus would benefit from an in-depth Climate Risk Analysis as part of design or initial implementation stage. This analysis should present recommendations for risk management – i.e. practical climate risk management measures that can be integrated into the project design and implementation phases, and could be used to mobilize climate finance for the co-financing of targeted risk reduction and adaptation measures. Some examples of high risk projects include:
- Projects that promote agricultural activity on marginal and/or highly degraded areas (such as on hillsides, deforested slopes or floodplains);
 - Projects that make investments in low-lying coastal areas or glaciated mountain areas
 - Projects that establish infrastructure in areas with a track record of extreme weather events (e.g. a cassava processing plant in a landslide-prone area; a dairy plant in a floodplain; a grain storage silo in a zone that is prone to tropical storms).
 - Projects in areas in which rural development projects have experienced weather-related losses and damages in the past
43. **Moderate Risk:** The project/programme can be expected to be moderately sensitive to climate risks and thus requires a basic integration of climate issues to be undertaken during the project design phase. This process should result in practical adjustments under the project to reduce losses and damages from climate hazards to

²⁷ More practicable criteria for classifying climate sensitivity will be developed by the end of 2015.

IFAD's client group, and capitalize on opportunities to strengthen local risk management capacities. Examples of a moderate risk project are:

- Projects that make use of climate-sensitive resources, but do not focus on these resources as a main commodity (e.g. irrigated farming systems, projects which have temperature-sensitive crops in a larger, diversified bundle of commodities)).
- Projects which are investing in infrastructure which is not directly exposed to extreme weather events, but has potential to become more resilient through the adoption of green technologies (such as renewable energy, water efficiency, re-use/recycling of waste products)
- Projects which focus on institutional development and capacity building objectives for rural institutions (such as farmer groups, cooperatives) in climatically heterogeneous areas, where opportunities exist to strengthen indigenous climate risk management capabilities
- Projects which focus on policy dialogue to improve agricultural sector strategies/policies, where opportunities exist to integrate climate resilience aspects

44. **Low Risk:** The project/programme is not likely to be vulnerable to climate risks and thus voluntary measures could be incorporated into the detailed design and implementation phases based on the SECAP project assessment recommendations. These projects generally focus on investments which do not have a direct physical or geographical interface with climate hazards (such as the development of a micro-finance institution).

45. In practice, the environmental, social and climate risk categorization of each project will depend of the nature and extent of the: (i) nature and sensitivity of project location; and (ii) magnitude of impacts as mentioned below. Where impacts are uncertain or unclear, precautionary principles should be applied. This includes specific environmental and social assessments during project implementation, when necessary.

1.5.1.3 Nature and of project location

46. The selection of an environmental and social category will depend substantially on the project setting, as the "significance" of potential impacts is partly a function of the natural and socio-cultural surroundings. This is particularly true for IFAD, which tends to finance a large number of projects in marginal and ecologically fragile areas. "Sensitive areas" include: protected areas (national parks, wildlife/nature reserves, biosphere reserves); areas of global significance for biodiversity conservation; habitats depended on by endangered species; natural forests; wetlands; coastal ecosystems, including coral reefs and mangrove swamps; small island ecosystems; areas most vulnerable to climate change and variability; lands highly susceptible to landslides, erosion and other forms of land degradation²⁸; and areas that include physical cultural resources (of historical, religious, archeological or other cultural significance). When the proposed location of a project is in an area where tangible

²⁸ May include arid and semi-arid areas.

cultural heritage is likely to be found, chance-finds procedures are included in the IMP. Projects located in such "sensitive areas" may be considered for Category A classification and should involve extensive community consultations because of their potentially serious negative impacts on ecosystems and livelihoods of their poorer constituents.

1.5.1.4 Magnitude of impacts

47. There are a number of ways in which the magnitude of impacts can be measured, such as: the *absolute amount* of a resource or ecosystem affected, the *amount affected relative to the existing stock* of the resource or the viability of the ecosystem, and the *intensity* of the impact and its *timing* and *duration*. In addition, the *probability of occurrence* for a specific impact and the *cumulative impact* of the proposed action and other planned or on-going actions should be considered. For example, conversion of 50 hectares of wetlands differs markedly in significance depending on its size relative to the total area of wetlands in the country or region. In addition, impact can also be measured in social terms – by the number of rural communities or villages (including livelihoods) affected positively and negatively by a proposed project (in areas which support multiple livelihoods, an intervention which might benefit a large number of crop producers might lead to a smaller number of livestock herders, fishers, hunters, etc. losing their livelihoods). Data should be disaggregated by sex, as well as by age and wealth where appropriate.
48. Other current and proposed development activities within the project area, spontaneous activities spurred by a project (e.g. migration of people into or increased charcoal production in an area opened by a road project), and externalities beyond the project boundary must be taken into account. Such *cumulative* or *induced impacts* may sometimes be the primary determinant of the appropriate level of environmental analysis.
49. For community, demand-driven projects, it may be difficult to pre-determine the potential adverse impacts until project implementation. Although the magnitude of impacts would depend on the scale of such activities, a cautious approach to the concern of cumulative impacts is considered essential. In such cases, the necessary environmental and social analysis and associated budget should be incorporated into project design. Such projects may be considered for Category B.

1.5.2 Step 2: Environment and Social Impact Assessment

50. The second step in the process involves the preparation of either or a combination of ESIA, Resettlement Action Plan (RAP)/Resettlement Action Framework (RAF), and IPP, for all programmes/projects classified as Category A. In some cases, a study may be required for some components of Category B projects as identified in the SECAP project assessment. The characteristics of a good ESIA are presented in Box 2 below.

Box 2: Characteristics of a good ESIA

A good ESIA:

1. Starts early in project development and does not delay project processing;
2. Identifies data requirements based on a defined scope that focuses on likely impacts and excludes those that are irrelevant;
3. Combines environmental, climate change, economic and social analysis;
4. Involves key stakeholders and affected people from the outset of the process in a meaningful way;
5. Provides information for decision-making in a clear and usable manner, taking into account the views and concerns of affected parties, local communities and relevant agencies;
6. Recommends, in coordination with the programme/project design team, feasible changes in design and implementation which are both sustainable and cost-effective, while enhancing the resilience of (rural) livelihoods to weather-related events and other shocks and stresses through the sustainable use and management of natural assets along with social protection measures;
7. Includes an Environmental and Social Management Plan (ESMP) with mitigation and monitoring actions and the institutional responsibilities for implementing them clearly presented for each significant impact.

51. Generic requirements for the ESIA are given in Annex 1.3. However, the precise nature of the assessment to be undertaken will depend primarily on the nature, scale and complexity of the issues to be addressed. Ultimately it is important that the assessment focus on the issues identified as significant in the SECA project assessment (consult the relevant Guidance Statements and relevant IFAD guidelines and how-to-do notes).

52. The ESIA (and relevant studies) is undertaken as early as possible and completed well in advance of the early design stage so that the results can be fully reflected in the final PDR. It is the responsibility of the CPMT to ensure that the ESIA is undertaken in a manner that meets the expectations of both IFAD and the borrower. ESIA reports are cleared by the relevant Regional Director after technical judgment has been provided by the Environment and Climate Division.

1.5.3 Step 3: Climate Risk Analysis

53. The third step of the SECAP assessment process is to conduct an in-depth (for projects with high climate risk) or a basic climate risk analysis (for projects with moderate climate sensitivity). The approach taken is determined by the CPMT (with support from regional climate and environmental specialists) based on the results of

the screening exercise. The climate risk analysis should be undertaken prior to the full design of a project/ programme in order to inform the design and decision-making processes. In justified cases, such as large geographic areas and areas with lack of baseline data, an in-depth climate risk analysis can be initiated during the design period and completed during the inception phase of a project.

54. For projects with high climate risk, a detailed climate risk analysis can help to examine the nature of climate and disaster hazards in the geographical location of the project/programme, and examine the exposure and sensitivity of project-relevant communities, ecosystems and critical infrastructure to these hazards. Based on this analysis, practical risk management and adaptation measures can be defined that can be integrated with the project design. These can include technical innovations, such as climate information or early warning systems, or the expansion of landscape-level approaches to create natural buffer zones. Emissions from projects with significant mitigation potential will be quantified using existing tools (such as the Ex-Act tool which has been developed by the Food and Agricultural Organization) and methodologies as appropriate. Based on the high climate sensitivity of this project design, additional financing may be required from dedicated funds (such as the Adaptation Fund, ASAP, GEF, LDCF, SCCF) to finance these complementary actions.
55. For projects with moderate climate risk (see 1.5.1.2.), a basic climate integration can help to respond to the general types and trends of climate hazards in the project area and delineate adjustments in project design to help avoid losses and damages from these hazards to IFAD's target beneficiaries. An important approach with this type of projects is to capitalize on possible opportunities to strengthen climate-resilient development by 'doing things differently' within the available financing envelope – e.g. by improving land-use planning, adjusting the content of capacity-building actions, or adopting more robust building codes.

1.5.4 Step 4: ESIA review and recommendations

56. The fourth step in the SECAP project assessment is a review of the draft ESIA (and other relevant draft documents such as climate risk analysis reports and Resettlement Action Plans or Frameworks) and incorporation of their recommendations into the project design documentation. Prior to appraisal, the draft of the ESIA report and other relevant documents should be made available at a public place, accessible to affected groups and local non-governmental organizations for review and feedback in a timely manner (see sections 1.3.5 and 1.3.6). The Appraisal Mission should review all the comments and recommendations of the draft ESIA and climate risk analysis reports (and other relevant documents), including any outstanding issues identified by the QE Panel (see Annex 1.5 for questions to be answered in the technical review of the ESIA), and discuss these with the government and all interested parties, especially affected rural communities.
57. The CPM in conjunction with the CPMT will ensure that the recommendations have been adequately addressed in the final PDR. This may include alterations to the project design, incorporation of additional preventive actions and/or mitigation measures, suggested loan covenants, supervision requirements, necessary

institutional capacity-building for environmental management, and any specific monitoring and evaluation requirements. The applicability of international standards, such as those of the World Commission on Dams and FAO guidelines on pesticides, dams and other relevant safeguard issues, is typically an integrated part of the issues addressed by the respective CPMT and project QE. The ESIA, RAP/RAF, and Climate Risk Analysis Reports (and other relevant documents) are part of the Project Life File.

1.5.5 Step 5: Loan negotiations

58. The fifth step in the process involves negotiation of the Financing Agreement for the project, which takes place between IFAD and the government. To enhance environmental and social sustainability, the financing agreement may include clauses/covenants/provisions specifying appropriate actions that the government commits to taking (such as compliance with international standards, implementation of the project ESMP and any other management instruments such as Resettlement Action Plans (RAP), environmental and social approvals, local permits, resettlement compensations) in the context of the implementation phase, as necessary.

1.5.6 Step 6: Executive Board approval

59. The sixth step in the SECAP project assessment process involves review and approval of project documentation by IFAD's Executive Board. The Executive Board reviews the *President's Report and Recommendations* on the project proposal. For Category A projects, the final ESIA report (and relevant documents) is made available as per IFAD Policy on Disclosure of Documents. In cases where the Executive Board raises specific environment and/or social-related concerns that have not been addressed adequately, both the President's Report and the PDR should be revised to take these issues into account.

1.5.7 Step 7: Project supervision and implementation

60. The seventh and critical step in the process is implementation of the project by the Borrower/Recipient and IFAD's role in supervision. This would ensure that recommended social, environmental, and climate adaptation actions/measures contained in the Management Plan, resettlement action plan, Indigenous Peoples plan and other relevant loan covenants are effectively implemented. This includes monitoring and reporting compliance (screening, disclosure, consultation, etc.) with IFAD's environmental and social policies as appropriate. In the event of non-compliance with IFAD requirements or the emergence of serious environmental and social issues/risks during project implementation, the CPMT in collaboration with relevant national authorities and project staff, must ensure that appropriate ameliorative action is undertaken to implement preventive and corrective measures, and follow up on these actions to ensure their effectiveness.

1.5.8 Step 8: Project completion and *ex post* ESIA

61. The eighth and final step in the process is project completion reporting and *ex post* evaluation of project environmental and social impacts. Completion-related reports of all projects should provide a specific analysis of the impact of social, environmental,

and climate issues arising from project implementation. The completion report will also highlight critical issues in relation to climate risk management and disaster preparedness. The analysis should take special note of views expressed by rural beneficiaries.

62. For Category A projects, an *ex post* ESIA may be undertaken as part of project completion, as appropriate. Such an exercise will address the effectiveness of the environmental, social, and climate measures associated with the project, including GHG emissions. In addition, the adequacy of the ESIA and climate risk analysis, and the application of the RAP (including FPIC) will be assessed. The exercise should include extensive community consultations leading to consent.

Chapter 2. INTEGRATING SOCIAL, ENVIRONMENTAL, AND CLIMATE ISSUES INTO COSOPs

2.1 Introduction

1. IFAD's country programmes serve as an operational platform for the Fund to help partner countries in identifying what works - be it an international or local innovation or a known good practice - and how together to bring it to the desired scale. The Country Strategy and Opportunities Programme (COSOP) is the strategic document that IFAD and partner countries use to describe the way they plan to collaborate in the medium term and how they will deploy their resources to achieve agreed objectives and results. In addition to defining strategic objectives and targets, COSOPs specify the thematic focus of the country programme and the way in which cross-cutting issues will be addressed. For this reason, COSOPs are considered critical instruments for integrating social, environmental, and climate considerations in IFADs country programmes.
2. In the last decade, several multilateral and bilateral funding agencies have increasingly promoted the use of Strategic Environment Assessments (previously referred to as Environmental and Climate Change Assessments in IFAD) or similar strategic assessments to complement and, usually precede, project based Social, Environmental, and Climate Assessments²⁹. The preparation of a COSOP therefore represents a unique opportunity to conduct, if necessary, the SECAP preparatory study and integrate the findings into an overall strategy aiming at increasing a country's development outcomes.
3. The Guidelines and Sourcebook for the preparation of COSOPs were revised in 2014 and therein recognise that the integration of social, environmental, and climate considerations in a country's growth and poverty reduction strategy (including its agriculture sector strategy) would improve the quality of IFAD's response. For this reason, the Sourcebook refers to the Social, Environmental, and Climate Assessment Procedures (SECAP).

2.2 Supporting the design of COSOPs

4. IFAD's approach for integrating social, environmental, and climate issues in COSOPs has been developed on the basis of practical experience and established 'good practice' emerging from eighteen environmental and climate change assessments³⁰ conducted in the period from 2009 to 2013. These assessments were coordinated by the environment and climate division and financed by Finnish supplementary funds and IFAD's Adaptation for Smallholder Agriculture Program (ASAP). A compendium of

²⁹ Which are more effective in addressing environmental threats and opportunities of specific projects.

³⁰ Azerbaijan, Bangladesh, Bosnia, Cambodia, Egypt, Guatemala, Haiti, Honduras, Kenya, Madagascar, Mali, Nicaragua, Niger, Nepal, Pacific, Rwanda, Sudan and Vietnam.

these assessments is found on IFAD's website³¹. Lessons learned from the use of Environment and Climate Change Assessments (ECCA) show that the programming of such studies needs to be closely linked with the respective COSOP planning and budgeting process and, where feasible, with other preparatory studies which influence the design of COSOPs.

5. Going forward, ECCAs have been simplified and renamed as "SECAP Preparatory Study for COSOPs". Such a preparatory study can be executed (if required) in conjunction with or in parallel to the preparatory studies that usually feed each new COSOP design. It is important to highlight that a SECAP preparatory study does not substitute for a project-specific social, environmental, and climate change assessment. However, it can reduce the need and limit the scope of the latter particularly when conducted at COSOP preparation stage when the project pipeline is planned. Given the relatively limited resources IFAD has at its disposal, the SECAP preparatory study can be tailored to country circumstances and the scope and depth of the exercise should be proportionate to the nature of IFAD's planned interventions in the proposed COSOP cycle.

2.2.1 The four steps for the SECAP preparatory study

6. First step: Assess the need for the preparatory study. In some cases, the Country Programme Management Team (CPMT) in charge of the COSOP preparation may decide that extra research and work are needed to ensure that the environment, social, and climate dimensions affecting the development of a country are fully understood to inform COSOP design. This has been the case for the above-mentioned eighteen COSOPs developed in the last five years. Where sufficient country information already exists, the CPMT may consider to conduct a light desk study.
7. Second step: Plan the preparatory study. Lessons learned from past ECCAs show that the planning and budgeting process of such studies needs to be closely linked with that revised for the preparation of the COSOP and, in particular and where feasible, with that of other preparatory studies expected to feed the design of a COSOP. ECD will endeavor to provide technical and financial support as necessary (see section 1.3.2 above).
8. Further, given the relatively limited resources IFAD has at its disposal for SECAP preparatory study and COSOP designs, it is important to highlight that the scope and depth of such studies can be tailored to country circumstances and be proportionate to the nature of IFAD's planned interventions in the proposed country. Where feasible, the previous ECCA can be validated and amended as necessary. A new full-fledged preparatory study may be required only if dramatic changes have occurred. Annex 2.1 provides the Model TOR for an SECAP preparatory study. Tables 4 and 5 below provide the Basic Principles and Key Features respectively of the SECAP preparatory study.

³¹ <https://xdesk.ifad.org/sites/gef/knowledgemanagement/studiesandreviews/ECCA/Forms/AllItems.aspx>

9. Third step: Assess the scope of the preparatory study. A key lesson from past ECCAs was the diversity of country programme 'needs'. A flexible approach is recommended; some COSOPs require a full background study, others require only a specialist to join the COSOP design process without the need for a separate study while others may not need additional expertise at all³² and require only the IFAD review process. SECAP allows the CPMT to decide freely on how such needs can be best met.
10. Supporting materials for the preparatory studies can be found in Annex 2.2 to 2.4. Screening is carried out to decide whether it is appropriate to conduct³³ an SECAP Preparatory Study. An important part of this exercise is the identification of clear objectives and what would be the role of the study. During screening, it is encouraged to identify and engage with key stakeholders including the proposed target groups, as necessary.
11. Fourth step: Prepare the preparatory study report. A key lesson is to provide an in-depth understanding of the social, environmental, and climate change risks that might potentially affect the proposed IFAD programme. The study should propose measures to mitigate adverse impacts and optimise positive effects, and include monitoring and evaluation indicators of desired outcomes. The study should benefit from evaluation findings of the respective country programme. The results of the study should be presented as an appendix to the COSOP report. Table 4 below provides the basic principles of an SECAP COSOP Preparatory Study.

2.3 SECAP COSOP preparatory study.

Table 4. Basic Principles for the conduct of a SECAP COSOP preparatory study

<p>To assure a good contribution to the quality of a COSOP, the study should:</p> <ul style="list-style-type: none"> • have a clear definition of its scope and objectives; • make reference to existing country policies and planning structures; • be conducted in a way that fits the COSOP design process well; • assess the potential impacts and risks of the interventions that the COSOP proposes; • identify the development opportunities and constraints that the environment, social, and climate change present in the specific country context; • address the linkages and trade-offs between social, environmental, and economic considerations and identify preferred options; • encourage the involvement of key stakeholders and the broader public in its preparation. Special efforts should be made to involve the rural communities themselves, if possible, and, in particular, rural women, the youth, the elderly, ethnic minorities, marginalized groups, and Indigenous People); • be transparent throughout its preparation process, while its funding should be well communicated; • be cost-effective by combining missions and pooling expert resources ; • include indicators to monitor the influence of its findings and recommendation on
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³² Existing reports and studies may already provide much of the information needed for integrating social, environmental, and climate issues in the COSOP design. This could include reports from on-going IFAD and other projects, and studies carried out by other donors and research organizations.

³³ http://www.iaia.org/publicdocuments/special-publications/What%20is%20IA_web.pdf

the country programme development;

- build staff and stakeholder capacities to make the best use of the study findings to inform COSOP design.

(Source: adapted from OECD, 2006)

12. SECAP COSOP preparatory studies can help strengthen country programme performance through the following:

- Promote ownership among key ENRM and CC actors at the country level;
- Influence shift towards clean, green and resilient development;
- Enhance policy dialogue, e.g. on transboundary issues;
- Strengthen institutional capacity for ENRM;
- Facilitate scaling up of proven ENRM and adaptation practices solutions;
- Highlight guidance to both the SECAP assessment and the climate risk analysis at the project level; and
- Identify opportunities for investment that could be financed by ASAP³⁴, GEF, LDCF and SCCF for enhanced results and impact.

13. Table 5 below illustrates key features of SECAP Preparatory Studies can be tailored to specific circumstances and IFAD's needs. The earlier the identification of the need of a preparatory study, the more effective it will be in orienting the COSOP design.

³⁴ For more information, consult the ASAP webpage <http://www.ifad.org/climate/asap/>

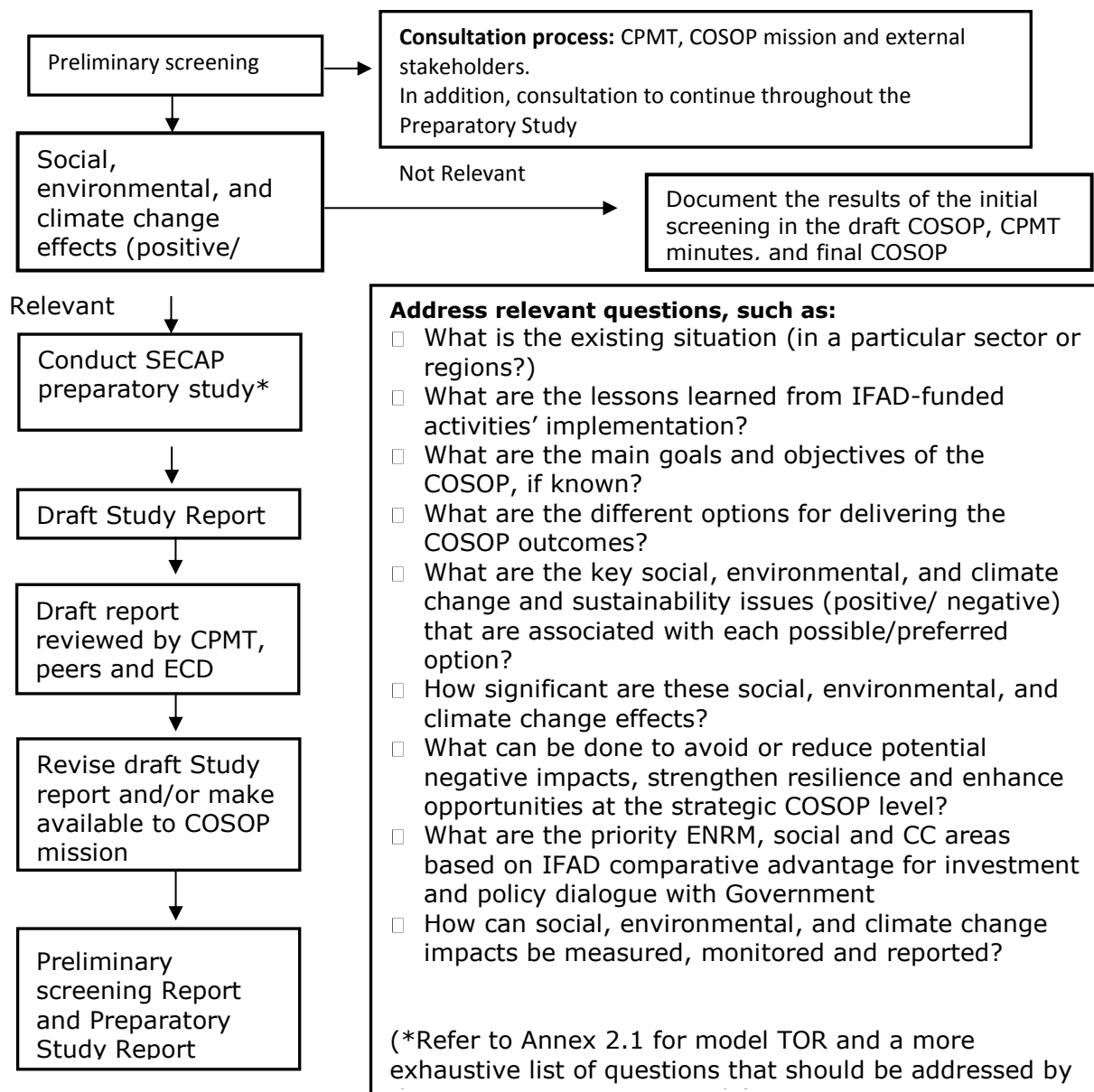
Table 5. Key Features of a SECAP preparatory study

Who does it?	CPMTs with the support of the Regional Climate and Environmental Specialists.
Objectives	To ensure that strategic social, environmental, and climate change considerations including opportunities are integrated in COSOP design.
Measures of success	<p>Social, environmental, and climate change considerations are systematically addressed throughout the COSOP document.</p> <p>Social, environmental, and climate issues are reflected in the COSOP strategic objectives.</p> <p>Lessons learned regarding environmental and climate issues from IFAD-funded activities are scaled up in future investments.</p>
Level of effort and costs	Vary on the basis of available information and assessments as well as the characteristics of interventions that the new COSOP proposes.
Process/steps/inputs	<p>Identify and analyze key environmental, climate change, and social dimensions, including development opportunities, risks of potential negative impacts, and institutional arrangements for risk management. Recommendations/suggestions on these aspects would be included in COSOPs and also flag gaps in information that project level assessments need to fill in.</p> <p>Identify investment opportunities to be financed through ASAP, GEF, LDCF and SCCF.</p> <p>Put in place mechanisms to ensure that stakeholders (especially IFAD target groups) are fully engaged in consultation processes and their inputs and concerns are addressed.</p> <p>Assess related SECAP knowledge & application capacity within the country.</p> <p>Raise SECAP awareness at all levels.</p> <p>Seek information and/or feedback from government, key partners at country level (UNCT, UNDAF, etc.), undertake studies relevant to scale or scope of investment proposals in question.</p> <p>Make available results including investment options early enough to influence decision-making and inspire future planning.</p> <p>Identify indicators for measuring progress and identify accountabilities as part of COSOP Results Framework, and RIMS.</p> <p>Allocate and include in the COSOP design, the cost of proposed activities (environment, social, and climate related activities).</p> <p>Review of COSOP recommendations to determine level of integration of environmental and climate change considerations from the Environment, Social, and Climate issues from the SECAP Preparatory Study.</p> <p>Monitor environmental and climate change-related activities over longer term to improve future IFAD support.</p>

(Source: adapted from OECD, 2006)

14. Figure 4 below provides the process that are typically taken in identifying the need for a SECAP preparatory study.

Figure 4: Steps in the development of a full SECAP preparatory study³⁵ for COSOPs



³⁵ The UNDAF³⁵ process could provide a starting point for understanding donor priorities of the various sectors as well as offer opportunities for synergies with ongoing initiatives in the respective country. Important basic sources of information are Country Environmental Analysis (CEA), National Adaptation Programmes on Adaptation (NAPA), National Poverty and Vulnerability Assessments, National Communications to the UNFCCC. Active cooperation with other development partners during the development of the COSOP is encouraged.

Annex 1.0

Glossary

Baseline data: data that describe issues and conditions at the inception of the ECCA. Serves as the starting point for measuring impacts, performance, etc., and is an important reference for evaluation. (OECD, 2006)

Biodiversity: the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (CBD, 1992)

Chance Find: the discovery of previously unknown cultural heritage resources, particularly archaeological resources, that are encountered during project construction or implementation.

Critical Habitat: A subset of both natural and modified habitat that deserves particular attention. Critical habitat includes areas with high biodiversity value, including habitat required for the survival of critically endangered or endangered species; areas having special significance for endemic or restricted-range species; sites that are critical for the survival of migratory species; areas supporting globally significant concentrations or numbers of individuals of congregatory species; areas with unique assemblages of species or that are associated with key evolutionary processes or provide key ecosystem services; and areas having biodiversity of significant social, economic, or cultural importance to local communities.(ADB, 2009)

Cumulative effects/impacts: incremental impact of an action when added to other past, present or reasonably foreseeable actions regardless of what agency or person undertakes such actions. Cumulative impact can result from individually minor but collectively significant actions taking place over a period of time (OECD, 2006).

Economic Displacement: Loss of land, assets, access to assets, income sources, or means of livelihoods. (ADB, 2009)

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. It is based on the application of appropriate scientific methodologies focused on levels of biological organization which encompass the essential processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of ecosystems **(CBD)**.

Ecosystem services: The benefits people obtain from an ecosystem. Ecosystem services include all outputs from agricultural activities, including outputs as diverse as food production and climate regulation.

Environment: Environment is considered to include biophysical resources and conditions on which rural communities and their activities depend, and which in turn they influence.

Social, Environmental, and Climate Assessment (SECA): the process of examining the social, environmental, and climate risks and benefits of proposals. Interpretations of the scope of SECA also vary, particularly regarding the social and climate dimensions. It is usual to consider the physical/biological impacts of development on directly affected groups (e.g. Impacts on downstream water supply, displacement, and local communities or vulnerable groups). The relative importance of the different dimensions varies depending on the issue involved; in the case of a dam it is increasingly routine in SECA to consider both physical/ecological, social and climate impacts.

Environmental and Social Impact Assessment (ESIA): a process, applied mainly at project level, to improve decision making and to ensure that development options under consideration are environmentally and socially sound and sustainable. ESIA identifies, predicts and evaluates foreseeable impacts, both beneficial and adverse, of public and private development activities, alternatives and mitigating measures, and aims to eliminate or minimise negative impacts and optimise positive impacts. (OECD, 2006)

Environmental Services: qualitative functions of natural non-produced assets of land, water and air (including related ecosystem) and their biota. There are three basic types of environmental services: (a) disposal services which reflect the functions of the natural environment as an absorptive sink for residuals; (b) productive services which reflect the economic functions of providing natural resource inputs and space for production and consumption, and (c) consumer or consumption services which provide for physiological as well as recreational and related needs of human beings.

Innovation: The development of improved and cost-effective ways to address problems/opportunities faced by the rural poor. These encompass institutional and technological approaches as well as pro-poor policies and partnership.

Involuntary Resettlement: Considered when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement. (World Bank, 2014)

Mainstreaming: For the purposes of these Procedures, mainstreaming is "the process of systematically integrating IFAD's Environment and Social Values and Principles into all domains of the Fund's operations to promote both specific and general development outcomes of rural poverty reduction". It implies the integration of environmental and social approaches and tools in the Programme/project cycle in order to better harmonise economic, environmental, climate and social concerns.

Multiple-Benefit Approach: Multiple-benefit approaches to sustainable agriculture seek to reduce risk and build climate resilience through more diversified landscapes, while at the same time reducing poverty, enhancing ecosystems and biodiversity, increasing yields and reducing greenhouse gas emissions.

Physical Cultural Resources (PCR): Also known as 'cultural heritage', 'cultural patrimony', 'cultural property' are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. These may be located in urban or rural settings, and may be above or below ground, or under water. Physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social

development, and as integral parts of a people's cultural identity and practices. (World Bank, 2006)

Physical Displacement: Refers to relocation, loss of residential land, or loss of shelter. (ADB, 2009)

Resilience: Amount of change a system can undergo without changing state. (IPCC, 2001)

Risk: The probability of harmful consequences, or expected losses, resulting from interactions between hazards and vulnerable conditions.

Scoping: a procedure for narrowing the scope of an assessment and ensuring that the assessment remains focused on the truly significant issues or impacts.

Social: Refers to people, their wellbeing, livelihoods and their institutions, including policies. Specifically covers gender equality and women's empowerment, youth and indigenous peoples as well as other socio-economic determinants of poverty, vulnerabilities and capacities, in the framework IFAD's policies on (i) Gender Equality and Women's Empowerment (2012), Targeting (2006) Engagement with Indigenous Peoples (2009) and Youth Policy Brief (2013).

Screening: a process to determine the nature and extent of the Social, Environmental, and Climate analyses to be carried out.

Sensitivity: The degree to which a system is affected, either adversely or beneficially, by climate related stimuli. The effect may be direct (e.g., a change in crop yield in response to a change in the mean, range, or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea level rise).

Stakeholders: those who may be interested in, potentially affected by, or influence the implementation of a PPP. In the context of an ECCA applied to development co-operation, stakeholders may include: (i) internal staff (environment and non-environment) in donor agency and other departments in the donor country, (ii) the partner country government, (iii) other donor agencies, (iv) NGOs, and (v) civil society. (OECD, 2006).

Sustainable Land Management (SLM): Can be defined as conservation and utilisation of land resources such as soils, water, animals and plants to meet the material, aesthetic and spiritual needs of humankind today, while ensuring the future productive potential of these resources, as well as the maintenance of their environmental functions (Shanthikumar, S.R. 2002. Modified from WB, 2000)

Vulnerability: The characteristics and circumstances of a system (e.g. gender and social exclusion, household, community, ecosystem, value chain) that make it susceptible to the damaging effects of a hazard. (Adapted from UNISDR 2007)

Annex 1.1

SECAP Review Note (Outline)

The screening exercise of each project should be undertaken by the design team while in-country in order to allow for data collection to inform the findings and the resultant recommendations. The earlier the results are made available and integrated closely with the economic, financial, institutional, social, and technical analyses of a proposed project, the more effective they will be. It should be an integral part of Appendix 12 "Compliance with IFAD Policies" to the PDR and should follow the outline contained in the box below.

All elements of the SECAP Project Assessment should ideally be embedded in the project concept then the PDR. In this case, the Review note simply needs to cross-reference the relevant paragraph in the accompanying document(s). If the concept and PDR documents do not address the issues below, cross-referencing is obviously not possible and these will need to be covered in the SECAP Review Note.

With regard to the social dimensions, cross-referencing should be consistent with the PDR Annex 2 on Targeting and Gender. Specifically, the analysis of social risks and proposed risk management measures, as well as the different roles and priorities of women/ men and youth, should form the basis of the proposed measures described in the targeting and gender checklists. It may be appropriate to cross-reference the SECAP Project Assessment with these checklists. Similarly, where the proposed project area is home to indigenous peoples, issues should be expanded upon in IFAD's checklist for indigenous peoples.

Annotated SECAP Review Note

Overall length – up to 5 pages maximum

Title of Programme/Project: XXX

1. Major landscape characteristics and Issues (Social, natural resources, and climate)
[Guidance: in each of the descriptive sections below, indicate (i) whether any of the characteristics represent environmental, climate change and social constraints and/or opportunities, or (ii) whether any might be a determinant in the design and delivery of results/impacts of the intervention. Include information on how the resources and climate characteristics relate to specific types of farming systems and livelihoods. Environmental and social opportunities for investment should be explored on the basis of existing national policies, strategies and regulations related to environmental protection, water management and carbon sequestration. Consultation³⁶ with local communities, especially the marginalised poor and women, and other key stakeholders will improve the accuracy of this section.]
- 1.1. Socio-cultural context. Describe the existing socio-cultural context (livelihoods, poverty, gender issues, vulnerability, migration patterns, etc.) Topics to consider also include health concerns such as HIV/AIDS, resettlement issues, land tenure rights and conflicts over use of resources, trans-boundary issues, as well as institutional capacity for NRM and the role of women, youth and indigenous

³⁶ See IFAD's Gender Equality and Women's Empowerment Policy for best practice statements regarding natural resources, land, water, energy, biodiversity and climate change. For the Fund's consultation and approach to indigenous peoples, see IFAD 'Policy on Engagement with Indigenous Peoples'

peoples.

1.2. Natural resources and NRM. Describe the types of land and water elements that characterize the project area (make cross-references to PDR and annexes). Provide baseline information to capture the existing status of NRM, including vulnerability of NR and livelihoods, and physical cultural resources, in order to measure project results. For example, assess the availability of NR and their potential for exploitation; indicate ongoing land degradation/desertification and/or unsustainable agricultural practises (including fisheries, forestry, livestock, etc.) that exceed the ecosystem carrying capacity.

1.3. Climate. Make explicit reference to observed and expected national and sub-national climate risks, indicating whether the project area and specific target groups have been experiencing increased frequency and intensity of extreme weather events and/or are prone to the effects of future climate change and variability; women, men, and indigenous peoples are likely to have different experiences and their perspectives should be highlighted.

1.4. Key Issues. Identify and discuss up to five issues (environmental, climate change, and social) that are of key importance in the project area.

2. Potential project's social, environmental, and climate change impacts and risks

2.1. Key potential impacts. Assess potential social, environmental, and climate risks with attention to ecologically sensitive or biodiversity-rich areas, along with related risk management measures. The assessment applies the mitigation hierarchy: if avoidance is not possible, reduce and minimise potential adverse impact; if reduction or minimisation is not sufficient, mitigate and/or restore, and as a last resort compensate for residual impacts. Highlight potential risks and opportunities with regard to women/ men, youth and marginalized groups.

2.2. Climate change and adaptation. Factor climate variables and variability into project activities and elaborate on potential adaptation measures for long-term sustainability. Building on existing opportunities, describe how the interventions will address them in an integrated manner. If the project is on agricultural development, for example, indicate whether soil and water conservation, good agricultural practices, appropriate selection of crops and agrochemicals, and community environmental education, advisory and extension services have been envisaged.

3. Environmental and social category

Identify the category for the propose project and provide the justification for classifying i into one of the three categories, depending on the type, location, risk, and scale of the project and the nature and magnitude of its potential environmental and climate impacts and opportunities. Make reference to the country's relevant social, environmental, and climate change policies, ratification of relevant conventions, MEAs³⁷, relevant ministries and agencies, country environmental legislation, relevant national strategic frameworks, and any specific social, environmental, and climate priorities/guidances of co-financiers). Explain additional studies necessary to comply with SECAP. An assessment of borrower capacity to plan and ensure environmental due diligence should be discussed, if not previously done under 2 above.

4. Climate risk category

³⁷ UNFCCC, CBD, UNCCD, RAMSAR, CITES, etc.

Specify the climate risk category and summarise the rationale for the classification proposed for the climate risk of the project/programme based on the screening responses. Indicate where information is not available and any assumptions that have been made. An assessment of borrower capacity to build resilience to climate change should be discussed, if not previously done under 2 above.

5. Recommended features³⁸ of project design and implementation

- 5.1. Mitigation measures. Introduce changes and/or measures to the design to eliminate or reduce potential adverse environmental, climate change, and social impacts, or make better use of opportunities³⁹ and synergies/complementarities between relevant national frameworks/environmental conventions/key actors.
- 5.2. Multi-benefit approaches. Explore opportunities to promote green growth and multiple-benefit approaches for production, poverty reduction and the environment, including maintaining ecosystem services and biodiversity, reducing emissions and building climate resilience.
- 5.3. Incentives for good practices. Identify a range of incentives as tangible benefits for relinquishing unsustainable practices (farming, processing etc.), reducing risk, and helping smallholders adopt adaptation and mitigation measures, including funding
- 5.4. Participatory processes. Identify suitable participatory approaches/tools to draw on local understanding of local problems and potential solutions. For example, if addressing adaptation planning, introduce the use of climate risk and local resource maps, climate vulnerability assessment tools, early warning systems, DRR/DRM plans, climate resilience infrastructure, community timeline history, etc. for the planning of village development plans, as necessary. Identify areas of conflict between key actors and over use of resources and include suitable measures (financial and non-financial incentives, empowerment mechanisms, etc.) that will allow achievement of environmental objectives.

6. Analysis of alternatives.

Discuss the various alternatives including environmental objectives and reasons for choosing the best option. Provide where relevant a comparison of alternatives based on environmental and social impacts, climate change vulnerability, technical feasibility and cost.

7. Institutional analysis.

- 7.1. Institutional framework. Analyse the environmental decision-making chain of command to also include other sectors that are key actors in environmental management. Identify who would be responsible for the various activities.
- 7.2. Capacity building. Identify community and other stakeholder capacity building needs, supported by effective information, education and communication activities. Include specific training (ENRM and/or climate-related issues),

³⁸ Guidelines as to what constitutes ENRM Core Principles and Best-Practice Statement can be found in IFAD 'Environment and Natural Resource Management Policy' (2011)

³⁹ In light of the environmental issues (impacts resulting from a diverse array of small interventions) which tend to be associated with value chains development and income-generating activities (IGAs), a self-defining process to identify critical entry and exit points for the necessary capacity building (including skills training on cleaner technologies and good agricultural practices) is essential. An example is EUGAP control points which applies to the production and processing of fresh produce. The Procedures also contains provisions relating to labour standards and the lowering of pesticide use, essential for the long-term improvement and sustainability of agricultural production.

supervision and reporting needs, including measures (i.e environmental approvals, local permits, compliance with specific international guidelines and standards, compensation, grievance mechanisms, etc.) to be considered in the Financing Agreements.

7.3. Additional funding. Include elements for linking the loan to ASAP⁴⁰, GEF, LDCF and SCCF funding, including Green Climate Funds for enhanced results and impact

8. Monitoring and Evaluation. This section should include M&E recommendations. Describe how participatory environmental, social and adaptation monitoring will be ensured and provide specific indicators with special emphasis on the linkage between poverty, environment and climate change. Focus on the identification of third level indicators to adequately capture the impact of project activities on the environment. IFAD encourages the collection of GPS coordinates of all interventions so as to enhance monitoring, impact assessments and overall accountability of actions. As the activities will be incorporated into the various project and programme components, monitoring should be aligned to the project M & E system.

9. Further information required to complete screening, if any
Highlight additional information or studies (includes land assessment, social assessment, and climate risk) needed to take better advantage of the opportunities offered by the environmental and social context to: (i) influence the necessary changes in project location, design, technologies, objectives, etc (which may alter the project inputs once these factors are taken into consideration); and (ii) prevent, eliminate or mitigate the environmental, social and climate concerns, including risks that the project intervention(s) may create.

10. Budgetary resources and schedule. This section should also identify and provide the estimated timeframe and budget for the ESIA, as well as for additional activities such as RAP/RAF, IPP, and climate risk analysis (see 3 and 4 above).

11. Record of consultations with beneficiaries, civil society, general public etc.
Specify details of consultations with marginalized poor sections of the communities including women’s groups, identifying the key comments provided and how the responses to those comments have been incorporated into project design for effective implementation.

Annex 1.2

Guiding Questions for Climate Risk Screening

Question	Yes	No	Additional Explanation of 'Yes' response
Is the target group of the project dependent on climate-sensitive natural resources (such as drought-prone crops, rainwater-fed agricultural plots, migratory fishstocks)?			

⁴⁰ For more information, consult the ASAP Concept Note.

Has the project area been subject to extreme weather events in the past, such as flooding, drought, tropical storms, or heat waves?			
Could changes in temperature, rainfall, or extreme weather affect the project impact, sustainability or cost over its lifetime?			
Will climate variability likely affect agricultural productivity within the project (crops/ livestock/fisheries) or incidence of pests and diseases?			
Would weather-related risks or climatic extremes adversely impact upon key stages of identified value chains in the project (from production to markets)?			
Does the project have potential to integrate climate resilience measures without extensive additional costs (such as applying improved building codes; expanding capacity building programmes; or including climate risk issues in policy processes)			
Would the project benefit from a more detailed climate risk and vulnerability analysis to identify the most vulnerable rural population, improve targeting and identify additional complementary investment actions to manage climate risks?			

Annex 1.3

Model Terms of Reference for Environmental and Social Impact Assessment for (name of Country)

The model TOR provided in the box below is intended for an Environmental and Social Impact Assessment (ESIA) to be prepared in the framework of the formulation of a project or programme which has an environmental classification of **Category A**. The TOR can also be adapted to be used as guidance during ex-post facto ESIA for **Category A** projects. Explanations and sections to be completed according to country conditions are highlighted in italics.

Model TOR for the ESIA

A. Background Information

Include a brief summary of the poverty-environment nexus and its impact on the rural livelihoods. Also include details of the project area including target groups and highlight that special focus will be on indigenous people, women and youth as well as other vulnerable groups within the above categories.

Objectives of the Environment and Social Impact Assessment Study

The objectives of the ESIA study are to: (i) identify key linkages between rural poverty and environmental management and assess the potential environmental and social impacts of the proposed project on the natural resource base and livelihoods of communities in the target areas; (ii) explore and identify key options for advancing environmental and social sustainability; and (iii) recommend key opportunities to influence IFAD support towards environmental sustainability and climate smart development. This Study is intended to provide options that would inform and thus improve decision making of the (title of project) design.

The key environmental, climate change and social issues to be addressed include: (i) challenges faced to meet its rural development and food security goals; (ii) the major environmental, climate change and social issues that have a bearing on IFAD operations in the country; (iii) the direct impact and multiplier effect the mentioned issues have on the resilience of ecosystems and productivity of land and crops, natural resource management and rural livelihoods; (iv) the scale of volatility and risks resulting from climate variability and change; and (v) regulatory frameworks which are related to rural development and environmental issues.

The expected results of the ESIA are: (i) an assessment of the environmental (and social/economic/institutional) issues particularly in the agricultural and rural development sector; (ii) the identification of links with relevant ongoing initiatives; (iii) the provision of specific measures, recommendations including opportunities to optimize adaptation, environmental management and resource use; in the project

area. These results will shed light on the important opportunities available to build resilience and adaptive capacity in the programme/project under development.

The IFAD Climate Change Strategy (2010) calls for the Fund to more systematically respond to increasing demands from our clients for technical support and innovation to better respond to climate change. This means analysing and addressing climate change challenges during the early stages of programme and project design to build resilience and adaptive capacity.

The IFAD Environment and Natural Resource Management (ENRM, 2011) Policy stresses that project designs present new opportunities to improve systematic integration and scaling up of ENRM of the portfolio. Such integration can help IFAD to engage in new and strengthened partnerships with specialized entities for enhanced and effective responses to issues associated with natural resources and, climate variability and change. The Policy provides ten Core Principles and eleven Best Practice Statements to guide IFAD interventions.

Key Principles to guide the ESIA

(i) Look beyond the traditional "do no harm" safeguards approach to mitigating environmental, climate change and social risks towards "doing good" through greater focus on sustainability and management of environmental (rehabilitating degraded lands, seizing adaptation/mitigation opportunities and transforming the underlying inequalities that undermine inclusive development, etc.) and social impacts and risks;

(ii) Begin the ESIA with a scoping exercise with the objectives of identifying as much as possible the relevant social, environmental, and climate change issues, so that baseline data collection and impact assessment can focus on them and not expend unnecessary resources on issues that are irrelevant.

(iii) Place strong emphasis on identifying opportunities and develop an appropriate management plan to enhance results and impact;

(iv) Identify and compare alternative scenarios to recommend realistic proposals for design mission consideration;

(v) Identify capacity needs required to effectively implement the environmental and social management plan; and

(vi) Produce a realistic monitoring plan, including appropriate change management processes.

(vii) Engage affected communities and other interested stakeholders throughout the ESIA process, from scoping to review and comment on the final draft report prior to decision-making.

B. Scope of work

The ESIA study will consider economic, natural, and social aspects in an integrated way. The study will take into account obligations of the country pertaining to project activities under relevant (country) laws and international agreements and standards, best practices, and realities of the institutional capabilities related to environment, climate change and social aspects. Specifically, this will involve: (i) engaging a broad range of stakeholders at the national, regional and communal levels, involving as much as possible vulnerable groups wherever possible; (ii) identifying and addressing cross-border issues, as necessary; (iii) identifying environmental, climate change and social opportunities and constraints; (iv) ensuring integration with national policy and planning structures; and (v) including an effective system for monitoring of climate, environmental and social issues. Mainly secondary information and qualitative methods will be used for conducting the ESIA study.

On the basis of data drawn from: (i) IFAD reports, Government studies and documentation from other development partners; (ii) field visits and meetings with relevant stakeholders in the country; and (iii) making use of the suggested questions and ENRM Best Practice Statement on ENRM (see Annex 1 and 2), the consultants will perform the following key tasks:

Task 1: Determining the Scope of the ESIA. Based on the Environmental Review Note, preliminary investigation of the project area, consultation with affected communities and concerned, knowledgeable groups or agencies, identify the project-affected area, determine the scope of the ESIA, and prepare a Scoping Report. Following review by the implementing agency (ies) and IFAD, the Scoping Report will be disclosed in accessible locations for comment by interested and affected parties.

Task 2: Description of the environmental conditions of the project area.

Guided by the Scoping Report, assemble, evaluate and present all relevant baseline data on the relevant environmental, climate change and social characteristics of the project area. This should include rates of forest and other natural resources degradation, physical cultural resources, river flow and sedimentation rates, pollution sources and levels. Data should be relevant to decisions about project location, design, operation, or mitigatory measures.

Physical Environment: topography, climate, soils, rainfall, infrastructure etc.

Biological Environment: flora, fauna, endangered species, sensitive sites and significant natural sites.

Socio-Cultural environment: (population dynamics, land use, poverty trends, community structure and capacities, sources of livelihoods, distribution of income, cultural heritage, goods and services, level of community environmental awareness on issues such as poverty and environment, biodiversity loss and climate change, and extent of community dependence on natural resources for livelihoods.

Task 3: Legislative and regulatory considerations. Review current national policies, legislation and legislative instruments governing environmental management, climate change (mitigation and adaptation) and governance with their

implementation structures, identify challenges, and recommend appropriate changes for effective implementation. Review and summarize relevant international treaties and conventions to which the country is a signatory.

Task 4: Determination of the potential environmental, climate and social impacts and risks of the proposed project. Identify and analyse (quantitatively where possible) opportunities, potential positive and negative impacts (i.e. associated with development of small dams), direct and indirect impacts and immediate and long term impacts of the proposed project on the natural resource base and livelihoods. Include an assessment of the potential cumulative impacts of the proposed project or programme and other activities that are ongoing, planned or can reasonably be foreseen to occur in the affected area. Assess environmental, climate adaptation and social costs of these impacts. The assessment applies the mitigation hierarchy: if avoidance is not possible, reduce and minimise potential adverse impact; if reduction or minimisation is not sufficient, mitigate and/or restore, and as a last resort compensate for residual impacts.

Task 5: Analyse alternatives and recommend modifications to the project design. Recommend feasible and cost-effective measures to prevent or reduce negative impacts.

Task 6: Development of an environmental and social management plan:

Formulate an integrated plan to avoid, minimize, mitigate or compensate for the significant potential environmental and social impacts and to avoid or mitigate climate change risks. Prepare a detailed plan to monitor environmental and social impacts and implementation of mitigation plans developed. The plans should specify the actions to be taken for each impact, identify the entity responsible for taking the action, the timing according to the stages of the project, and the estimated cost.

Review capacities of institutions at national, provincial, county and sub-county levels to implement recommended activities and propose ways to strengthen them in order to effectively manage and implement mitigation and monitoring plans proposed. This should include responsibilities, staffing, equipment and training guidance.

Identify and recommend preventive measures to mitigate climate change risks and adverse environmental and social impacts of the project as well as who will implement them and mitigation costs.

Task 7. Assist in Inter-Agency Coordination and Public/NGO Participation.

Assist in coordinating the environmental and social assessment with other government agencies, in disclosure of documents in accessible locations in appropriate form and language, in obtaining the views of local NGOs and affected groups (especially the marginalized poor), and in keeping records of meetings and other activities, communications, and comments and their disposition.

Personnel: The assignment will be undertaken by a team (add the resource persons) of international experts, with wide experience in conducting Environmental and Social Impact Assessments; and local counterparts (preferably) with good knowledge

of environmental and natural resources issues, as well as social and targeting issues, in the project area.

Schedule: The assignment is planned to be undertaken over (to be determined depending on scope of work) ____ days between (provide timeline).

Report: The ESIA report should be concise, and limited to environmental and social issues including emerging issues. The main body of the report should be limited to findings, conclusions and recommendations supported by data collected and literature cited. Other documents used should be presented in annexes or appendixes.

For the purpose of public consultation, the ESIA documentation should be translated into material that is accessible, in form and language, to local population.

The ESIA report will be disclosed in accordance with IFAD's Disclosure Policy.

List of Data Sources (include others):

- IFAD Climate Change Strategy (2010)
- IFAD Environment and Natural Resource Management Policy (2011)
- IFAD Environment and Social Assessment Procedures (Chapter 1)
- Disaster Risk Management Guidelines
- IMI climate change checklist
- Country Evaluation Report

Annex 1.4

Recommended Format for Environmental and Social Impact Assessment (ESIA)

Environmental and Social Impact Assessment (ESIA) is a management tool used for better programme/project planning and design and can be considered an overall process within which an actual ESIA study itself is carried out. As such, the term ESIA can be used in several ways as follows:

- a process which enables both environmental, climate change and social issues to be taken into account during all stages of programme/project design and implementation;
- a formal procedure for providing environmental, climate, economic, and social information for decision makers who authorise the programme/project; and
- a study which identifies, predicts and evaluates the potential environmental, climate, and social impacts and risks of programmes/projects in a systematic and objective way, recommends appropriate preventive actions and mitigating measures, and maximizes environmental opportunities. The results of the ESIA study are presented in the form of a report (includes the environmental and social Management Plan) as an appendix to the PDR.

While EIA/ESIA legislation differs among countries, the general process involves a standard sequence of steps.

The steps in IFAD's ESIA process can be presented in generalized form as follows:

A. PRE-ESIA

- (i) Screening⁴¹ and Scoping⁴²
- (ii) ORGANIZATION OF STUDY⁴³

B. ESIA STUDY⁴⁴

- (i) Describe the proposed project actions and their goals
- (ii) Describe the initial state of the environment and of local communities to establish a baseline for future reference
- (iii) Identify potential impacts (environmental, social and climate)

⁴¹ The Environmental, Social and Climate Screening and Scoping exercise determines whether the programme/project requires an ESIA or some subsidiary form of investigation. This form of screening generally relies on the use of criteria and Guidance Statements (see criteria in 1.5.1.1 to 1.5.1.4 above and the attached Guidance Statements). Only Category A projects go through the next stage of the ESIA process.

⁴² **Scoping.** This stage comprises the identification of issues that should be considered in the study and in what depth, by whom, how, and by when. Initial scoping is carried out on the basis of the preliminary assessment and other information available on the project proposal. In some countries, procedural guidelines for scoping exist as do requirements for the format and content of ESIA's.

⁴³ **Organization of Study.** If after the review of the preliminary assessment, the competent authority determines that a full ESIA study is required, the organizational modalities for the study are worked out.

⁴⁴ **The ESIA Study** is the centrepiece of the ESIA process. The ESIA study culminates in the preparation of an Environmental and Social Impact report which also addresses climate change issues. The report (includes the Environmental and Social Management Plan) will highlight the major impacts and possible mitigation measures as well as alternatives to the proposal. It also forms the basis for the review and decision-making steps outlined below.

- (iv) Describe alternatives considered⁴⁵
- (v) Predict likely impacts, including direct, indirect, reversible, irreversible, and cumulative effects
- (vi) Evaluate significance and likelihood of impacts (positive and negative), and 3comparison of alternatives
- (vii) Identify opportunities to maximize benefits and appropriate preventive actions to eliminate, reduce or mitigate negative impacts
- (viii) Prepare an environmental, social and climate management plan
- (ix) Design an environmental, social and climate monitoring and evaluation program.
- (x) Design a capacity building program for strengthening programme/project environmental, social and climate resilience issues

c. POST-ESIA STUDY

- (i) Review of the ESIA report, including public participation consultation⁴⁶
- (ii) Decision-making (should project proceed or not? should project design and implications be modified?)⁴⁷
- (iii) Implementation of the environmental, social and climate management plan
- (iv) Post-study audit⁴⁸, as necessary

Depending on the ESIA procedures adopted in a particular country, the exercise generally involves an independent authority which has the responsibility of ensuring that the guidances of the ESIA process are met in a satisfactory manner. These tasks generally include: ensuring that ESIA studies are carried out for relevant projects according to pre-established screening mechanisms, controlling the quality of ESIA studies, and making decisions concerning whether a project may proceed and, if so, what mitigation measures are required. The actual carrying out of the study in compliance with legislated guidances is generally the responsibility of the proposing agency.

The ESIA should focus on the significant environmental, social and climate issues identified by the environmental, social and climate screening and scoping exercise. The ESIA report should be concise; the level of detail and sophistication being commensurate with the potential impacts identified in the Review Note. The target audience are the project design team, implementing agencies, borrowers, affected populations and

⁴⁵ **Alternatives considered** should include the proposed action and no action alternatives. Among the possible alternatives, the report should clearly show which alternatives were considered in detail and the rationale for that choice. Unfortunately, many ESIA reports are deficient in the consideration of true alternatives to the proposed action. Identification of potential impacts should be done for all alternatives considered in detail.

⁴⁶ **Review of the draft ESIA report.** The report is reviewed to ensure that it provides the necessary information for decision-making. Depending on the legislative or procedural context, review may entail scrutiny by an independent body or the environmental authority in charge of the ESIA process. The draft report is also reviewed by the CPMT. There will be provisions for public review and comment prior to appraisal. The review stage may result in revisions being made to the ESIA before it is submitted to the decision-making authority and/or design team.

⁴⁷ **Decision-Making.** The ESIA report is submitted to **the respective Regional Division** for consideration by the project design team or to other competent decision-making authority. In some jurisdictions, the ESIA report may be attached to some statutory Government decision on the project. Conditions for accepting the proposal are decided upon based on the recommendations of the ESIA.

⁴⁸ **Post-Study Audit.** This will be carried out to ascertain whether the provisions contained in the ESIA study were adhered to or whether the predictions contained in the ESIA study were accurate.

relevant IFAD staff in the respective regional division and Environment and Climate Change division. The statement/report submitted to IFAD should be prepared in any of the UN official languages. The final ESIA statement/report which is attached as an appendix to the PDR should include the following items (see the box below):

Outline of the ESIA Report

Executive Summary. Concise discussion of significant findings and recommended actions.

Introduction. Rationale for ESIA, based on screening exercise. Concise discussion of significant findings and recommended actions. Mention the approach and methodology taken which may include climate vulnerability assessment.

Policy, legal, and Administrative Framework. Discussion of the policy, legal, and administrative framework within which the ESIA is prepared. The guidance of the country related to environment and climate change, and of any co-financiers should be explained, and emphasis should be given to the project relevance to these frameworks. The obligations of the country under relevant international treaties and conventions should be summarized.

Project Description. Concise description of the project and its geographical, climate, ecological, social, and temporal context, with particular emphasis on specific project components which are the subject of the ESIA – i.e., likely to cause positive or negative impacts -- in line with the Environment, Social and Climate Screening and Scoping exercise.

Baseline Data. Assessment of the dimensions of the study area and description of relevant physical observed changes and prediction of climate change, biological, and socioeconomic conditions (including level of community environmental awareness), including any changes anticipated before the programme/project commences. Current and proposed development activities within the project area and chance find (but not directly connected to the project) should also be taken into account. Where data are lacking or unreliable, specific reference must be made on this point. The baseline should describe the environmental, social and climate context in a quantitative style to allow measuring of project results.

Anticipated socio-economic impacts/risks and mitigation measures. Assessment of positive and negative social and economic impacts likely to result from the proposed project or project component. Specific attention should be given to maximizing opportunities, avoiding involuntary resettlement⁴⁹, enhancing gender equality and women's empowerment and reducing vulnerability to risks/effects of climate change

⁴⁹ Identifies, assesses, and addresses the potential economic and social impacts of the project that are caused by involuntary taking of land (e.g. relocation or loss of shelter, loss of assets or access to assets, loss of income sources or means of livelihood, whether or not the affected person must move to another location) or involuntary restriction of access to legally designated parks and protected areas. Special attention should be paid to (i) establishing a deadline for property claims, (ii) evaluating pre-resettlement living standards and assets, (iii) appropriately compensating individuals and villages that are physically or economically displaced by the said project and (iv) conducting a fair and equitable resettlement operation.

and variability. In any case, emphasis should also be on involving key stakeholders especially vulnerable groups and marginalized⁵⁰ poor communities in project design and implementation, and addressing public health concerns (i.e. HIV/AIDS)

Anticipated environmental impacts/risks and mitigation measures (includes climate change). Identification and assessment of the positive and negative impacts likely to result from the proposed project or project component and vice versa (Preventive actions and/or mitigation measures, and any residual negative impacts that cannot be mitigated should be identified). Opportunities for building resilience to climatic shocks and enhancing environmental issues⁵¹, including promotion of global environmental benefits, should be explored. The analysis and elaboration of climate change associated risks on the project area should be undertaken to ensure that appropriate adaptation measures are included among the interventions, and in the project risk analysis for long-term sustainability of results. The extent and quality of available data, key data gaps, and uncertainties associated with predictions should be identified/estimated. Topics that do not require further attention should be specified. Confirm the environmental and social Category of the project.

Assessment of Cumulative Impacts. The potential positive and negative environmental and social impacts of the project or programme together with those of relevant ongoing or planned activities or activities that may reasonably be foreseen should be identified. Effects of those other activities on the project's vulnerability to climate change should be considered. The ESIA should explain the extent to which the project's implementing agency can maximize opportunities and avoid, minimize, mitigate or compensate for cumulative impacts, and, for significant impacts beyond the control of the implementing agency, the ESIA should identify the actions necessary to be taken by others.

Analysis of Alternatives. Systematic comparison of the proposed investment and design, site, technology, and operational alternatives in terms of their potential environmental, resilience and social impacts; capital and recurrent costs; suitability under local conditions; and institutional, training, and monitoring guidance. For each of the alternatives, the environmental, adaptation and social costs and benefits should be quantified to the extent possible, and economic values should be attached where feasible -attention should be given to cost-effectiveness. The basis for the selection of the alternative proposed for the project design must be stated. Where possible, expand the programme's approach and initiative to address issues associated with climate change adaptation, mitigation and DRM.

Recommendations for Changes to Programme/Project Design. Identification of feasible and cost-effective measures that may reduce climate vulnerability, potentially significant adverse environmental impacts to acceptable levels, and estimation of the potential environmental impacts; capital and recurrent costs; and institutional, training, and monitoring guidance of those measures. Consider providing details on proposed work programmes and schedules. Such details help ensure that the proposed changes in project design can be executed in phase with previously planned activities throughout implementation. Compensatory measures should be considered if mitigation measures are not feasible or cost-effective.

⁵⁰ For IFAD's approach to indigenous peoples and land, see IFAD Policies on Engagement with Indigenous Peoples and Land respectively.

⁵¹ Global environmental issues include climate change, ozone-depleting substances, international waters, land degradation and adverse impacts on biodiversity.

Institutional Aspects. Assessment of the existence, role, capacity and capability of formal and informal institutions for climate change and natural resources management, including official environmental units on-site (at the agency and ministry level), and informal and community-level institutions. Agencies responsible for management of social impacts should be included in this assessment; examples are public health departments, museum or antiquities commissions, ministries of social welfare, women's affairs, or cultural affairs, and agencies dealing with land issues. Explore opportunities for policy dialogue/reform and green growth. Based on these findings, recommendations should be made concerning the strengthening, establishment and/or expansion of such units, and the training tailored to the identified target groups, to the point that ESIA recommendations can be implemented.

Grievance Procedure. This section describes the complaints procedure (both informal and formal channels), indicating the time frame and processes for resolving complaints about the project's environmental and social performance.

Environmental and Social Management Plan (includes implementation arrangements). Identification of the preventive actions and/or mitigation measures recommended to eliminate, reduce or mitigate climate risks and the potential adverse environmental and social impacts of the programme/project, as well as the responsible parties for implementing such actions/measures, the timing of activities in relation to stages of the programme/project, estimated costs involved, poverty-environment indicators, etc. Consider the use of climate proofing of investments.

Monitoring Plan (includes performance indicators). Specification of the type of monitoring (i.e., early warning systems, participatory, environmental quality, implementation of environmental measures), who would do it, how much it would cost, and what other inputs (e.g. personnel, training, GIS, field and/or laboratory equipment, supervision arrangements) are necessary.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

Appendices

- (i) Composition of ESIA mission – individual(s) and organizations.
- (ii) *References* – written materials used in study preparation. This list is especially important given the large amount of unpublished documentation often used.
- (iii) *Record of Consultations* – The record of consultations for obtaining the informed views of the affected people and local NGOs should be included. The record should document the fate of public consultation outcome, in terms of influence on project design and/or implementation. The record should specify any means other than consultations that were used to obtain the views of affected groups and local NGOs. (List community individuals and organizations consulted.)

Annex 1.5

Technical Review of ESIA

The Environment and Climate Division will review the adequacy of the ESIA report, checking especially the questions shown in the box below.

Questions for the Technical Review of ESIA

- Is the Executive Summary adequate with recommendations clearly stated? Including significant impacts (unavoidable or irreversible); cumulative effects of impacts; probability of predicted and evaluated impacts; appropriate mitigation measures and monitoring activities.
- Are cost-effective alternatives to project interventions (location, design, technology, etc.) described and have their impacts and costs been evaluated appropriately?
- Is the poverty-environment nexus adequately addressed and linked to analysis?
- Does the baseline section give an overall picture of present conditions and trends (including climate change predictions), and include ongoing and proposed development activities in the study area? Does it provide comments on the quality of the data and the completeness of the database? Is the baseline study adequate for decision-making?
- Does the report take into account existing risks, the degree of exposure and vulnerabilities of the target groups and their livelihoods, current climate variability and/or the potential future impacts of climate change? Is there inclusion of appropriate adaptation and disaster risk reduction measures to address potential climate change impacts?
- Is there adequate consideration for building on existing capacities, such as endogenous, community-based coping strategies and adaptive responses? Does the report explore the potential for the project to capitalize on on-going adaptation and mitigation efforts by other development actors through partnerships?
- Do mitigating measures appear adequate to both control all significant adverse impacts and enhance project benefits? Are the institutional arrangements for implementing and monitoring the measures defined? Are the costs of implementing and monitoring all recommendations adequately budgeted in the cost tables?
- In case of direct project impacts on land/property, have the affected people/communities been properly identified, their needs evaluated, free, prior and informed consent processes conducted, and proper compensation mechanisms been set and settled?
- Have the consultation process/public participation (especially with the rural poor, indigenous peoples and women) and other statutory guidance (e.g. national ESIA guidance) been met?
- Is there adequate documentation of community involvement (especially of the

marginalized poor, women, youth and Indigenous Peoples), including an overview of the issues raised and their disposition? Are proposed solutions socially acceptable to target groups? Do arrangements comply with the IFAD Policy for Engagement with Indigenous Peoples

- Do the recommendations comply with IFAD Social, Environmental, and Climate Assessment Procedures?
- Where existing databases, planning studies, other ESAs, scientific papers, etc., are used as information sources, are the references for these sources given and are technical terms defined where they occur?
- Has the ESIA been reviewed and accepted/approved by the cognizant national environmental agency?

Annex 1.6

Model Terms of Reference for a detailed Climate Risk Analysis

1. Background

- 1.1 The International Fund for Agricultural Development (IFAD) is an international financial institution and a specialized United Nations agency dedicated to eradicating poverty and hunger in the rural areas of developing countries. Working with poor rural people, governments, donors, nongovernmental organizations and other partners, IFAD is one of the largest sources of development financing for agriculture and rural development in many developing countries.
- 1.2 IFAD acknowledges climate-related risks as one of the factors affecting rural poverty and as one of the challenges it needs to address. While climate change is a global phenomenon, its negative impacts are more severely felt by poor people in developing countries who rely heavily on the natural resource base for their livelihoods. As the most vulnerable and marginalized people in rural societies, smallholder farmers and herders are especially exposed to climate change. They inhabit some of the most vulnerable and marginal landscapes, such as hillsides, deserts and floodplains. They often lack secure tenure and resource rights, relying directly on climate-affected natural resources for their livelihoods.
- 1.3 Responding to this prioritization, the IFAD Strategic Framework 2011-2015 proposes as overarching goal to enable poor rural people to improve their food security, raise their incomes and strengthen their resilience. Consistent with this approach, the IFAD's Policy for Environment and Natural Resource Management also recommends greater attention to climate-related risks and resilience in order to manage environment- and natural resource related shocks.
- 1.4 For investment projects with a projected high sensitivity to climate hazards, IFAD is requesting a climate vulnerability analysis which can help to improve the targeting of investment actions to include the most vulnerable and least resilient target groups:
 - Improve the robustness of development investments from climate-related hazards;
 - Increase the resilience of development Outcomes; and
 - Avoid investment actions which inadvertently increase vulnerability to climate hazards over the longer term

2. Description of services provided

Objective

The objective of the consultancy is to analyse:

- the occurrence of climate-related hazards in the prospective target area of the project (including a historical analysis of hazard types, intensities, frequencies and associated losses and damages);
- the physical exposure of livelihoods, ecosystems and critical infrastructure in different locations to the most prevalent climate hazards ('hot spots' mapping)
- the key properties that determine the susceptibility of livelihoods, ecosystems and critical infrastructure in the target area to the most prevalent climate hazards (sensitivity analysis);

In addition to this basic vulnerability analysis, the consultancy is expected to summarize

- projected climate change impacts in the target area, based on representative ensembles of climate models and scenarios
- preliminary recommendations on how climate risks in the target area can be addressed in a larger investment programme

3. Supervision

The consultants will work under the joint responsibility of IFAD's Regional Climate and Environment Specialist and the Country Programme Manager.

4. Tasks, Results and Deliverables

The consultants will undertake the following tasks:

- Collection and synthesis of available biophysical and socio-economic maps and data at the targeted level (national, provincial or district):
- Surface topography
- Surface hydrology (drainage patterns, catchment areas, wetness index)
- Flood risk areas
- Vegetation cover (including woody and herbaceous layers) and –if available - vegetation cover trends (min. 250m resolution)
- Rainfall variables (number of days with precipitation, rainfall aggressiveness, mean annual precipitation)
- Temperature variables (annual temperature ranges, min/max temperatures)
- Infrastructure (road networks, irrigation systems, rural roads at flood or/and erosion risk)
- Collection and analysis of historical meteorological data to delineate hazard trends and occurrences

- Collection and analysis of loss and damage data in relation to climate-related hazards
- As necessary, ground-truthing of findings through discussions with local stakeholders in climate risk hot spots

The consultancy is expected to achieve the following results:

- (i) A set of geo-referenced and GIS-compatible baseline maps outlining the exposure and sensitivity of vulnerable livelihood systems in the target area to prevalent climate shocks and stresses;
- (ii) An analysis of available future climate scenarios for the project area. As necessary, this can be based on the development of regional climate models at a scale of less than 50km, based on statistical or dynamic downscaling. The analysis of climate change impacts should be based on a representative ensemble of climate models and focus on implications for the programming context (e.g. climate change impacts and implications on production, harvesting, post-harvesting, access to markets, wider landscape characteristics)
- (iii) Recommendations to reduce risks to extreme events and adapt to climate variability and change. These recommendations are expected to include specific practices and technologies to increase climate resilience of the targeted farming or value chain systems, and should be verified by consultations with key stakeholders *in situ* to solicit bottom-up recommendations and validate the findings from the analysis

Based on the above work and analysis, the consultants will provide IFAD with the following deliverables:

- (i) A **vulnerability map** with a preliminary assessment of the locations within the project area that are particularly vulnerable under present climate variability and projected climate change. This map should enable prioritisation of geographic areas for IFAD interventions. The set of baseline maps used for the production of this vulnerability map need to be annexed to the analysis.
- (ii) A **technical report** explaining how the maps were produced, including key data sources, modelling assumptions, consultations undertaken and limitations of the methodology.
- (iii) A short (max 10 pages) **analytical report** with a set of preliminary recommendations on the measures that are proposed to reduce climate risks and vulnerabilities in the proposed project context.

5. Timing

The activities will be carried out in a time period of 8 weeks between [insert dates], including documentation, a field mission [insert dates], consultations and validation activities, writing and editing. The final version of the report must be submitted no later than [insert dates].

6. Responsiveness

Timely responses to inquiries from IFAD are a part of the Contractor's standard client service. IFAD will be kept informed on an on-going basis of any significant developments that occur at the Contractor, which may affect the provision of Services.

Contractor's staff will respond to all enquiries within 24 hours through the use of the most appropriate communication channel as agreed between the Contractor and IFAD. If further investigation is required, the Contractor will promptly notify IFAD that further action is required with periodic updates on the status of the enquiry.

7. Profile of the service provider

- Proven experience in disaster risk reduction, climate risk management, climate change adaptation or environmental and natural resource management
- Relevant university degree or higher education
- In-depth understanding of climate and disaster risks in country X, including existing risk management policies, frameworks and strategies
- Previous experience in conducting risk and vulnerability assessments
- Previous experience with participatory, community-based consultation methods
- Experience with GIS-based mapping and the management of geo-referenced data
- Familiarity with climate change concepts, models and scenarios
- Proven track record in related consultancy work
- Excellent writing and editing skills (in the relevant language)
- Good analytical and strategic thinking
- Ability to work under pressure and meet deadlines

Annex 2.1

Model TOR for SECAP Preparatory Studies for COSOPs

Note: This model TOR is intended for a Social, Environmental, and Climate preparatory study (hereafter referred to as SECAP study) undertaken in the framework for the formulation of the Country Strategic Opportunities Programme. They can also be adapted to be used as guidance to enhancing COSOP design missions and mid-term evaluations. Explanations and sections to be completed according to country conditions are highlighted in italics.

Title: Terms of Reference for the SECAP Preparatory Study for COSOP (name of Country)

Background

- 1 The aim of the social, environmental, and climate preparatory study is to provide analytical underpinning for environmental sustainability through the provision of options that would be a vital input into COSOP development and decision making process. The SECAP study does not substitute for project-specific environment, social and climate assessment, but it can reduce the need and limit the scope of the latter. The programming of assessment needs to be closely linked with the respective country COSOP planning and budgeting process.
2. A priority of COSOPs will be to support outcome –driven national development strategies and systems on ENRM (such as ecosystem-based approaches) as reflected in poverty reduction strategy programmes (PRSPs) and relevant national strategic frameworks (e.g. national adaptation programmes of action, national action plans/programmes, etc.). The latter include sustainable national development strategies, climate change strategies, civil society activities and the encouraging of policy dialogue among all stakeholders.
3. **The objectives of the SECAP study are to:** (i) identify key linkages between rural poverty and environment; (ii) provide key environmental and social opportunities and actions to influence IFAD support to (name country) rural development efforts towards environmental sustainability and climate smart development; (iii) identify priority ENRM, social and CC issues based on IFAD’s comparative advantage for policy dialogue with the Government; and (iv) identify an opportunity for an ASAP and/or GEF intervention. **The expected results are** (i) an assessment of the environmental (and social/economic/institutional) issues with focus on agriculture and food security; (ii) the identification of links with the other sector policies, strategies and plans; and (iii) the provision of specific measures to optimise climate adaptation, environmental management, and resource use in the new COSOP period for (*name of country*). The above will shed light on important opportunities available to build resilience and adaptive capacity of the agricultural and rural development sectors in the country.

4. Provide summary of country's agriculture, climate, social and ENRM conditions. Includes: (i) challenges faced to meet its rural development and food security goals; (ii) the major environmental and social trends and issues that have a bearing on IFAD operations in the country; (iii) the direct impact and multiplier effect the mentioned issues have on the resilience of ecosystems and productivity of land and crops, natural resource management and rural livelihoods; (iv) the scale of volatility and risk resulting from climate change; and (v) institutional and regulatory frameworks related to rural development and environmental issues.

5. The IFAD Climate Change Strategy (2010) and ASAP priorities call for the Fund to more systematically respond to increasing demands from our clients for help and innovation on responding to climate change. This means analysing and addressing climate change considerations during the early stages of country programme and project design, rather than as an overly compliance-driven approach in the final approval stages for COSOPs program. and programmes/projects.

6. The IFAD Environment and Natural Resource Management (ENRM, 2011) Policy further stresses that COSOPs are a key entry point for upstream analysis and assessment of how IFAD can help partners manage natural resources sustainably and respond to climate change. The Policy provides ten Core Principles and eleven Best Practice Statements to guide IFAD interventions.

Principles to guide the SECAP study

- (a) Early integration of ENRM, social and climate change issues in the conceptual and design stages of the RB-COSOP for (the country);
- (b) Focus on broader environmental, social and climate issues rather than on site-specific impacts in order to resolve issues that cannot be addressed at the project level;
- (c) Identify and compare alternative scenarios to exploit scale up opportunities; and
- (d) Coordination with national and local donor development partners and stakeholders is particularly important from the perspective of harmonization.

Approach and methodology

The Preparatory study is composed of two phases: a **screening exercise** and the actual **study**, as described below:

The **screening exercise**, which will typically be undertaken early in COSOP design, will identify and analyse the issues to be addressed in the SECAP preparatory study considering (i) the specific context (including sector and wider institutional and legislative framework and its alternatives) in which the country programme is likely to be implemented and (ii) the likely implications for IFAD's work. This should be based on a review of the key pertinent documents and consultation with relevant stakeholders. The screening should result in impact identification and evaluation methodologies to be used in the SECAP study. These methodologies may include the use of tools such as checklists, problem analysis trees, matrices, etc., depending on those found appropriate to the specific context. The preliminary key issues are discussed and validated in a stakeholders' workshop.

The SECAP Study **assesses all key issues from the screening stage in detail, and options are identified to address them.** The study will also try to address cumulative impacts, especially in the case of natural resources or sensitive ecosystems. The assessment will consider international prescriptions and standards, national laws and best practises and will take cognizance of the realities of the institutional setup in the country. More specifically, the assessment will: (i) engage with a broad range of stakeholders (e.g. relevant Government institutions, civil society and indigenous people's organizations, and bi- and multi-lateral donors and institutions) *at the national, regional and communal levels, involving as much as possible vulnerable groups*; (ii) identify and address cross-border issues (e.g. forest and water resources), as necessary; (iii) identify and assess win-win-win solutions and innovations to support scaling up; (iv) ensure integration with national development strategies and systems; and (v) include an effective system for monitoring of climate, environmental and social issues.

Mainly secondary information and qualitative methods will be used for the SECAP preparatory study. The use of a range of qualitative tools and methods, such as 'SWOT' analysis, climate modelling, focused stakeholder consultations and over-lay mapping, should be considered in developing strategic objectives, alternatives and options to maximize the value-added to the decision-making process for the COSOP design and to ensure adequate monitoring. Selected field visits will be made in close coordination with Government or IFAD country project coordinator, in order to verify issues at a local level, capture lessons learned and engage in local level stakeholder consultations. An important means of enhancing country ownership of the SECAP study and its recommendations is to involve Government officials, local experts and institutions as an integral part of the assessment exercise. A second workshop should be held to discuss the proposed strategic objectives and options and to reach agreement on the priorities to be included in the assessment. The draft SECAP Preparatory Study report will be shared with key stakeholders for comments prior to its finalization. The document should not exceed a length of 25 pages, excluding the Annexes.

Scope of work

On the basis of (i) data obtained from IFAD reports and development partners; and (ii) field visits and meetings with relevant stakeholders in the country, considering the "Updated Guidelines and Source Book for Preparation and Implementation of a COSOP", the consultant(s) will perform the following key tasks (see annex Annexes 2.2, 2.3, 2.4 for details):

- (a)** *Analyse the social, environmental, and climate and economic trends/problems in the country (particularly in the agriculture, water and biodiversity domains) priorities and themes linked with growth and rural poverty reduction. Provide information on the spatial (using relevant maps) and temporal scope of the SECAP assessment taking into consideration short/medium/long-term effects and risks. Also analyse how climate change exacerbates existing environmental and development challenges in the country;*
- (b)** *Develop relevant environmental, economic and social objectives that should be considered in the country programme; evaluate the response at national level and potential areas of IFAD intervention; evaluate how both the proposed development objective and proposed actions of IFAD's proposed country strategy*

(if already identified) relate to these objectives and suggest modification or proposals for IFAD support;

- (c)** *Analyse individual and cumulative environmental (and social/economic) impacts of the proposed IFAD interventions in (the country) and suggest any relevant modifications for consideration by the COSOP design team. Where the proposed IFAD interventions are not yet identified, make recommendations for the design team with respect to integrating environmental and social/economic considerations into the future COSOP design;*
- (d)** *Analyse adequacy of existing policy and institutional frameworks (Government, key donors, civil society), implementation arrangements and monitoring plan (whether they provide for realistic monitoring and analysis of key environmental, social, economic and climate impacts during implementation of the COSOP timeframe) and suggest options for improvement, as necessary. Depending upon the context of preparation, this can focus on analysis of environmental implications of sector policies, take into account the policy and regulatory framework, analysis of the institutional and governance issues linked with a particular theme or priority, and/or economic analysis to weigh and prioritize different interventions in a sector (for instance through use of cost benefit analysis);*
- (e)** *Develop specific strategic and technical measures/options (including assumptions) and indicators generated by the SECAP study with key authorities and stakeholders, preferably in a workshop. These are to be based on existing lessons learned and good practises which are ready for scaling up. Stakeholders include some or all of the following: farmer groups, government ministries (environment, agriculture livestock and fisheries health, social and economic planning) Regional/Municipal authorities, CSOs, academic organisations; business groups and the donor community. Compile interim and final reports from the SECAP study and present them to the COSOP design team.*
- (f)** *Draft a set of investment concept notes for future projects interventions (ASAP, GEF) that incorporate climate change adaptation, and associated mitigation measures, Disaster Risk Reduction (DRR), Sustainable Land Management (SLM) etc. Identify national and provincial implementation arrangements (government, research institutions, and line agencies) that would be ideal in carrying forward the interventions that have been identified. Analyse the interventions proposed by the COSOP design team and, if necessary, suggest environmental enhancements for "greening" the project ideas. Propose a knowledge management methodology for facilitating evidence-based policy making and transferring knowledge back to project level implementation.*

Expected outputs

- (a)** The **SECAP preparatory study report**, which is concise and consistent with the provisions of the IFAD Social, Environmental, and Climate Assessment Procedures, the IFAD Climate Change Strategy and the ENRM Policy, and is grounded in relevant national strategies and priorities. The report will include the approach and methodology and be supported by summaries of the data collected and citations for any references used in interpreting those data. It will also include a table which provides an overview of the key issues (technical and

systemic), indicating the rationale for their selection and a synthesis of associated specific recommendations and proposed indicators. Although all recommended actions specific to a particular issue are considered important, some specific actions deserve special attention. It is recommended that the actions be categorised according to those that should be: (i) continued; (ii) reinforced; (iii) modified; and (iv) introduced for the first time. In addition, their level of priority (high, medium or low) should also be indicated. See annex 2 for the indicative outline of the SECAP preparatory study report.

- (b) A **set of investment concept notes** grounded in country specific analysis for ensuring that the COSOP and its investments are both climate sensitive and environmentally sustainable. Provide the key SECAP Study findings to the COSOP design team and ensure that they are reflected in the final COSOP document. This will require writing up sections of the COSOP including enhancing project concepts proposed by the other team members.
- (c) A **two-page (maximum) note** outlining rationale and elements for IFAD consideration of an intervention to enhance climate adaptation in the country; and.
- (d) **Summaries of the workshop** presentations, synthesis of stakeholder meetings (as necessary) and outcomes of the consultations.

Timeframe

The SECAP preparatory study needs to be planned sufficiently ahead of time to be able to provide meaningful input into the COSOP development process. Two or three consultants (as necessary) will be recruited on a retained basis for a period of (*estimated at 20 days each for a total of 40 days*). The draft SECAP preparatory study report should be **submitted no later than (date)** to the CPM/ (*name of country*) with copies to the Country Programme Manager, the Regional Climate and Environment Adviser (ECD) and the Senior Technical Adviser-Environment and Natural Resource Management (ECD). The final SECAP preparatory study report should be submitted by cob (provide date).

Required Expertise and Guidances of the Consultant(s)

The SECAP study will be conducted by specialist(s) with expertise in (i) Environment and natural resource Management and (ii) Climate Change, both in relation to the agricultural sector. An additional consultant to address social and institutional issues may be considered necessary. The consultant(s) should have a minimum of 10 years of experience (project implementation and evaluation) in environmental and rural development policy, sustainable land, forest and water management practices, land use planning, socio-economics, climate change, as well as, be fully conversant with development work at the strategic level. Other resource persons (including IFAD staff) may be involved in the exercise to evaluate specific issues as deemed necessary. The consultants must be familiar with the country situation and have the ability to think broadly and interact orally.

FEES

The consultant's fee rate will be determined according to an assessment of the consultant's C.V. by IFAD's Personnel department. All travel expenses including DSA will be covered.

Reporting

The work of the consultant will be coordinated by the CPM for (*name of country*) and supervised by (*name of RCES or STA*), (ECD).

Relevant IFAD documents

- (i) Climate Change Strategy
- (ii) Environment and Natural Resource Management Policy
- (iii) Updated Guidelines and Source Book for Preparation and Implementation of an COSOP
- (iv) Disaster Risk Management Guidelines
- (v) IMI climate change checklist
- (vi) Country portfolio evaluation
- (vii) IFAD Policies (Targeting; Gender equality and women empowerment; Improving access to land and tenure security; Engagement with indigenous peoples)
- (viii) Other documents which include relevant country strategic frameworks

Annex 2.2

Suggested Structure and Contents of the SECAP Preparatory Study Report for COSOPs

Structure of report	Information to include
Executive Summary	<p>Summary of the SECAP preparatory study process (purpose, objectives);</p> <p>Summary of the likely significant effects of the proposed COSOP interventions</p> <p>Statement on the value addition of the SECAP preparatory study to the COSOP design process</p> <p>SECAP study recommendations</p>
SECAP Preparatory Study Approach and Methodology used	<p>SECAP study objectives</p> <p>Study Approach and Methodology adopted assessment preparation and how it fits in the COSOP development process</p> <p>Description of the process to involve different government agencies and CSO organizations (Who was consulted, and when)</p> <p>Assumptions, uncertainties, constraints, as well as challenges encountered in compiling information or carrying out the assessment</p>
National Context	<p>Description of physical and biological environment, related baselines, and socio-cultural context</p> <p>Main environmental and CC challenges, causes and effects on agriculture development and rural poverty, particular focus on water, soil, forests, fisheries and agriculture</p> <p>Role of NR in livelihoods (focus on agriculture, food security and rural development)</p> <p>Observed impacts of CC and projections on key agricultural and rural development sectors</p> <p>Related policy, regulatory and institutional frameworks, including ENRM, CC, agriculture and rural development strategies</p> <p>Country priorities and links to regional and international PPPs</p>
Impact identification, evaluation and lessons learned in IFAD Programmes	<p>Opportunities to build resilience of rural livelihoods to CC</p> <p>Comparison of the environmental/adaptation costs and benefits of the alternatives, with description of how environmental issues were considered in choosing the preferred strategic investment proposals.</p> <ul style="list-style-type: none"> ▪ Lessons learned from partner experiences, IFAD Programmes and previous COSOP implementation, and rationale for prioritizing ENRM and adaptation

Structure of report	Information to include
<p>Recommendations to enhance environmental and climate resilience in the agriculture and rural development sectors</p>	<p>Analysis of strategic orientation for the COSOP – include specific objectives and required results to optimize environmental management and resilience to CC in the agricultural sector and rural development</p> <p>Actions proposed (institutional strengthening, budgetary issues, etc.)</p> <p>Links to other tiers of plans and programmes and the project level (ESIA, project design cycle, etc.)</p> <p>Proposals of activities to access ASAP, GEF and other sources of funds</p> <p>Proposals for monitoring and feedback mechanism –include indicators</p>
<p>Appendices</p>	<p>Table on existing ENRM and CC stakeholders and initiatives</p> <p>Table on promising lessons learned and good practices for scaling up</p> <p>Summary of stakeholder consultations</p> <p>SECAP assessment Terms of Reference</p> <p>Bibliography and references</p>

Annex 2.3

Generic Checklist: Questions for SECAP Preparatory Studies for COSOPs

Principles and scope

Have adequate principles, criteria and indicators been defined for the SECAP study?

Has the spatial and temporal scope of the SECAP study been adequately defined?

Is there a need/opportunity for donor co-ordination in the conduct of the SECAP study?

Have alternatives (to the proposed COSOP interventions) been identified and considered?

Stakeholder engagement

Have all relevant stakeholders had an opportunity to engage in the SECAP preparatory study process and to identify potential impacts and management measures?

Have the views of civil society, particularly affected communities (men, women, youth, indigenous peoples), been included? What has been their influence in the development of the proposed PPP? Is there adequate environmental education of public? What is the level of public awareness of "SECAP preparatory study"? (especially among rural communities)

Linkage to other strategies, policies and plans

Have all relevant strategies, policies and plans – at national to local levels – been reviewed (e.g. PRS, NAPA, NBS, MDG – based strategy, district plan, national expenditure reviews) and is the assessed PPP supportive of and consistent with their goals? Have any conflicts been taken into account in the design of the proposal?

Generic questions and decisions/activities

How can sustainable management of natural resources be pro-actively built into proposed programmes and projects?

What are the opportunities for support to climate change, environment and NRM?

What are other development agencies doing to strengthen climate resilience, environment and NRM?

If sector wide approaches or other forms of basket funding are included, is there a need for complementary analysis or initiatives to minimize possible climate change risks and negative environmental and social effects?

Linkages/Impacts

What are the key environmental and climate change issues and opportunities and

their relation to rural poverty? How is climate change predicted to affect this?

What are the linkages between climate change, environment and other important development themes such as public health (including HIV/AIDS), education, human rights and democracy, land tenure, gender, conflicts and vulnerability?

What is the importance of environment and climate resilience for pro-poor growth, environmentally sustainable economic development and attaining the MDGs?

What are the partner country's commitment⁶² to and actual implementation of the Multilateral Environmental Agreements?

How are environmental and climate change concerns addressed in key partner country strategies, such as the PRSP, trade policies and sector strategies, and how are they reflected in the national budget?

Effects

Have the potential direct, indirect and cumulative negative and/or positive effects (short-, medium- and long-term; environmental, climate and social) of the proposed PPP been predicted and analysed?

Have relevant environmental externalities been identified and internalized?

Have relevant, specific measures been identified and included to counteract/mitigate these? Alternatively, is it made clear how other national policies/programmes are mitigating the potential negative effects?

Taking into account differences in power relations, climate risks and environmental vulnerability, who would be the winners and losers for each course of action?

Is there potential for enhancing positive effects? Have these opportunities been maximised?

Has the quality of the assessment been independently reviewed?

Capacity

Is there an institutional framework to manage environmental and climate risks/impacts and major environmental policy and institutional failures?

Has the level of awareness of "SECAP assessment" among Govt. Staff & Other Stakeholders been assessed? Has there been an effort to educate all stakeholders including Govt. Ministers on "SECAP preparatory study"? Is there sufficient capacity within institutions and agencies, at national and sub national levels, to implement the specific PPP (e.g. to enable them to apply an environmental management framework for sub-elements); and to manage, regulate and be accountable for use of natural resources and improved climate resilience? How can these institutions be strengthened?

Institutional/Implementation

What is the institutional capacity at the national level to integrate environment and

⁶² Especially with regard to Community Empowerment, Community participation in Natural Resource Management, etc.

climate change considerations into planning processes?

What donor harmonisation mechanisms are in place to ensure environment is part of donor coordination?

What are the challenges and opportunities for civil society organisations and the private sector in relation to climate resilience, environment and NRM? What is their level of awareness of the "SECAP assessment" process?

Influence of SECAP preparatory study

Are there specific points in the process to develop the PPP where the SECAP study can have influence over decision making?

Data, information and monitoring

Are there significant data and information deficiencies and gaps (i.e. weather information, climate modeling, maps)? How can these be filled?

Are measures proposed for monitoring? Are these clear, practicable and linked to the indicators and objectives used in the SECAP preparatory study? Are responsibilities clear?

Source: Adapted from OECD, 2006

Annex 2.4

Checklist for Climate Change related issues to be examined in the SECAP preparatory study for COSOPs

Changes in weather patterns observed over the last 20-30 years

What trends can be observed in the Seasonal variation in temperature and rainfall (literature review of existing data, climate scenarios and assessment)?

Have extreme weather events (frequency and severity of drought, floods, storms) been experienced during this time horizon?

Which are the climate-related risks of the existing/planned IFAD's Programmes in the country?

Current and expected vulnerability to climate variability and change

What are the latest available estimates of climate impact on local communities, poor rural people, agriculture, ecosystems and biodiversity, land resources, coastal areas?

How is current climate variability affecting indigenous peoples' communities, smallholder farmers, the landless, women and unemployed youth?

How is the productive capacity of the people and land being affected?

What has been IFAD's past experience on climate-related work in the country and potential for scaling up?

Community coping strategies and adaptation responses

What measures have local communities been undertaking to cope and adapt to climate variability?

Which groups are better able to respond to climate variability?

How have local communities been coping with weather related disasters?

What disaster prevention, Early Warning System and preparedness plan exist at local level?

Building resilience of rural livelihoods in the face of climate variability and change

Which are the national CC and Disaster Risk Reduction/Disaster Risk Management strategies as delineated in the UNFCCC National Communications, and National Mitigation and Adaptation Frameworks and how these can guide IFAD's investments?

Which are the priorities for the agricultural and rural development sectors?

What are the 'low-hanging fruits' in terms of no-regrets interventions that can be implemented in the short-medium term?

Which technical, institutional and capacity needs at local and national levels should be addressed for increase local communities' adaptation and resilience?

What policies would assist in promotion of robust adaptation measures?

Which are the major national actors/initiatives supporting adaptation?

How can the IFAD best collaborate with these to ensure coherency/complementarity in building resilience?

Selected relevant resources:

Web-based tools and platforms for knowledge sharing CC related data and information:

IPCC Web site

<http://www.ipcc.ch/index.htm>

UNFCCC Web site

<http://unfccc.int/2860.php>

Global Facility for Disaster Reduction and Recovery

<http://www.gfdr.org/gfdr/>

UNDP, University of Oxford CC Country Profile

<http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/>

World Bank CC Knowledge Portal

<http://sdwebx.worldbank.org/climateportal/index.cfm>

Adaptation Learning Mechanism (UNDP, GEF, UNFCCC, WB, UNEP)

<http://www.adaptationlearning.net/>

We Adapt

<http://weadapt.org/>

Spatial datasets:

Local Climate Estimate Tool

www.fao.org/nr/climpag/data_5_en.asp

World Bank Global Climate Data

http://sdwebx.worldbank.org/climateportal/index.cfm?page=climate_data

CC Vulnerability Analysis and Climate Proofing Tools

Participatory Vulnerability Analysis (Action Aid)

www.actionaid.org.uk/doc/lib/108_1_participatory_vulnerability_analysis_guide.pdf

Climate Vulnerability and Capacity Analysis (CARE)

www.careclimatechange.org/index.php?option=com_content&view=article&id=25&Itemid=30

Community-based Risk Screening Tool – Adaptation and Livelihood (CRYSTAL, IISD, SEI, IUCN, Inter Cooperation). <http://www.iisd.org/cristaltool/>

References

- Canadian International Development Agency (CIDA) (2004). *Strategic Environmental Assessment of Policy, Plan, and Program Proposals: CIDA Handbook*. Canadian International Development Agency. Quebec: CIDA.
- Dalal-Clayton B and Sadler B (2005). *Strategic Environmental Assessment: a Sourcebook and Reference Guide to International Experience*. Earthscan, UK.
- Department of Environmental Affairs and Tourism (DEAT) (2004). *Strategic Environmental Assessment*. Integrated Environmental Management, Information Series 10. Pretoria: DEAT.
- Inter-American Development Bank (IADB) (2006). *Environment and safeguard compliance policy*. Washington, DC: IADB.
- International Finance Corporation (IFC) (2012). *IFC Performance Standards on Environmental and Social Sustainability*. Washington D.C, IFC. Accessible at: http://www.ifc.org/wps/wcm/connect/d6f1e00049a79ce5b9c2fba8c6a8312a/SP_Spanish_2012.pdf?MOD=AJPERES
- Office of the Deputy Prime Minister (ODPM) (2005). *A Practical Guide to the SEA Directive*. Crown Copyrights, UK: ODPM.
- Organization for Economic Co-operation and Development (OECD) (2006). *Applying Strategic Environmental Assessment*. DAC Guidelines and Reference Series. Paris: OECD.
- United Nations Development Programme (UNDP) (1992). *Handbook and Guidelines for Environmental Management and Sustainable Development*. New York: UNDP.
- World Bank (1993). *Sectoral Environmental Assessment, Environmental Assessment Sourcebook Update 4*. Environment Department. Washington DC: World Bank.
- World Bank (1996). *Regional Environmental Assessment, Environmental Assessment Sourcebook Update 15*. Environment Department. Washington DC: World Bank.
- World Bank (2001). *Making Sustainable Commitments: an Environment Strategy for the World Bank*. Washington DC: World Bank.

WEBSITES

- World Bank Environmental Assessment in Operational Policy 4.01:
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTENVASS/0,,menuPK:407994~pagePK:149018~piPK:149093~theSitePK:407988,00.html>
- World Bank Strategic Environmental Assessment:
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/0,,contentMDK:20274476~menuPK:549265~pagePK:148956~piPK:216618~theSitePK:244381,00.html>
- OECD Environmental Policy Tools and Evaluation:
http://www.oecd.org/topic/0,3373,en_2649_34281_1_1_1_1_37465,00.html
- International Association for Impact Assessment: <http://www.iaia.org>

GUIDANCE STATEMENT 1

Biodiversity and protected area management

INTRODUCTION

1. The Convention on Biological Diversity recognizes that biodiversity is about more than plants, animals and micro-organisms and their ecosystems – it is about people and our need for food security, medicines, fresh air and water, shelter, and a clean and healthy environment in which to live⁶³. Biodiversity is essential for the maintenance of ecosystem services such as the provision of water and food, and other services that are important to both the ecosystems themselves and human life. Conservation of biodiversity aims to maintain global biological resources and their related services to meet the needs of humanity today while ensuring availability for future generations – a fundamental criterion of sustainable development. Natural resource management (NRM) that tries to preserve biodiversity focuses on enhancing the sustainable use of these resources and managing protected areas. Losing biodiversity at the genetic, species or ecosystem level means losing opportunities for coping with future challenges (e.g. Related to climate change, energy, food security).

2. Biodiversity provides the fundamental basis for agriculture, and both agriculture and biodiversity are crucial to maintaining and improving food security. Productive and sustainable agricultural systems need clean water, healthy soil and a variety of genetic resources and ecological processes. Biodiversity is also important for enhancing the resilience of poor farmers and indigenous peoples to climate change, pests, diseases and other threats. The productivity of agricultural ecosystems depends on numerous species, such as soil micro-organisms, pollinators, predators of agricultural pests, genetically diverse crops and livestock. Agricultural ecosystems serve as important habitats for many wild plant and animal species.

3. While protected areas serve to maintain biodiversity, many of them are also essential for maintaining the livelihoods of local (indigenous) people. Reconciling conservation efforts with people's needs is a major issue in environmental management, requiring site-specific, ad-hoc solutions tailored to local circumstances, opportunities and needs, such as the development of sustainable mechanisms for resource use or the sharing of revenue from ecotourism with local communities.

4. Rapid loss of biodiversity, coupled with impacts on ecosystem functions and the goods and services they provide, is undermining food and nutritional security and the resilience and ability of poor rural people to emerge from poverty. Extensive community consultations leading to consent, participation and ownership are therefore essential for biodiversity conservation and sustainable rural development. Communities should be informed on the opportunities of biodiversity conservation and of the risks they may face from biodiversity loss or decreased ecosystem functions, and possible alternatives should be developed through community processes.

⁶³ Convention on Biological Diversity – www.cbd.int

5. According to IFAD's Environment and Natural Resource Management (ENRM) Policy, the basic guidance and good practices for IFAD interventions promoting biodiversity conservation include: (i) reducing land conversion to agriculture, and other negative environmental externalities associated with agricultural production; (ii) promoting complementarities with national and international initiatives for biodiversity conservation and sustainable use; (iii) introducing an ecosystem approach⁶⁴ to NRM; (iv) restoring forests, degraded lands, rangelands and wetlands, and developing and managing protected areas effectively; (v) identifying incentives for the conservation and use of local agro-biodiversity through value chains; (vi) adopting agricultural practices that are more resilient to extreme and changing climatic events; and (vii) avoiding the depletion of micro-organism, animal and plant genetic resources.

BIODIVERSITY IN IFAD PROJECTS

6. Unsustainable development in agriculture, forestry, fisheries and transportation is among the main drivers of the loss of biodiversity. Specifically, biodiversity loss is caused by land conversion; habitat destruction from unsustainable clearing and burning of forests, logging and agricultural encroachment; conversion of land ecosystems for crop production; draining of wetlands for farming purposes; displacement of wildlife for domestic livestock; excessive use of agrochemicals; replacement of indigenous farming systems with cash crop monocultures; and expansion of human populations and settlements. Fishery projects may have negative consequences through the conversion of natural breeding sites for aquaculture, the introduction of exotic species, and overfishing (see Guidance Statement 3 Fisheries and aquaculture). Intensive logging and the construction of access roads in forests and other rural areas are also leading causes of biodiversity loss, including by simply providing access to areas that were previously inaccessible. Changes in hydrological conditions may cause the loss of wetland vegetation and associated fauna. More recently, increased interest in the production of biofuels, particularly through the development of monocultures over wide areas, has raised concerns over the potential impacts on biodiversity conservation.

7. Climate change is already affecting biodiversity through shifts in the distribution and range of species and communities, ecological interactions and local and regional extinctions, with negative impacts on ecosystem services and, consequently, on food security and quality of life. In fragile or extreme habitats, climate change is disrupting species interactions and ecological relationships. However, biodiversity can itself make an important contribution to climate change mitigation and – especially – adaptation. The ecological functions of conserved or restored habitats remove and store carbon dioxide from the atmosphere, such as in coastal wetlands; are important carbon sinks; or help reduce the disastrous impacts of climate change, such as when mangroves act as natural barriers protecting the coast from flooding and storm surges. Upland forests and wetlands can help regulate flow in watersheds, thereby moderating floods from heavy

⁶⁴ 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. It is based on the application of appropriate scientific methodologies focusing on levels of biological organization that encompass the essential processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of ecosystems (Convention on Biological Diversity [CBD]).

rain. The plant and animal genetic resources that farmers have been using for generations, and the wild relatives of food crops and animal species are essential for breeding new varieties that can cope with changing conditions.

8. Conservation of biodiversity should be a cornerstone of IFAD projects, particularly those for agricultural development. Value chain development projects may also offer opportunities for preserving biodiversity by promoting the sustainable harvesting and marketing of products derived from old plant varieties and breeds (e.g. underutilized species), locally used plants (e.g. medicinal plants) and non-timber forest products. Short value chains supplied by many small producers, who use considerably more species and varieties than larger farms, are more suitable for the conservation of agro-biodiversity than long value chains served by a few large farms with monocultures. In addition agricultural practices such as mixed cropping and agro-forestry have proved beneficial for climate change adaptation and improved agricultural productivity.

9. IFAD does not implement projects in areas of critical habitats or which result in conversion or degradation of such habitats. Emphasis will be to identify alternatives and ensure that any potential degradation or conversion is appropriately mitigated. IFAD will protect biodiversity by designing its projects appropriately, ensuring that they are implemented sustainably with full community participation, and providing sound recommendations for improving borrowing countries' agricultural policies, many of which are currently top-down.

ENVIRONMENTAL AND CLIMATE CHANGE ISSUES

10. Biodiversity issues should be identified in the early stages of project preparation, to allow the optimum integration of conservation and development objectives. The following are the most common issues to be considered in this identification process:

a. *Ecosystems*: Does the proposed project drastically change existing ecosystems or agro-ecosystems? What is the nature of the change (positive or negative)?

b. *Biological specificity*: What are the important biological features of the affected ecosystems?

c. *Use of biodiversity*: How heavily do local communities rely on biodiversity and ecosystem services for their livelihoods?

d. *Protected areas*: Does the proposed project have direct or indirect effects on protected areas or zones of ecological significance?

e. *Direct impacts of project components*: Which project components directly affect biodiversity, negatively and/or positively (e.g. expansion of agricultural land into wild lands, change of water regime in wetlands, development of irrigation in drylands)?

f. *Indirect impacts of project components*: Which project components indirectly affect biodiversity (e.g. migration of people to or from protected areas or to significant natural or semi-natural ecosystems, promotion of different land-use systems)?

g. *Quantification of environmental impact*: Determine the extent and degree of the impacts and the cumulative effects of various project components over time.

h. *Climate change impact*: Identify the potential impacts of future climate change on the ecosystems and biodiversity.

i. *People*: Identify local mechanisms for managing biodiversity resources, and sustainable traditional practices that support this management. What are the roles of local biodiversity in the livelihoods, food supply and income generation of local rural communities? Will the project lead to a loss of livelihoods for any segment of the rural poor?

POTENTIAL MITIGATION

11. Measures for protecting biodiversity should also ensure that local populations are not adversely affected by project activities and that they benefit from environmental opportunities. The following generic mitigation measures should be considered for inclusion in the ESMPs of projects that have potentially adverse impacts on biodiversity, along with site-specific measures that may be identified in ESIA or other environmental analyses:

a. *Appropriate project design and rethinking of specific project activities*: Ensure that project features are designed to prevent the disturbance of critical natural habitat and other crucial ecosystems, and seek solutions that minimize biodiversity losses. Assess whether the proposed project may require drastic change, including relocation.

b. *Community involvement*: The project should promote the participation of local people in identifying suitable alternatives. Projects should strive to respect, protect and maintain the knowledge, innovations and practices of indigenous peoples and local communities that are relevant to the conservation and sustainable use of biodiversity.

c. *Biodiversity and sustainable land management*: Introduction of exotic plant species should be avoided. Develop environmentally sound and sustainable plans that follow an ecosystem-based approach, ensure the participation of local communities and integrate biodiversity protection with the guidance of agriculture.

d. *Institutional and regulatory enhancement*: Strengthen the institutions that manage and protect biodiversity, and establish appropriate regulatory systems to reduce the detrimental environmental impacts of development interventions. Collaborate with local community groups to establish effective management systems for protected areas, restore damaged habitats, and offset unavoidable losses of habitat by ensuring compensation and increased benefits for affected communities.

e. *Equitable sharing of benefits*: Ensure that traditional/customary rights to and uses of biodiversity are recognized and that benefits from the commercial use of biodiversity are shared fairly. Seek alternatives that do not trade in biodiversity capital to meet short-term needs where this could jeopardize the ability of future generations to meet their needs (IAIA, 2005).

f. *Recognize women's crucial role and knowledge in biodiversity conservation*: Women are often responsible for managing plant genetic resources, and can benefit from biodiversity resources for improving their livelihoods. Support the identification,

development and diffusion of pro-poor sustainable agricultural technologies that help to strengthen women's leadership and influence in decision-making in agriculture and NRM.

g. *Recognize indigenous peoples' strategic role and knowledge in biodiversity maintenance and conservation*: Indigenous peoples are often bearers of unique knowledge and custodians of biodiversity in many parts of the world. They carry out many different activities of sustainable use and management of planet's ecosystems in the tropical lowlands and mountains as forest-dwellers, in the savannas and other grasslands, as pastoralists, in the forests, prairies and deserts as nomadic or semi-nomadic hunters and gatherers, in rivers, seas and oceans as fishers. They maintain within their lands and territories 80 per cent of the world's agro-biodiversity.⁶⁵ In participation with indigenous peoples' communities, identify and value indigenous peoples' knowledge and practices and build on these assets as economic potential for improving their livelihoods.

h. *Promote the private sector's role in biodiversity conservation measures*, through payment for environmental services initiatives, value chain development, certification or biodiversity offsets. The last of these are conservation activities designed to deliver biodiversity benefits to compensate for losses.

i. *Climate change adaptation*: Consider the principles of ecosystem-based adaptation for generating significant multiple social and economic benefits (UNEP, 2010), and the unpredictability of the effects of climate change⁶⁶. Integrate elements of adaptive management into project implementation procedures.

j. *Climate Change mitigation*: Consider potential measures for reducing green-house gas emission or increasing the carbon storage capacity through the project activities.

k. *Mitigation measures*: Establish wildlife corridors and/or protected areas, and improve biodiversity management through training and institutional strengthening programmes. Environmental education for rural communities, especially on issues such as the links among forest destruction, biodiversity loss, climate change and desertification, is vital. Rewards or payments for environmental services derived from a watershed or a forest can support the management and protection of biodiversity.

INTERNATIONAL LEGAL CONTEXT

12. At the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, 156 countries signed the international Convention on Biological Diversity (CBD). Its objectives are "the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding".

⁶⁵ World Resources Institute. See: Sobrevila, C. (2008), *The Role of Indigenous Peoples in Biodiversity Conservation: The Natural but Often Forgotten Partners*. World Bank, Washington, D.C.

⁶⁶ Ecosystem-based adaptation is an approach to help vulnerable communities build the resilience of ecosystems and livelihoods that are being threatened through sustainable resource use, biodiversity conservation and ecosystem restoration.

13. During the tenth meeting of the CDB in 2010, the Conference of the Parties adopted a revised and updated Strategic Plan for Biodiversity for 2011–2020, including the [Aichi Biodiversity Targets](#).⁶⁷ This new plan provides the overarching framework for biodiversity conservation, not only for the biodiversity-related conventions, but also for the entire United Nations system.

14. All IFAD projects should comply with and support the provisions of the CBD and other relevant international environmental agreements, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the RAMSAR Convention on Wetlands of International Importance, especially as Waterfowl Habitat.

INTERNATIONAL FINANCING

15. The conservation of biodiversity is one of the main areas of concern of the Global Environment Facility (GEF). As an executing agency of the GEF, IFAD can facilitate access to GEF funds for co-financing activities aimed at enhancing opportunities for biodiversity management. Approximately 20 percent of the IFAD/GEF portfolio has focused on biodiversity conservation.

⁶⁷ Aichi Biodiversity Targets: <http://www.cbd.int/sp/targets/>

REFERENCES

Guidelines

Institute for Biodiversity - Network (IBN)/The Association of Engineers (VDI). 2004. *Integration of Biodiversity Concerns in Climate Change Mitigation Activities*. Berlin: Federal Environmental Agency (Umweltbundesamt). Available at: http://ecosystemmarketplace.com/documents/cms_documents/biodiv.pdf

International Finance Corporation. 2012. *Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources*. in *International Finance Corporation Policy on Social and Environmental Sustainability* Washington D.C, IFC. Available at: http://www.ifc.org/wps/wcm/connect/d6f1e00049a79ce5b9c2fba8c6a8312a/SP_Spanish_2012.pdf?MOD=AJPERES,

World Bank. 1997. *Environmental Assessment Sourcebook Update”, Biodiversity and Environmental Assessment*. Washington DC: World Bank. Available at: [http://siteresources.worldbank.org/INTSAFEPOL/1142947-](http://siteresources.worldbank.org/INTSAFEPOL/1142947-1116497123103/20507396/Update20BiodiversityAndEAOctober1997.pdf)

[1116497123103/20507396/Update20BiodiversityAndEAOctober1997.pdf](http://siteresources.worldbank.org/INTSAFEPOL/1142947-1116497123103/20507396/Update20BiodiversityAndEAOctober1997.pdf)

Ramsar Handbooks for the Wise Use of Wetlands, 3rd Edition. The Ramsar Library. 2007
Available at: http://www.ramsar.org/lib/lib_handbooks2006_e.htm

Studies

Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ). 2007. *Value chains and the conservation of biodiversity*. Issue Papers: People, Food and Biodiversity. Eschborn: GTZ.

Available at: <http://www.gtz.de/de/dokumente/de-biodiv-themenblatt-wertschoepfungsketten-2007.pdf>

Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ). 2006. *Farmers’ rights and agrobiodiversity; The role of farmers’ rights in protecting agricultural plant diversity*. Issue Papers: People, Food and Biodiversity. Eschborn: GTZ. Available at: http://www.fni.no/doc&pdf/Bauernrechte_en_online.pdf

Food and Agricultural Organization (FAO). 2010. *The State of the World’s Plant Genetic Resources for Food and Agriculture, Second Report*. Available at: <http://www.fao.org/docrep/013/i1500e/i1500e00.htm>

International Association for Impact Assessment (IAIA). 2005. *Biodiversity in Impact Assessment*. Special Publication Series No. 3. Available at: <http://www.iaia.org/publicdocuments/special-publications/SP3.pdf>

International Water Management Institute (IWMI). 2005. *Working Wetlands: a new approach to balancing agricultural development with environmental protection*. Colombo,

Sri Lanka: IWMI. Available at:

[http://www.iwmi.cgiar.org/Publications/Water Policy Briefs/PDF/WPB21.pdf](http://www.iwmi.cgiar.org/Publications/Water_Policy_Briefs/PDF/WPB21.pdf)

Millennium Ecosystem Assessment, World Resources Institute 2005. *Ecosystems and Human Well-being: Biodiversity Synthesis*. Washington, DC

Available at: <http://www.millenniumassessment.org/documents/document.354.aspx.pdf>

Mellor John. W. 2002. *Poverty Reduction and Biodiversity Conservation: The Complex Role for Intensifying Agriculture*. Washington, DC: WWF. Available at:

<http://assets.panda.org/downloads/mellor.pdf>

United Nations Environment Programme (UNEP). 2010. Integrated Solutions for Biodiversity, Climate Change and Poverty. UNEP Policy Series. Available at:

[http://www.unep.org/policyseries/Sustainable intergrated Solutions.pdf](http://www.unep.org/policyseries/Sustainable_intergrated_Solutions.pdf)

The Royal Society. 2008. *Biodiversity-climate interactions: adaptation, mitigation and human livelihoods*, London Available at: <http://www.royalsociety.org>

Websites

Bioversity International. <http://www.bioversityinternational.org/>

Commission on Genetic Resources for Food and Agriculture.

<http://www.fao.org/nr/cgrfa/en/>

Convention on Biological Diversity. <http://www.cbd.int/default.shtml>

United Nations Declaration on the Rights of Indigenous Peoples.

<http://www.un.org/esa/socdev/unpfii/en/declaration.html>

Ramsar Convention on Wetlands. <http://www.ramsar.org/>

Wetlands International. <http://www.wetlands.org/index.aspx>

GUIDANCE STATEMENT 2

Agrochemicals

INTRODUCTION

1. Increased food production is one of IFAD's central objectives; the use of agrochemicals (mainly fertilizers and pesticides) may be necessary to achieve higher yields per unit area. However, the environmental concerns raised by such use of agrochemicals must be carefully considered. These concerns include undesirable soil and water contamination, acidification of soils, human health risks, pest resistance, damage to non-target organisms, and secondary pest problems. For example, the use of nitrogen fertilizers on the farm has an environmental impact, because crops recover only about half of the nitrogen supplied in global crop production (Eickhout, Bouwman and van Zeijts, 2006). The use of agrochemicals may also result in unacceptable toxic residues on agricultural products and unnecessary financial burdens because of overapplication.

2. Agrochemicals are among the most important secondary sources of greenhouse gas (GHG) emissions in the agriculture sector. A large share – often more than half – of the energy used in farming is for the production of synthetic fertilizers, particularly nitrogen fertilizers (which produce 3.3–6.6 kg of carbon equivalent per kilogram produced, transported and stored) and pesticides (Rundgren, 2011).

3. The production of fertilizers is energy-intensive and emits about 1.2 per cent of the world's total GHG emissions (Wood and Cowie, 2004.). However, appropriate fertilizer use can increase cultivated soil carbon reserves by augmenting the photosynthetic conversion of carbon dioxide to biomass (IFIA Website). In comparison, manure (when available) emits far less carbon in providing soil with nutrients (Lal, 2004).

4. Compared with fertilizer use, the manufacture and application of pesticides represent far lower proportions of fossil fuel use and GHG emissions in farming (Pesticide Action Network Europe, 2009). However, the reduction in synthetic pesticides and the use of biopesticides and organic farming will save both energy for and global warming emissions from pesticide production, transport and use.

USE OF AGROCHEMICALS IN IFAD PROJECTS

5. IFAD projects promote the use of agrochemicals directly, as a project component for increased crop productivity, or – more commonly – indirectly, by increasing the availability of short-term credit for farm inputs or water for irrigation, which encourages increased use of agrochemicals. Careful selection of the type of agrochemicals and management of their use (timing, dosage, mode of application, etc.) can reduce to acceptable levels the environmental risks they pose, while providing the needed benefits for increased production with lower financial and health risk costs. IFAD projects should strive to improve existing pesticide and fertilizer use by ensuring that the proper institutional, legal and regulatory framework is in place and that sufficient technical and managerial capacity building is provided for the selection, application, storage and

disposal of pesticides, which are often hazardous if they are misused or handled improperly.

6. Pests, including insects, weeds and pathogens, can be a significant constraint to agricultural production, frequently requiring the use of pesticides for their control. IFAD should ensure the proper application, storage and disposal of agricultural chemicals, in line with international standards. This requires the enhancement of environmental awareness, farmer training and field extension services for the application of integrated pest management (IPM)⁶⁸.

7. The use of agrochemicals can also be reduced or eliminated by promoting indigenous farming practices, such as the cultivation of locally adapted crops and varieties, which are often resistant to local pests and diseases; the use of locally available natural biopesticides and pest-repellent crops, with adapted cultivation strategies (seeding periods and methods, etc.); the use of natural on-farm animal and green manure; and organic farming techniques. Ensuring diversity in the crops and varieties cultivated on farm, especially indigenous crops, reduces the risk of high-level pest infestations and disease epidemics and facilitates enhanced ecosystem services, including through pollinators and active soil fauna and flora.

ENVIRONMENTAL ISSUES

8. Several potential environmental consequences are associated with the use of agrochemicals:

a. *Water pollution* from the use of agrochemicals may affect both ground- and surface water through leaching and runoff. High concentrations of nitrates and phosphates can lead to eutrophication in rivers, lakes and coastal waters. High levels of nitrogen and phosphorus cause the depletion of oxygen in lakes and reservoirs by excessive algal and bacterial growth (eutrophication), eventually reducing aquatic life. The problem is aggravated by organic effluents, especially human sewage, and eutrophication in drinking water reservoirs is a public health concern. In addition, the toxic compounds contained in some pesticides and herbicides may pollute ground- and surface water, posing threats to both human and animal health, including marine and freshwater fish.

b. *Hazards to humans and animals*: Improper application of pesticides, overuse, and neglect of safety periods between application and harvest often result in high residues in harvested crops and processed food and unnecessary exposure of farmers and their families to toxic material. Contact can be direct (skin or eye) or through inhalation or ingestion. Agrochemical residues are also known to persist in contaminated clothing. Pesticides may move off target and poison fish, cattle, beneficial insects, pollinators and soil organisms. Pesticides may have acute or chronic toxic effects. While people are aware of their acute effects, which vary from mild irritation to death, their chronic toxicity results from the accumulation of small amounts of residue in consumed food – of

⁶⁸ IPM refers to the balanced use of biological controls (e.g. the introduction of insect predators or parasites), cultural practices and selection of pesticides (those that are toxic only to specific target pests) and fertilizers. IPM programmes should be tailored to particular geographic locations, crops, pest complexes and available resources. Effective IPM must be built and designed from the farmer up, not from the scientist down.

both plant and animal origin – in the human body over a long period, leading to various toxicity symptoms and diseases.

c. *Bioaccumulation* implies that toxic levels increase over time and along the food chain (e.g. in carnivorous mammals or predatory fish). The bioaccumulation of toxins resulting from agrochemical use is a very serious issue, causing biodiversity loss and disease in both animals and humans, especially in poor rural communities that rely on wild food. Bioaccumulation is also very serious for the marine and freshwater life that is critical to a large proportion of the poor.

d. *Pest resurgence*: Misuse of pesticides can cause elimination or suppression of the natural enemies that keep insect pest populations under control and at economically acceptable levels. This suppression leads to outbreaks of secondary pests previously not considered important.

e. *Pest resistance*: The misuse of pesticides can lead to the build-up of resistance in insect pests, pathogens and weeds. This resistance has great economic and ecological consequences because increasing amounts of more expensive and toxic pesticide formulations are required to achieve pest control. In some areas of the world, pesticide overuse has created a population of resistant pests, which threaten both subsistence and cash crops.

f. *Loss of bees and other beneficial insects*: Pesticides can kill bees and other beneficial insects that are essential for the pollination of indigenous plants, honey production, etc., thus causing negative impacts on the food production, livelihoods and incomes of poor rural communities.

g. *Soil fertility loss* may be related to excessive or inappropriate fertilizer application, and acidification. Degraded agricultural land that has lost its fertility may retain its capacity to recover through fallowing. However, beyond a critical point, fertility loss may become an irreversible phenomenon, resulting from heavy applications of organic matter and fertilizers; although nutrient mining and a decline in yields can be reversed, the loss of soil depth cannot. While inorganic fertilizers may improve soil fertility, various forms of manure also improve the soil structure, which enhances microbial activity, air and water infiltration and retention.

h. *Climate change* is expected to affect the population and life cycles of several pests and diseases, mainly through the influence on their distribution and expansion ranges. More invasions by introduced or migrated alien species of pests and diseases are expected, with higher intensities of infection. However, the impact of climate change will be most clear through its effect on crops, as crops growing under various types of climate stress will be more susceptible and vulnerable to pests and diseases. Anticipated effects include reduced tolerance and resistance levels in crops, and losses in biodiversity, especially of wild crop races needed for resistance breeding. Because of higher pest and disease pressure more pesticides will be applied, which might lead to increased misuse and overuse, if not well managed (World Bank, 2009). Environmental instability and increased incidence of extreme weather may also reduce the effectiveness of pesticides on target pests, or result in more injury to non-target organisms. However, climate change may affect biological control negatively or positively (Patterson *et al.*, 1999).

CRITERIA FOR ENVIRONMENTAL SCREENING AND SCOPING OF IFAD PROJECTS

9. Whenever an IFAD project includes the purchase, promotion or use of agrochemicals, environmental analysis should seek to address the following issues:

- a. *Identification of specific crops and their existing or potential pests requiring pest management:* Investigate the options for using available safe pesticides and non-pesticide alternatives.
- b. *Identification of nationally approved and available pesticides,* and management and application techniques for their judicious and effective use to protect human and environment health.
- c. *Assessment of local and national capacity for the safe handling, use, storage and disposal of agrochemicals:* Identify training needs for regulatory institutions, agrodealers, extension agents and farmers, and assess the needs for building community environmental awareness.
- d. *Development of an IPM programme* for minimizing/optimizing pesticide application, including – if possible – provisions for monitoring residues on crops and in the environment: The programme should include IPM strategies for enhancing the resilience of vulnerable agro-ecosystems to climate variability and changes, and the adaptation of IPM practices to deal with pests in different climatic conditions (World Bank, 2009).
- e. *Reduction of environmental impact:* As fertilizers have a high carbon footprint, it is prudent to enhance the efficiency of nitrogen use (by minimizing losses caused by erosion, leaching and volatilization) and to identify alternative sources using integrated nutrient management strategies, such as biological nitrogen fixation, animal manure and the recycling of nutrients in crop residues (Lal, 2004).

10. The following questions should guide the environmental and social screening and scoping of IFAD-supported projects:

By component

- a. Will the project include direct financing or short-term credit for agrochemical procurement? Are measures being designed for the support or strengthening of pesticide regulatory institutions, and is special training required for the proper application and use of the pesticides selected? Is the project providing home garden packages/kits? Do these kits contain pesticides by default? Pesticides should be available only when needed and not by default.
- b. Will the project encourage plant protection, or disrupt indigenous production practices? Are the pest control methods promoted in the project area easy for local people to adopt, and will the practices be sustainable?⁶⁹
- c. Are the crops promoted suitable for the geographic location, pest complexes and available resources, and will they require additional pesticide inputs? If the project

⁶⁹ Sustainability is a critical issue because imported pesticides may be too expensive or not easily available in the long term – after the project ends.

promotes monoculture in time and space – of specific varieties or of crop types in general – what measures are being taken to reduce the increased risk of pest and disease infestation? Do the selected crop varieties typically require high pesticide applications (e.g. cotton)? Does the project favour native varieties, which may be more suitable to the local environmental and socio-economic conditions of farms?

d. Will the project require any specialized post-harvest treatments? Will these treatments require the use of fumigants that may pose a hazard to operators and the environment and leave dangerous residues in food?

e. Are the selected pesticides of high toxicity? Do they require specialized training or application equipment for their safe handling and use? Is the choice of pesticides recognized as being particularly hazardous? Will the project require the use of soil fumigation treatments that may pose hazards to operators and the environment?

f. Are there particular hazards associated with the pesticides selected? Are alternative, less toxic pesticide options available? Are there any hazards linked to the handling, mixing, field application, transportation, storage and disposal of unused pesticides and their containers? A major hazard assessment may be necessary if substantial quantities of pesticide are to be stored, transported or disposed of. Is training being provided to agrodealers and to farmers and their families on the safe use and storage of pesticides in and around the household?

By receiving environment

- a. Does the project area include any vulnerable drinking water supplies for people and animals?
- b. Does the project area contain any aquifers and water reservoirs used for human or animal consumption?
- c. Does the project area cover any natural or commercial fisheries or breeding grounds downstream?
- d. Does the project area contain any local wells or informal drinking water sources?
- e. Does the project involve activities that use agrochemicals adjacent to any natural park or reserve?

POTENTIAL MITIGATION

10. The following paragraphs outline activities for the prevention or mitigation of inappropriate or excessive agrochemical application. The recommended activities and any additional site-specific measures should be incorporated in the ESMP for the project or programme. In operations where large-scale pesticide use is proposed, such as for suppression of locust infestations, or is likely to occur because of agricultural development, a stand-alone Pest Management Plan may be appropriate.

Fertilizer management

- a. Ensure that dressings do not exceed recommended doses.
- b. Reduce leaching through appropriate choice of fertilizer to suit soil conditions, split applications and fertilizer placement.
- c. Reduce runoff through incorporation of fertilizer into soil, timing of applications to avoid erosive rains, and soil and water conservation measures.
- d. Limit nitrate use in sensitive watersheds serving urban areas.
- e. Select non-ammonium sources of nitrogen such as urea.
- f. Carry out liming (usually to pH 5.5 for tropical crops).
- g. Explore the potential for increasing production without the use of chemical fertilizers, especially using indigenous technologies, including organic fertilizers, and supporting integrated soil fertility systems.
- h. Promote community education on improving indigenous practices to maximize production, avoiding chemical fertilizers in favour of local options that are available on farm.
- i. Support crop management practices that increase the nutrients available to crops, including by: (i) using more organic and less inorganic fertilizer (e.g. "humanure" – human waste); (ii) increasing the efficiency of fertilizer use through appropriate fertilizer selection, timing and split applications; (iii) increasing nutrient recycling using humanure, crop residues and livestock grazing after crop⁷⁰ harvest (mixed farming); use of nitrogen fixing trees, where feasible (agroforestry) and (iv) improving rotations (e.g. inclusion of legumes, multicropping).

Pesticide management

- a. The project should be explicit about the pesticides it proposes, including those that farmers are expected to use when credit for input purchases is made available. For projects that entail significant pesticide use or have the potential to result in increased pesticide use, a Pest Management Plan (PMP) is prepared, either as a stand-alone document or as part of the ESIA or ESMP. The most important criteria for assessing the environmental impact of a pesticide are its toxicity level and degree of biodegradability. Consideration should also be given to residue level guidances for countries that intend to export crops. Unregistered, restricted-use or experimental-use pesticides should be avoided, unless their use in the project has been reviewed and approved by the Food and Agriculture Organization of the United Nations (FAO)/World Health Organization (WHO) Joint Meeting on Pesticide Residues.

⁷⁰ An outline of a PMP is provided in Annex I to this Guidance Statement.

- b. Pesticides in WHO Classes Ia and Ib⁷¹ should generally be avoided.
- c. For general use, the formulated product should be of a low enough concentration to be in at most WHO Class II. Low-toxicity formulations should be favoured: from least toxic to most toxic the options are granule, dust, wettable powder, flowable, emulsifiable concentrate, ultra-low volume and fumigant.
- d. Low-concentration granulars, seed dressings, bait formulations and pheromone traps generally present the least hazard to users and are especially suitable for small-scale farmers unfamiliar with pesticide use; they cause minimal environmental contamination and minimal adverse effects on non-target organisms.
- e. Aircraft application should be avoided whenever possible, and used only when speed in covering large areas is essential, such as in the emergency control of migratory pests.
- f. Safe application equipment and servicing facilities should be promoted, along with correct calibration of equipment. Training should be provided for personnel and farmers applying the pesticides.
- g. Protective clothing, including masks, gloves and boots, should be provided or promoted, especially for pesticides that are absorbed through the skin. However, improper use of protective clothing may be even more hazardous than doing without protection: unless it is washed, protective clothing can become saturated with pesticides – such as in the lining of boots and gloves – and greatly increase pesticide absorption. Training should be provided.
- h. Training is crucial to the safety, use and cost-effectiveness of pesticides, and is recommended for inclusion in any project that increases the availability or accessibility of pesticides. A range of actors will require education: users, operators, extensionists, retailers, health workers treating cases of poisoning, and legislators in pesticides law.
- i. Application guidelines for pesticide use should be made clear to the borrowing country, and a legal document should be drawn up providing assurance that the guidelines will be followed. All the pesticides used in the project should be properly labelled, and all labels and application guidelines should be provided in the local language.

INTERNATIONAL LEGAL CONTEXT

11. The Rotterdam Convention contributes to the environmentally sound use of hazardous chemicals by creating legally binding obligations for the implementation of prior informed consent (PIC) procedures. The fundamental principle of the PIC system is that international shipment of a chemical that is banned or severely restricted for health or environmental reasons should not proceed without the agreement, or contrary to the decision, of the importing country. The United Nations Environment Programme (UNEP) International Register of Potentially Toxic Chemicals has a database on PIC.

⁷¹ The World Bank prohibits the use of pesticides in Classes Ia, Ib and restricts the use of pesticides in Class II in projects that it finances.

12. Agrochemicals banned in developed countries are often illegally dumped in developing countries, so pesticide use has to be carefully monitored by governments.

REFERENCES

Guidelines and studies:

Eickhout B., Bouwman A.F. and van Zeijts H. 2006. The role of nitrogen in world food production and environmental sustainability. *Agriculture, Ecosystems and Environment* 116, 4-14. . Available at: http://ac.els-cdn.com/S0167880906001083/1-s2.0-S0167880906001083-main.pdf?_tid=fa53b5be-5590-11e2-bc45-00000aab0f27&acdnat=1357209373_e9e325161439d794108aff3c940827e0

Food and Agriculture Organization of the United Nations (FAO) 2005. *International Code of Conduct on the Distribution and Use of Pesticides*. Rome: FAO. Available at: <ftp://ftp.fao.org/docrep/fao/009/a0220e/a0220e00.pdf>

Food and Agriculture Organization of the United Nations (FAO) 2006. *Fertilizer Use by Crop*. Fertilizer and Plant Nutrition Bulletin. Rome: FAO. Available at: <ftp://ftp.fao.org/agl/agll/docs/fertusebycrop.pdf>

Food and Agriculture Organization of the United Nations (FAO) 2006. *Plant Nutrition for Food Security - A Guide for Integrated Nutrient Management*. Fertilizer and Plant Nutrition Bulletin. Rome: FAO. Available at: <ftp://ftp.fao.org/docrep/fao/009/a0443e/a0443e.pdf>

Food and Agriculture Organization of the United Nations (FAO) 2000. *Guidelines and Reference Material on Integrated Soil and Nutrient Management and Conservation for Farmer Field Schools*. Rome: FAO. Available at: <ftp://ftp.fao.org/agl/agll/docs/misc27.pdf>

Greenpeace. 2008. *Cool farming: Climate impacts of agriculture and mitigation potential*. Available at:

<http://www.greenpeace.org/international/Global/international/planet-2/report/2008/1/cool-farming-full-report.pdf>

Herencia J. F., Ruiz-Porras, J. C., Melero, S., Garcia-Galavis, P. A., Morillo, E., and Maqueda, C. 2007. Comparison between Organic and Mineral Fertilization for Soil Fertility Levels, Crop Macronutrient Concentrations, and Yield. *Agronomy Journal* (99): 973-983

International Fund for Agricultural Development (IFAD) (2005). *Organic Agriculture and Poverty Reduction, Evaluation*. Rome: IFAD. Available at: http://www.ifad.org/evaluation/public_html/eksyst/doc/thematic/organic/index.htm

International Finance Corporation. 2012. *Performance Standard 3: Resource Efficiency and Pollution Prevention*. Washington: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

Lal R. 2004. Carbon emission from farm operations. *Environment International* 30, 981-990/8521156232569*96230.+-*+63-

Available at:

<https://sustainability.water.ca.gov/documents/18/3407432/Carbon+emission+from+farm+operati.pdf>

Krupinsky , J.M., Merrill, S.D, Tanaka, D.L., Liebig, M.A., Lares, M.T. and Hanson, J.D. (2007). Crop Residue Coverage of Soil Influenced by Crop Sequence in a No-Till System. *Agronomy Journal* (99): 921-930.

Patterson, D.T., J.K. Westbrook, R.J.V. Joyce, P.D. Lingren, and J. Rogasik. 1999. "Weeds, Insects, and Diseases," *Climatic Change*, Vol. 43, No. 4, December, pp. 711-727.

Pesticide Action Network Europe. 2009. Climate Change and Agriculture Fact Sheet. Available at: http://www.pan-europe.info/Resources/Factsheets/Climate_change.pdf

Rundgren. 2011. *Garden Earth – From Hunter and Gatherer Society to Global Capitalism and Thereafter*.

Wood S. and Cowie A. 2004. A review of greenhouse gas emission factors for fertiliser production. IEA Bioenergy Task 38.

World Bank Development Economics Research Group and the Standards and Trade Development Facility . 2009. *Climate Change and Agricultural Trade – Risks and Responses*. Available at: http://www.standardsfacility.org/Files/ClimateChange/06_RichardSikora_Climate_Change_and_Agriculture.pdf

Selection of Pesticides:

Food and Agriculture Organization of the United Nations (FAO) (2006). *Guidelines on Pesticide Management in Support of the International Code of Conduct on the Distribution and Use of Pesticides*. Rome: FAO. Available at: <http://www.fao.org/ag/AGP/AGPP/Pesticid/code/guide.htm>

World Health Organization (WHO) (2006). *Pesticides and their application for the control of vectors and pests of public health importance*. Sixth Edition. Geneva: WHO. Available at: http://whqlibdoc.who.int/hq/2006/WHO_CDS_NTD_WHOPES_GCDPP_2006.1_eng.pdf

World Health Organization (WHO) (2006). *Sound management of pesticides and diagnosis and treatment of pesticide poisoning*. Geneva: WHO. Available at: http://www.who.int/whopes/recommendations/IPCSPesticide_ok.pdf

World Health Organization (WHO) (2006). *The WHO recommended classification of pesticides by hazard*. Geneva: WHO. Available at: http://www.who.int/ipcs/publications/pesticides_hazard/en/

Websites

Food and Agriculture Organization of the United Nations (FAO). FAO Pesticide Specifications and Quality Control Standards site Available at:

<http://www.fao.org/agriculture/crops/core-themes/theme/pests/jmps/en/>

Food and Agriculture Organization of the United Nations (FAO/AGL) – Soil Fertility and Plant Nutrition Portal. http://www.fao.org/ag/agl/agll/prtplnu_publ.stm

Food and Fertilizer Technology Center (FFTC) for the Asian and Pacific Region, Empowering Small-Scale Farmers through Science and Information.

<http://www.agnet.org/>

International Center for Soil Fertility and Agricultural Development (IFDC).

<http://www.ifdc.org>

International Fertilizer Industry Association Website:

<http://www.fertilizer.org/ifa/HomePage/SUSTAINABILITY/Climate-change/Emissions-from-agricultural-use.html>

International Phytosanitary Portal (IPP): the official web site for the International Plant Protection Convention. <https://www.ippc.int/IPP/En/default.jsp>

World Bank. Fertilizer Use in Africa. <http://go.worldbank.org/V7GSJ2ZV50>

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GUIDANCE STATEMENT 3

Energy

INTRODUCTION

1. Worldwide, 2.4 billion people rely on traditional biomass such as fuelwood and charcoal for cooking; 1.3 billion people do not have access to electricity (REN21, 2012). Households expend significant proportions of their disposable incomes, time and labour on low-quality energy sources. This situation entrenches poverty, constrains the delivery of social services, limits opportunities for women, and erodes environmental sustainability at the local, national and global levels (UN-Energy, 2004). Today, energy from traditional biomass fuel is thought to account for nearly one-tenth of all human energy demand – more than hydro and nuclear power together – and wood-based fuels probably make up two-thirds of household use. Poor households in developing countries often burn wood, charcoal and other solid fuels (mainly agricultural residues and coal) in open fires or poorly functioning stoves, resulting in various health risks (pneumonia, bronchitis and emphysema) and negative economic and environmental impacts (FAO, 2006). Modern bioenergy technologies can offer a wide range of solutions that are appropriate to rural domestic energy needs (e.g. for cooking on flexi-biogas) or to energy demand for productive uses (e.g. water pumping for irrigation). In terms of electricity generation, renewable energy represented about 16 per cent, with non-hydro accounting for only a small fraction of that. It should be noted that off-grid renewable energy sources, while small in terms of installed capacity, have real potential to support sustainable access to modern energy⁷². Small-scale solar photovoltaic, wind, solar thermal, micro- and mini-hydro, and hybrid systems (e.g. solar/wind systems) for mini-grids are very effective tools for energizing sustainable agriculture and rural development. These sources also contribute to climate change mitigation through the reduction of greenhouse gas emissions.

2. Broad and reliable access to energy allows the powering of agricultural and transport equipment, is particularly important for producers who are off the power grid or connected to an unreliable power supply, and reduces rural poverty through increased agricultural and labour productivity. The social benefits of energy access are significant. Electrification in poverty-stricken areas facilitates access to health (refrigerator for medicines, light in a health center or local laboratory...), to information technology (radio, television, telephone) and leads to higher educational achievement. Cleaner energy reduces the incidence of respiratory diseases by decreasing indoor air pollution, and reduces women's workload and drudgery related to collecting fuel, fetching water for domestic needs and processing food. Women benefit from the labour-saving, employment-creating and income-generating impact of rural energy provision. Many countries are adopting renewables⁷³ other than traditional biomass in their energy strategies, to reduce carbon dioxide emissions and help mitigate global climate change. The renewable sources also offer opportunities to expand supply and in some cases maintain energy security where sources such as hydro-power generation, may be

⁷² http://www.un-energy.org/cluster/renewable_energy

⁷³ Renewables are sources of energy that can be renewed indefinitely, such as hydro-, solar, geothermal and wind power, as well as sustainably produced biomass.

negatively impacted by climate change. Despite being natural and renewable, these fuel sources should be assessed for their potential environmental impacts, especially in the case of biofuels, as their feedstock supply chains may not be sufficiently sensitive to the principles of sustainable natural resources management and may compete with (rather than complement) food production.

3. Gender-related differences and inequalities influence the outcomes of energy planning projects. Attention should be given to women's time and labour constraints; women should be provided with opportunities to participate in decision-making regarding the development and adaptation of fuel-efficient technologies, and with the necessary technical skills to compete with men in green job opportunities. Giving women and men access to project participation can change overall gender inequality. The harnessing of rural renewable energy sources to create a rural energy market offers many opportunities for improving gender balance: field experience shows that many activities – such as commercial distribution, rural credit, marketing, training and agricultural work for securing feedstock for bioenergies – would benefit from increased entrepreneurship and leadership of rural women in the energy value chain.

4. According to IFAD's Environment and Natural Resource Management (ENRM) Policy, basic guidances and good practices for IFAD interventions in the energy sector are to promote and support: (i) sustainable practices in developing rural energy resources that expand markets and ensure a steady energy service; (ii) development and dissemination of bioenergy⁷⁴ and renewable energy-efficient technologies that do not create competition with food crop production; (iii) development of institutional approaches to managing local-level energy production and the associated distribution systems; (iv) scaling up of the use of clean and renewable energy; and (v) poor people's access to sustainable energy, with appropriate consideration of gender roles in sourcing the energy.

ENERGY IN IFAD PROJECTS

5. Energy security is receiving increased attention in the IFAD portfolio, which focuses on improving access to energy for domestic, processing and farming purposes, to enhance the quality of life and living standards of poor rural people. In partnership with other entities, and in support of country-owned initiatives, IFAD explores alternative sources of energy for poor people, to reduce their dependence on fossil fuels or traditional biomass by capitalizing on opportunities to use renewable energy sources at the farm and community levels, and promoting low-cost technologies that use local resources to provide energy to rural areas. IFAD assists countries in developing rural energy systems through the analysis and projection of demand and supply trends for renewable energy and its substitutes, at the subregional, national and local levels; producing biogas from animal and human waste and biofuel from energy crops; and constructing stand-alone or grid-connected home solar systems for lighting, refrigeration and water pumping in poor remote households. IFAD also promotes the use of energy-efficient stoves.

⁷⁴ Bioenergy is energy that is directly or indirectly produced from biomass. Bioenergy resources include wood biomass such as fuelwood, charcoal and forestry residues; energy crops such as sugar and cereals; and agricultural and livestock by-products such as straw, leaves, stalks, husks, shells, manure and droppings. Bioenergy is a renewable energy with three main applications: electricity generation, heating and transport fuel (FAO, 2004).

ENVIRONMENTAL AND SOCIAL ISSUES

6. Renewable energy is of growing interest because of its potential to diminish reliance on fossil fuels, reduce carbon emissions and mitigate climate change. For example, biogas can provide poor rural people in developing countries with clean and renewable energy all year round. The use of biogas stoves frees women from the need to collect fuelwood, enabling them to undertake other productive activities. The organic residual end product of the biogas process can be used as a fertilizer to boost the productivity of agricultural plots. As well as reducing the need for fossil energy, biogas technology also reduces the greenhouse gas (GHG) emissions caused by burning fuelwood, and – especially – the methane emissions from natural decomposition of organic waste. It also improves sanitation conditions because animal and human waste is channelled into biogas digesters. Another alternative technology with potential for rural areas is small-scale, solar photovoltaic technology, especially now that its price has decreased dramatically with the expansion of global manufacturing capacity. The massive uptake of an IFAD-led innovation, flexi-biogas, through private sector manufacturers and retailers demonstrates the insatiable demand for reliable and cheap renewable energies. These are opportunities that IFAD operations should exploit, because although the technology has become more affordable, remote rural markets still need substantial assistance in developing the market structure necessary for financial sustainability. Investments in solar electrification and flexi-biogas should include proper management of the market for after-sale services, to reduce the risks of environmental hazards, such as from improper disposal of used batteries.

7. Strategic considerations must be part of the planning process, to ensure that the intensity and methods of exploiting natural resources for energy purposes respect the overall goal of environmental and economic sustainability. For instance, there has been much debate about the true net energy and carbon balances of bioethanol and biodiesel production. Savings in GHGs range considerably, depending on the structure of the overall value chain. Weak national legislation and regulatory frameworks, uncontrolled private sector initiatives and ill-conceived donor projects for energy crop production have led to negative environmental impacts from the replacement of forests, monocropping, land degradation, soil erosion, depletion of water resources, and pollution from pesticide and fertilizer use, as well as social impacts such as pressures on smallholders' land. Fortunately, awareness of the potential risks of bioenergy initiatives is rising, and it is now more widely recognized that energy gains from biofuels are possible only when the energy content of the biofuel is higher than the energy inputs for feedstock production, farm mechanization, crop processing and fuel distribution (UN-Energy, 2007). Additional concerns regard the impact of biofuel on the food security of the poor, which may be compromised by increased demand for energy crops. Bioenergy production may also result in poor labour practices, with health and safety risks and the use of child or forced labour. Large-scale biofuel production may lead to the dislocation of rural communities and an increase in landlessness.

POTENTIAL MITIGATION

8. Energy development is a cross-sector activity. When formulating a new, or evaluating an existing investment proposal, many issues need to be understood and analysed. The use of multi-criterion analysis methodologies or approaches such as life cycle analysis⁷⁵ can be of great assistance. A convincing and balanced bioenergy investment with attractive economic returns, as well as ecological and positive net energy balances, has to address many aspects, including diversions from food to energy crops, land-use change, smallholder inclusiveness, production of appropriate feedstock, and adoption of optimal agricultural and water-use practices. Other aspects for consideration are post-harvest management, agro-industrial processing and its effluents, and energy conversion and utilization efficiencies. Similar attention to the multiple facets of other renewable energy systems is fundamental for appropriate exploitation and diffusion as drivers of rural development and livelihood improvement.

9. As the rising long-term trend in oil prices constrains agricultural production and livelihood security, IFAD should support comprehensive planning and investment in alternative rural energy sources and should seize emerging opportunities for energy production through investment in the following:

- a. *Renewable sources of rural electricity:* The use of mini-hydro, biogas, small-scale wind and solar photovoltaic energies often competes well with grid extension, and/or reduces the consumption of fossil fuels (particularly diesel) and other traditional energy sources for lighting (kerosene, candles, batteries), while reaping the benefits of establishing green-technology market infrastructure to sustain rural renewable energy services. Even small renewable electricity supplies have proved capable of powering small-scale rural productive activities (FAO, 2000).
- b. *Renewable sources of thermal energy* can substitute fossil fuel or biomass combustion in rural small and medium-sized enterprises (agroprocessing). They can also satisfy households' demand for cooking energy. Examples include biofuel and biogas stoves, solar cookers, and the latest biomass gasification stoves.
- c. *Energy efficiency investments:* Energy efficiency remains largely unexplored, but it is often associated with renewable energy systems. For instance, the use of solar electric water-pumping systems with water storage can dramatically cut the power guidances of irrigation systems, which traditionally depend on oversized diesel pumps. An example for rural areas is the production and marketing of improved or energy-efficient solid biomass cooking stoves, which can substantially decrease exposure to air pollution, consumption of traditional biomass, and global warming impacts. Investments in energy efficiency can also be applied to rural productive energy uses.
- d. *Biofuel investments:* Well-managed, low-input biofuel production systems matched with efficient transport and processing systems have potential in developing economies in the tropics, not only for producing energy, but also in linking smallholders to markets, and facilitating agro-industries' effective use of resources.

⁷⁵ Life cycle analysis refers to a group of methodological approaches that analyse the full production and consumption cycles of products (including several in the biofuel sector) and assess their sustainability performance along their life cycles.

However, the considerations in point 8 are particularly relevant here. Careful analysis of biofuel production and processing systems should revolve around the following:

- i. *Land-use planning*, to minimize competition for food production, increase transport efficiency and maximize processing capacity.
- ii. *Cost-benefit analysis* of a country's potential to establish a sustainable biofuels development programme, including current agricultural production and estimated future expansion of energy crop cultivation, land availability and utilization, production potential in marginal and degraded lands, current uses of agricultural and forestry by-products, availability of water and other resources, national dependence on fossil fuel imports, and bioenergy and food security synergies and risks.
- iii. *Improved agronomy and breeding*, to increase agricultural efficiency and investments in the energy crops that are most suitable for local environments and climates.
- iv. *Secure access to natural resources and land tenure rights for small farmers*, to minimize land appropriation by large-scale biofuel producers, promote small and medium-sized enterprises by linking farmers to the bioenergy value chain and market, and support local processing and use of the energy produced. For example, development of *Jatropha* oil production in Malawi was based solely on a network of 25,000 smallholders planting the energy crop as hedgerow around their food farming plots (BERL, Malawi website).
- v. *Safeguarding of natural ecosystems and biodiversity*, to limit the risks of environmental degradation associated with the expansion of energy crops. Deforestation can counteract the GHG benefits of biofuels for decades. Regenerate and cultivate bioenergy plantations on unused, degraded and marginal lands to limit expansion of the agricultural frontier and reduce competition over land use for food production. Adhere to good agricultural practices, avoid monocropping by applying crop rotations or associations, reduce inputs, and avoid the use of genetically modified crops. Map and respect biodiversity-rich areas – legally protected areas, and areas harbouring rare, endangered and threatened species and ecosystems – and set up systems for monitoring conditions.
- vi. *Exploration of the potential for using biomass residues and wastes*: Bioenergy feedstocks include manure, forest thinning, rice husks and straw, which together supply up to half of a country's bioenergy potential (FAO, 2007; 2010). Second-generation biofuels, such as bioethanol produced from enzymatic processing of agricultural waste, have high potential for sustainability, although they are still at the development stage.
- vii. *Development of strong local biofuel markets*: Biofuel investments have been dominated by large-scale, high-input plantations for exports of raw materials, or (in the best scenario) locally pressed vegetable oil or locally manufactured bioethanol. Recently, however, a growing number of biofuel initiatives are tapping into the local fuels market. The macroeconomies of many producing countries are highly dependent on fossil fuel imports, with low-quality, high-cost imported fossil fuels and a weak distribution network in rural areas. In such instances, significant new biofuel markets can be harnessed: examples include using biofuels instead of large volumes of fossil diesel to power the generators of mobile phone networks in rural areas; and nascent fuel blending standards and policies that mandate the oil industry to mix biofuels in diesel and gasoline for the local transport sector.

viii. *Synergy with food value chains:* This point merits particular attention, as careful planning, coordination and entrepreneurial effort can provide ample opportunities for making biofuel production an engine for improved agrifood production. Building synergies means planning biofuel production as a complement to food production. For example, in the *Jatropha* hedgerow-planting model from Malawi, an agro-energy company is testing contract farming of sunflower in the plots between hedgerows (BERL, Malawi website). Another idea is to plan and build value chains that link agriculture, food production, waste management and energy generation: for instance, sunflower oil contract farming could involve an agribusiness intermediary that would press the vegetable oil for sale on the local market and collect the waste oil, which would in turn be regenerated for fuel use.

ix. *Potential impact of climate change on energy sources:* Investments being made in alternative energy sources particularly in rural areas should take into consideration the impacts of climate change on the energy sources of the communities through appropriate climate risk analysis to avoid mal-adaptation.

REFERENCES

Guidelines and studies

Food and Agricultural Organization of the UN (FAO). 2000. Solar PV Systems for Sustainable Agriculture and Rural Development.

<http://www.fao.org/sd/EGdirect/EGre0057.htm>

Food and Agricultural Organization of the UN (FAO). 2004. Unified bioenergy terminology. Rome.

<ftp://ftp.fao.org/docrep/fao/007/j4504e/j4504e00.pdf>

Food and Agricultural Organization of the UN (FAO). 2006. Forests and human health. Unasylva No. 224 Vol.57. Rome.

<http://www.fao.org/docrep/009/a0789e/a0789e00.htm>

Food and Agricultural Organization of the UN (FAO). 2007. SARD and Bioenergy. Sustainable Agriculture and Rural Development (SARD) Policy Brief 10.

<ftp://ftp.fao.org/sd/sda/SDAR/sard/SARD-bioenergy%20-%20english.pdf>

Food and Agricultural Organization of the UN (FAO). 2010. Bioenergy Environmental Impact Analysis (BIAS): Analytical Framework.

<http://www.fao.org/docrep/013/am303e/am303e00.pdf>

Food and Agricultural Organization of the UN (FAO). 2012. Smallholders in Global Bioenergy Value Chains and Certification.

<http://www.fao.org/docrep/015/i2597e/i2597e00.pdf>

IFAD. 2007. Energy for sustainable development. Making a difference in Asia and the Pacific Newsletter. Issue 15.

<http://www.ifad.org/newsletter/pi/15.htm>

IFAD 2010. Jathropha: A Smallholder Bioenergy Crop, the potential for pro-poor development.

<http://www.fao.org/docrep/012/i1219e/i1219e.pdf>

International Finance Corporation. 2012. *Performance Standard 3: Resource Efficiency and Pollution Prevention*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

Pimentel D. et Al. 2005. Ethanol Production Using Corn, Switchgrass, and Wood; Biodiesel Production Using Soybean and Sunflower. *Natural Resources Research*: Vol 14, nr.1, pp. 65-76.

http://www.ce.cmu.edu/~gdrq/readings/2005/08/10/Pimental_NRR_Eth_Biodies_Energy_Balance.pdf

REN21. 2012. Renewables 2012, Global Status Report, Paris REN 21 Secretariat.

<http://www.ren21.net/REN21Activities/Publications/GlobalStatusReport/GSR2012/tabid/79218/Default.aspx>

UN-Energy. 2004. The energy challenge for achieving the Millennium Development Goals. New York.

<http://www.un-energy.org/publications/50-the-energy-challenge-for-achieving-the-millennium-development-goals>

UN-Energy. 2006. Sustainable energy: a framework for decision makers. New York.

<http://www.un-energy.org/publications/47-sustainable-bioenergy-a-framework-for-decision-makers>

Websites

Bio Energy Resources (BERL) Malawi: <http://www.berl.biz>

FAO Bioenergy: <http://www.fao.org/bioenergy/en/>

International Energy Agency – Bioenergy, Biofuels, Renewables:
<http://www.iea.org/topics/>

UNDP Environment and Energy: <http://www.undp.org/energyandenvironment/>

UN Energy: <http://www.un-energy.org/>

Climate Technology Initiative – Private Financing Advisory Network: <http://www.cti-pfan.net/>

IFC-WB Lighting Africa Programme: <http://www.lightingafrica.org/>

GUIDANCE STATEMENT 4

Fisheries and aquaculture

INTRODUCTION

1. IFAD fisheries projects can be divided into two main categories: (i) capture fisheries – harvesting of wild stock; and (ii) culture fisheries or fish-farming – freshwater aquaculture, brackish water aquaculture and mariculture. Capture fisheries include marine operations (offshore and near-shore) and inland operations (rivers, lakes and reservoirs).

2. The total demand for fish is approaching production limits. Capture fisheries account for 70 per cent of world food fish production, and most commercial capture fish stocks are now fully exploited. Inland fisheries yield only 11 per cent of total capture fisheries production and have also reached their limit in most areas (FAO, 2012). At the same time, fish and water resources are deteriorating as a result of pollution from agriculture, industry, mining and urbanization (especially in tourist areas). Increases in fish production are possible through improved management of capture fisheries and increased fish-farming. However, fish-farming must be managed responsibly to avoid negative social and environmental impacts, including pollution, damage to aquatic biodiversity, conflict over resource rights, and marginalization of small-scale actors.

3. Climate change poses new challenges to the sustainability of fisheries and aquaculture systems, with serious implications for the more than 500 million people in developing countries who depend directly on marine and freshwater fisheries and aquaculture for their livelihoods, and the nearly 3 billion people for whom fish is an important source of animal protein. Coastal communities are in the frontline of climate change impacts, and are vulnerable to sea-level rise, extreme weather events, changing distribution of fish stocks, eroding coastlines, salt water intrusion, tourism amenity values, and the impact of ocean acidification on food security and coastal resources. Coastal communities and small island states without proper programmes for adapting to extreme weather – in terms of infrastructure, early warning systems and knowledge of appropriate behaviour – are also at high risk (WorldFish Center website; FAO 2008). IFAD should aim to address these challenges by analysing current and future vulnerabilities, supporting coping mechanisms and adaptation to/mitigation of climate risks, and building countries' capacity to make fisheries and aquaculture systems more resilient. Aquaculture can contribute to increased resilience and food security, and lead to the diversification of livelihoods, which can reduce households' vulnerability to natural hazards and economic uncertainty. Aquaculture also provides direct and indirect employment opportunities, particularly for women, and can generate cash income and improve family nutrition.

4. As stated in IFAD's Environment and Natural Resource Management (ENRM) Policy (2011), IFAD interventions in the fisheries and aquaculture sectors should seek to: (i) strengthen fisheries management and the tenure rights of fishing communities to common pool resources; (ii) introduce ecosystem approaches for both fisheries and aquaculture; (iii) restore and develop marine protected areas; (iv) promote integrated coastal and marine resource management to ensure sustainable fishing practices; (v) invest in retraining and education for fishers, to create alternative employment

opportunities; (vi) invest in properly organized long-term fisheries licensing, aquaculture and fisheries monitoring, and data collection programmes; and (vii) encourage sustainable forms of aquaculture.

FISHERIES IN IFAD PROJECTS

5. Some of the poorest and most marginalized population groups depend on open-access fisheries for their livelihoods, often as a last resort. Projects for developing small-scale fisheries are therefore fully within IFAD's mandate to alleviate rural poverty, and can be very beneficial to the marginalized rural poor. Successful development of artisanal fishing communities is considered one of the greatest challenges that institutions face in fisheries development.

6. Through its investments in 50 projects that are wholly or partly dedicated to small-scale fisheries (including aquaculture) (as of January 2012), IFAD seeks to:

- increase food production;
- improve nutrition and health for fishing communities (and surrounding communities);
- increase incomes and employment;
- improve the quality of life in fishing communities;
- increase national trade and exports;
- reduce immigration of young fishers to urban areas;
- improve the situation for women in fisheries;
- preserve and strengthen habitats that are important for rejuvenating fish stocks, such as mangroves and coral reefs;
- provide access to credit for small-scale fishers;
- take into account the impacts of climate change in the design of new fisheries and aquaculture projects.

7. Projects with fisheries components currently constitute about 23 per cent of IFAD's project portfolio. Such projects routinely include provisions for increasing fish production within sustainable limits, and safeguarding against resource depletion.

ENVIRONMENTAL AND CLIMATE CHANGE ISSUES

8. Small-scale fisheries can have significant comparative advantages over industrial fisheries, including enhanced economic efficiency through greater utilization and reduced discarding, fewer negative impacts on the environment through higher selectivity, and wider sharing of economic and social benefits through decentralization and geographical

spread. The development of artisanal fisheries therefore has many beneficial effects (Fezzardi and Corsin, 2011), but infrastructural improvements to increase catches' value-addition, and the modernization of gear and boats can threaten the long-term productivity of the resource base. This is the most significant negative environmental effect of any fishery activity or project. The following are the most common, potential negative impacts of capture fishery projects:

a. *Overfishing* results in unsustainable depletion or even extinction of the target fish stocks and other species dependent on them. This depletion can have major impacts on biodiversity and biological equilibrium. Developing countries, often with limited technical capacity, bear the brunt of illegal, unreported and unregulated (IUU) fishing, which undermines their efforts to manage fisheries, denies them revenue and adversely affects their attempts to promote food security and eradicate poverty (FAO, 2012).

b. *Capture and discarding of non-target species (by-catch)* because of inappropriate equipment use and fishing practices, and loss of nets.

c. *Habitat damage*: This can result from oil and fuel spills, direct dumping of debris (gear, twine, food containers, plastic bands, etc.) by fishing fleets, damage from anchors, damaging fishing practices such as the use of explosives and poison, and coastal pollution from processing plants. In addition, deforestation may occur around fishing villages because of the increased demand for fuelwood for the production of smoked fish. Deforestation of mangroves not only increases coastal erosion but also damages the rejuvenation of aquatic species that depend on mangroves for spawning and habitat.

9. Fish-farming can have significant impacts on the environment, particularly in areas where aquaculture is newly introduced or intensively practised (where there is high demand for water), or where freshwater is a scarce natural resource.⁷⁶ However, fish-farming can also be a way of storing/conserving waters; for example, fish ponds can store rainwater in the rainy season for irrigation and animal use in the dry season. Fish-farming has also been a relatively easy entry point for the introduction of aquaculture in developing countries, particularly for small-scale producers (FAO, 2012). Fish-farming should use technologies that are adapted to local conditions and, wherever possible, should utilize intact ecosystems. The following are the most important negative impacts of fish-farming:

a. *Conversion of wetlands and clearing of coastal vegetation*: Aquaculture operations can be particularly destructive in mangrove swamps, exposing coastal areas to erosion and flooding, altering natural drainage patterns, increasing salt intrusion and removing a critical habitat for many aquatic species.

b. *The siting of ponds in valleys and lowlands* interferes with other water uses, such as irrigation, washing, drinking and urban expansion. Siting of infrastructure and design standards for fish production and processing may also overlook some of the climate related risks and exposure to damage factors such as extreme climate events thus making the investments unsustainable.

⁷⁶ In areas such as East Asia, fish-farming is traditionally practised by rural households, and aquaculture – especially inland fish-farming – is seen as an option for addressing the negative impacts of fisheries resource depletion. Aquaculture is practised in lowland areas, making use of the water and land resources available in monocropping or integrated farming systems.

c. *Changes in hydrology*: Water quality is affected by stagnation, acidification and pond effluents if fish-farming is poorly practised and regulated. Nutrient and organic enrichment of recipient waters results in the build-up of anoxic sediments, high concentrations of fish waste and uneaten food, which can lead to oxygen depletion and contribute to harmful algal blooms. Water availability for other uses is also reduced.

d. *Introduction of exotic species* can result in damage or extinction of native fish populations through predation and the spread of diseases and parasites, and genetic impacts through the escape of genetically modified species (GMOs). In developing countries, fish-farming can achieve adequate production levels without the use of GMOs, but selective breeding can improve fish productivity, if based on careful exploration and regulation. In most developing countries, fish biodiversity is very high, and the long-term impacts of GMOs on local biodiversity are difficult to predict and likely to be very detrimental. Further research is required.

e. *Overfishing*: Paradoxically, some forms of aquaculture production increase – rather than reduce – the pressure on ocean fish stocks, because carnivorous aquaculture species depend on high-protein feed formulated from a blend of other low-value fish. Some 10 to 15 per cent of all fishmeal is used in aquaculture feeds, and it takes roughly 2 kg of feed to produce 1 kg of farmed fish or shrimp (assuming a feed conversion ratio of 2). The result is a net loss of fish protein (World Resources Institute website).

f. *Impacts on human and animal health*: The use of antibiotics and other chemicals to control diseases and parasites in fish-farming operations is likely to have very serious negative impacts on the health of both animals and people through contamination of the environment with antibiotic-resistant micro-organisms, etc.

POTENTIAL MITIGATION

10. Many fishery projects are designed with the clear understanding that there are potential negative impacts, but that these can be avoided or mitigated by promoting good practices. However, the capacity to implement or enforce good practices is sometimes impaired. Although the technical mitigation measures that resolve or alleviate the negative impacts of fisheries (outlined in the following paragraphs) are simple and straightforward, it should be kept in mind that considerable monitoring of fish and water resources may be necessary during and after project implementation. Environmental monitoring capacity in developing countries is often inadequate and should be improved throughout the project.

11. Mitigation measures in capture fisheries to be considered for inclusion in ESMPs may include the following:

a. *Overfishing* can be mitigated by the provision of comprehensive and accurate baseline information on fish stocks, prediction of potential impacts of fisheries operations, and evaluation of the significance of these impacts. This information should form the basis for preparing fishery management plans for optimum sustained yields, including measures for reducing fishing capacity such as selective gear size, limited fishing zones and seasons, and minimum fish size; and enforcement of marine protected area (MPA) regulations. Attention should be given to the reduction of post-harvest waste, artificial

habitat technologies appropriate to aquaculture and the promotion of ecolabelled products.

b. *Capture of non-target species* can be mitigated through education of fishers, control of damaging fishing equipment and practices, development of markets for non-target species, and promotion of selective gear and improved gear technology (e.g. biodegradable material, collapsible traps).

c. *Habitat damage* can be mitigated through public education, provision of oil disposal sites, designation of anchoring sites, and banning of destructive fishing practices using explosives and poison. The environmental impact of increased demand for fuelwood for smoked fish production can be minimized by providing efficient stoves and infrastructure for fish drying and smoking, which are traditional methods of preserving fish in many developing countries. Additional measures include establishing MPAs and replanting mangrove forests.

d. *Community compliance* can be promoted by environmental education for rural communities. Strengthening of the formal and informal fisheries management and tenure rights of fishing communities to common pool resources is vital. Capacity building, education and participation in management contribute to building a sense of ownership, which promotes sustainable resource use. The formation of fishers' cooperatives can empower local communities, ensure compliance and protect artisanal fisheries from conflicts with commercial fishing vessels and their gear.

e. *Added value* can be achieved through the development of cold chains, and advocacy for eco labelling or sustainable fisheries certification of fishing practices that meet sustainability criteria.

12. Mitigation measures to be incorporated in ESMP for projects in fish-farming may include the following:

a. *Eco labelling*: Advocate for Eco labelling schemes that certify fish production from sustainable farming practices.

b. *Locally adapted technology*: Use locally adapted technologies where fish-farming can be practised without altering the local ecosystem. Avoid importing foreign technologies and produce feed from local resources.

c. *Minimizing conversion of wetlands and clearing of coastal vegetation*: Prepare development plans that set aside areas of particular ecological significance, limit pond conversion, and discourage extensive forms of aquaculture.

d. *Appropriate siting*: Site ponds and draw up development plans that ensure equitable distribution of land and water resources among different users. Infrastructure related to fish processing should also be sited in locations where exposure to extreme climate events is considered low and building standards adjusted accordingly to factor in the climate risks.

e. *Changes in hydrology*: Ensure adequate pond water exchange and flushing, with dilution or treatment of pond water prior to release; careful selection and use of feeds and fertilizers; and the safe and effective application of chemicals and drugs that are

likely to result in the contamination of the environment by drug-resistant microorganisms, with negative consequences for animal and human health.

f. *Introduction of exotics* should be avoided. Establish a regular monitoring programme for diseases and parasites, and reduce risks. The introduction of GMOs into developing countries should not be permitted until extensive research has been carried out into the potential long-term negative impacts on local biodiversity and human and animal health. Ensure evaluation and responsible use of non-native and non-adapted fish and aquatic species.

g. *Community compliance*: Community education and empowerment are vital and can be achieved through capacity building, training and participatory management practices that allow communities to contribute, enhance ownership and support sustainable resource use.

h. *Establishment of fishers'/fish-farmers' cooperatives* is extremely beneficial in empowering local communities, giving them a greater voice with policymakers and improving their livelihoods through collective action and activities. Cooperatives can also attract microcredit provision and support for modernizing fishing practices.

13. The environment also influences fisheries. The most important impacts affecting the quality of rivers and seas come from the following sectors:

a. Agriculture – land-use changes including forest cleaning, overgrazing, irrigation development and agricultural chemicals.

b. Mining – discharge of mine tailings into rivers.

c. Industry – release of atmospheric and water pollutants.

d. Urban areas and tourism – disposal of untreated waste and sewage.

e. Climate change – the potential impacts of climate change on rivers, lakes and sea levels are likely to have significant effects on fishery productivity and stock distribution and should be taken into account when designing projects.

14. Environmental analysis for IFAD projects needs to take these external factors into consideration in an integrated planning approach that seeks to reach compromise solutions acceptable to competing interest groups. For instance, the wide range of adaptation options for capture fisheries includes: (i) relocation of fishing efforts/strategies and processing/distribution facilities to respond to changes in the distribution of fish stocks; (ii) design of disaster response infrastructure and adaptation of infrastructure to climate hazards; (iii) investment in market-led mechanisms along the fisheries value chain⁷⁷ for increased sustainability of market demand and added value of fishery products; (iv) use of fish aggregating devices; (v) improved early warning systems and increased safety at sea; (vi) promotion of culture-based fisheries⁷⁸ and stock enhancement practices; (vii) support to the establishment of MPAs and other

⁷⁷ For example by promoting Marine Stewardship Council certification, which is the main scheme for sustainable capture fisheries worldwide.

⁷⁸ Culture-based fisheries are community-based activities that utilize common property water resources, such as reservoirs and other inland water bodies, floodplains and coastal lagoons, for raising, transferring and releasing seeds to the open waters.

conservation areas; and (viii) promotion of fisheries of underexploited species (Fezzardi and Corsin, 2011).

15. Adaptation efforts to be considered for aquaculture include: (i) selective fish breeding and genetic improvements to develop species that are tolerant to higher temperatures for use in fish-farming; (ii) improved materials, planning and siting of aquaculture, in line with climate change predictions; (iii) greater use of hatchery seed to cope with reduced catches from coastal and inland capture fisheries, feedstock disruptions and reduced options for aquaculture feeds (FAO, 2008); (iv) promotion of climate-proof aquaculture production systems; (v) cultivation of fast-growing species to shorten the farming period and reduce the risk of losses to climatic disasters; and (vi) promotion of the use of flooded and/or salinized land and water bodies (Fezzardi and Corsin, 2011).

ACCESS RIGHTS

16. It is important to consider that the political influence of competing interests is often stronger than that of fishing communities. Protection of traditional rights to fishing grounds and fish landing sites is critical when designing projects that aim to help the poorest communities defend their livelihoods. The main problem for fishing communities in developing countries is the lack of financial resources to facilitate environmentally sound traditional fishing practices and support access rights. It is also necessary to increase the yields from fishing efforts by improving fishing gear and boats; adding value through improved conservation of catches, cold storage chains and drying and smoking efforts; and creating access to markets for production that exceeds subsistence and local market demands.

INTERNATIONAL SUPPORT SYSTEMS

17. The Food and Agriculture Organization of the United Nations (FAO), the World Bank and the WorldFish Center are among the international development organizations that deliver expert knowledge, including codes of conduct, guidelines, collaborative mechanisms regional programmes and technical support to address a broad range of needs in fisheries and aquaculture. Within IFAD there is growing knowledge of how to tackle issues related to fisheries and aquaculture; tools for taking into account the effects of climate change when designing new projects include guidelines on different adaptation and mitigation options (Fezzardi and Corsin, 2011) and ex ante impact evaluations (Crissman *et al.*, 2012).

18. Developing countries also need assistance in improving the enforcement of international laws to prevent IUU in territorial waters by intruding foreign trawlers, which obviously depletes national fish stocks. Many regional programmes can prove useful in collaborating on new and existing projects and initiatives, and collecting baseline information and lessons learned.

REFERENCES

Guidelines

Crissman, C.C., Abernathy, K., Delaporte, A., Timmers, B. (2012). *A Practical Guide for Ex-Ante Impact Evaluations in Fisheries and Aquaculture*. WorldFish Center/IFAD

Fezzardi, D. & Corsin, F. (2011). *Guidelines for Integrating Climate Change Adaptation and Mitigation Options for Fisheries and Aquaculture into Project Design*. ICAFIS/IFAD. Available at:

<https://xdesk.ifad.org/sites/pt/PATsite/fish/IFAD%20Portfolio%20%20Fisheries%20and%20Aquaculture/Guidelines%20for%20Integrating%20Climate%20Change%20Adaptation%20and%20Mitigation%20Options%20for%20Fisheries%20and%20Aquaculture%20into%20Project%20Desi.pdf>

Food and Agriculture Organization of the United Nations (FAO) (1995). *Code of Conduct for Responsible Fisheries - Technical Guidelines on Aquaculture Development*. Rome: FAO. Available at: <http://www.fao.org/fishery/ccrf/1>

International Finance Corporation. 2012. *Performance Standard 3: Resource Efficiency and Pollution Prevention*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

International Finance Corporation. 2012. *Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

United Nations Environment Programme (UNEP). 1990. *Environmental Guidelines for Fish Farming*. Environmental Management Guidelines, No. 18. Nairobi: UNEP.

World Bank. 1991. *Environmental Assessment Sourcebook and Updates*. Chapter 2: Global and Cross Sectoral Issues in Environmental Assessment, Update No. 7 - Coastal Zone Management and Environmental Assessment, March 1994. Washington DC: World Bank. Available at: <http://go.worldbank.org/MNUNVFY670>

Studies

Food and Agriculture Organization of the United Nations (FAO) (2003), *Environmental impacts of fishing*. Rome: FAO. Available at: <http://www.fao.org/fishery/topic/12273>

Food and Agriculture Organization of the United Nations (FAO) (2003), *Environmental impact of other activities on fished ecosystems*. Rome: FAO. Available at: <http://www.fao.org/fishery/topic/12277>

Food and Agriculture Organization of the United Nations (FAO) (2003), *Impacts of aquaculture: biodiversity & alien species*. Rome: FAO. Available at:
<http://www.fao.org/fishery/topic/14853>

Food and Agriculture Organization of the United Nations (FAO) (2003). *Impact of fisheries on aquatic genetic resources*. Rome: FAO. Available at:
<http://www.fao.org/fishery/topic/14802>

Food and Agriculture Organization of the United Nations (FAO) (2012). *The State of World Fisheries and Aquaculture*. Rome: FAO. Available at:
<http://www.fao.org/docrep/016/i2727e/i2727e00.htm>

Food and Agriculture Organization of the United Nations (FAO) (2008). *Climate Change for Fisheries and Aquaculture*. Rome: FAO. Available at:
<ftp://ftp.fao.org/docrep/fao/meeting/013/ai787e.pdf>

World Resource Institute webpage - Environmental impacts of aquaculture
<http://www.wri.org/publication/content/8383>

Websites

FAO - Fisheries and Aquaculture Department. <http://www.fao.org/fishery/>

OECD - Climate change and fisheries.
<http://www.oecd.org/fr/croissanceverte/pecheries/climatechangeandfisheries.htm>

ONE Fish, Freshwater Fisheries - Impact on/of fisheries and aquaculture.

<http://www.onefish.org/servlet/CDSServlet?status=ND0xNDkxMSY2PWVuJjMzPWRvY3VtZW50cyZzNz1rb3M~>

World Bank. Fisheries and Aquaculture site. <http://go.worldbank.org/7C6O193SK0>

WorldFish Center. <http://www.worldfishcenter.org/v2/index.html>

WorldFish Center - Climate Change

<http://www.worldfishcenter.org/our-research/research-focal-areas/climate-change>

GUIDANCE STATEMENT 5

Forest Resources

INTRODUCTION

1. Forests have an important role in supporting local and global ecosystem services and providing resources to some 1.6 billion people (UNEP, 2008), mainly in developing countries. Forest resources are used and managed for different – often competing – purposes, such as timber and fuelwood production, collection of non-timber forest products (NTFPs), watershed management, shelter and food supply for indigenous peoples and forest dwellers, emergency shelter and food supply for surrounding farming communities and herders, and conservation of biodiversity. Forests provide important ecosystem services such as regulating water quality and flow and acting as carbon sinks, while trees and shrubs outside forests are crucial in agroforestry systems and savannah pastoralism.

2. Forests have untapped potential to lift rural people out of poverty (Sunderlin, Angelsen and Wunder, 2010), providing a source of employment, income, food, energy and housing. Forest-based livelihood activities include livestock grazing, controlled hunting and the collection of wild fruits and insects, all of which provide highly nutritious resources that can contribute to food security and alleviate dietary deficiencies. Forest resources hold potential for poverty reduction and food security, especially for poor and marginalized households with few sources of income, few assets and minimal education and skills. Payments for environmental services (PES), mainly through carbon sequestration or watershed protection projects, can provide additional sources of income from sustainably managed forests. In villages in the buffer zones around protected areas, these approaches can be used to provide sustainable livelihoods for poor rural people while protecting natural forests and the environmental services they provide. The income streams generated from forestry products enable the diversification of livelihoods, which is also a climate change adaptation strategy in communities living close to forests and whose productivity on the land may be adversely affected by a changing climate.

3. Although recently there have been encouraging improvements in reducing forest loss, rates of deforestation and forest degradation remain high: between 2000 and 2010, an average of 13 million ha of forest area was destroyed every year (FAO, 2010). In developing countries, commercial agriculture is the most important driver of deforestation, followed by subsistence agriculture and shifting cultivation. Timber extraction and logging cause the most degradation, followed by fuelwood collection and charcoal production, uncontrolled fire, and livestock grazing and clearing for cattle ranching (Hosunuma *et al.*, 2012). Other drivers are biofuel production, mining and infrastructure expansion (roads, mines, settlements, etc.). However, large-scale afforestation and the natural expansion of forests have significantly offset the loss of forest area globally, resulting in a net loss of 5.2 million ha per year in the period 2000–2010 from 8.3 million hectares net loss per year in the period 1990–2000 (FAO, 2010). Unsustainable farming methods continue to be the greatest threat to forests, and climate change will increase pressure to convert forests to agricultural land.

4. Forests are affected by climate change impacts, but they also contribute to climate change by releasing approximately 17 per cent of annual global greenhouse gas (GHG) emissions, mainly from tropical deforestation. Forests also have a unique potential to contribute to climate change mitigation by reducing emissions and enhancing carbon sinks. According to the Intergovernmental Panel on Climate Change (IPCC), reducing and/or preventing deforestation is the mitigation option expected to have the largest and most immediate impact on carbon levels in the atmosphere in the short term. IFAD is already addressing mitigation indirectly through reforestation and the improvement of land-use and land management practices, including by implementing agroforestry systems, promoting assisted tree regeneration, and developing and piloting PES systems. As emerging new financing mechanisms associated with the compliance and voluntary carbon markets may bring potential for increased investment in the forestry sector, IFAD should seize opportunities to improve the well-being of people dependent on forests by facilitating access to climate finance by smallholders.

5. According to IFAD's Environment and Natural Resource Management (ENRM) Policy, basic guidances and good practices for IFAD interventions that deal with forests include promoting: (i) secure access to and sustainable management of forests, focusing particularly on incentives and participatory forest management; (ii) introduction of an ecosystem approach in forest management; (iii) restoration and development of protected areas that include forest lands; (iv) development of value chains for sustainable and renewable natural products and of certification schemes for sustainable forest management (SFM); (v) strengthened tenure rights to forest resources and governance systems for local communities; (vi) increased investment in diversified agroforestry systems; (vii) development of wild foods and NTFPs; and (viii) development of local institutions' capacity to participate in and benefit from existing and emerging carbon and ecosystem markets.

FOREST RESOURCES IN IFAD PROJECTS

6. IFAD recognizes the importance of managing forests sustainably to reduce land degradation while improving food security and providing alternative income sources for communities and small farmers. IFAD target groups are rural communities, which often rely on a combination of agriculture and forestry and have a role in improving the coexistence of small-scale agriculture with forest ecosystems. IFAD interventions in the forestry sector aim to provide economic benefits while conserving the natural resource base through afforestation, reforestation or the establishment of community-based forest plantations. IFAD projects addressing the management of forest resources can be broadly grouped into three main areas: (i) community and participatory forestry management; (ii) agroforestry programmes; and (iii) compensation schemes for environmental services. New areas of attention involve value chains and the greening of the entire product cycle, as well as helping poor rural people to benefit from climate financing. IFAD aims to create a basis for continued, sustainable exploitation of the wide range of forest products on which smallholders depend, and to support farmers and forest dwellers without recognized title to forest lands by strengthening the tenure rights and governance systems of local communities.

ENVIRONMENTAL AND CLIMATE CHANGE ISSUES

7. For IFAD, a major concern regarding forest resources is the possibility that projects induce the clearance of forest land for agricultural or other purposes. IFAD project components might involve low-impact use of forest resources, expansion of agricultural operations, or construction of roads, which may facilitate access to the forest and inadvertently result in forest conversion or degradation. This process of conversion to agriculture can be rapid (taking only a few years) and systematic, as when land is cleared for specific monoculture crop production such as cotton, or when government-sponsored or spontaneous settlement occurs in previously inaccessible or remote areas. The process can also be gradual (taking place over several decades), as in large areas of the dry tropics, where population pressure is intensifying and previously sustainable land uses such as shifting agriculture reach unsustainable levels. Biofuel production also raises concerns if it is not accompanied by strict land-use laws, particularly in countries with tropical forests at risk of destruction. Biofuel expansion has the potential to contribute to soil depletion, habitat loss and reduced biodiversity if biofuel crops are grown on previously wild grasslands or forests.

8. When forests are transformed into crop- or rangeland there can be immediate as well as long-term impacts (however livestock herding need not involve forest destruction, because animals can graze in intact forests, as they do in pastoralist communities). The obvious benefit conferred by agriculture is increased food production, but land clearing also has negative environmental effects. These negative impacts are very similar to the indirect effects of road construction in or near forests, which are examined in Guidance Statement 7.

9. Climate change is also expected to have significant impacts on forest ecosystems. The degree of vulnerability varies greatly by region and forest type, and is a function of the forest's exposure, sensitivity to changes and adaptive capacity. There is evidence that climate change is affecting many aspects of forest ecosystems, including tree growth and dieback, insect outbreaks, species distributions and the seasonality of ecosystem processes. Most IPCC global emission scenarios predict that some areas will experience increased frequency and intensity of storms, fire, insect pests and diseases, and a reduction in forests' capacity to provide ecosystem services. Higher temperatures and changes in rainfall also threaten forests, and extreme weather events such as droughts and floods pose additional risks to forest ecosystems (IUCN, 2008). For these reasons, adaptation and mitigation objectives are interlinked and complementary.

10. Typically, negative effects of forest clearance affect the following:

- a. *Vegetation* – loss of the trees and undergrowth that are cleared, and damage to surrounding wooded areas.
- b. *Soils* – increasing susceptibility to soil erosion, loss of topsoil, particularly on sloping land, and loss of soil fertility.
- c. *Water* – greater runoff, increased risk of flooding, reduced water content in soil, reduced groundwater recharge, reduced atmospheric moisture, disrupted natural water cycle, increased erosion along riverbanks and sea-shores, and increased silting of rivers. On the other hand, reforestation and afforestation may cause depletion of groundwater and soil moisture, lowering of the water table, and reduced base flow and water supply.

The magnitude of the impact depends on the water demand of the selected species and the extent of the reforested area.

d. *Biodiversity* – loss of/threat to wildlife, fragmentation or loss of habitat, loss of unique locally adapted indigenous plants and animals of potential global significance. Invasive alien species pose a risk to the balance of the existing ecosystem. The introduction of new tree species through reforestation and afforestation may deprive animal species of food and shelter, as well as generating diseases and the emergence of pests.

e. *Desertification*: Forest tree clearing in arid and semi-arid lands is likely to initiate the desertification process, aggravating the poverty situation in these marginal lands.

f. *Climate change* – reduction of carbon stocks, destruction of carbon sinks and release of GHG emissions in the atmosphere. Depending on the extent of deforestation, reduced tree cover may result in reduced cloud cover and rainfall. On the other hand, climate change affects forest conditions, inducing increases in growth rates in some areas while endangering the survival of species and forest communities in others, and ultimately affecting the sustainability of IFAD interventions.

g. *People*: Indigenous peoples and rural communities living in or near forests have complex rules for the use and tenure of forest land, trees and forest products. Natural forest management improvements and forest clearing may affect the customary rights of men and women differently. Women may end up with a greater workload after the project because they need to travel further to find fuelwood and other resources. Lack of access to or loss of traditional forest uses may result in loss of livelihoods, negative impacts on the nutrition and health of rural communities, and land tenure conflicts between forest dwellers and new farming communities. Improved access to forest may lead to the spread of spontaneous settlement and shifting cultivation in forest areas, and the emergence of new human diseases resulting from the migration of people into virgin forest areas.

11. Forest-based industries give rise to additional environmental concerns, such as damage to forest habitats and biodiversity at the beginning of the supply chain, and pollution from emissions, waste and chemical products in the manufacturing process.

POTENTIAL MITIGATION

12. The key to controlling the adverse impacts of unsustainable land clearing is careful land-use planning. It is difficult to balance the natural resource needs of different users and stakeholders, particularly for project implementation agencies such as Ministries of Agriculture, which are not normally equipped to handle all the issues. In such cases environmental assessment is a valuable tool for identifying and reconciling diverse resource needs and expectations.

13. The following are specific measures for preventing the negative impacts of deforestation:

a. *Landscape planning and use through SFM*: SFM comprises a set of tools and techniques that aim to consider all the economic, ecological and social functions of forests, so that forest management can be pursued at different spatial scales, from the

wider landscape to the forest stand and single ecosystem components. Consideration should be given to transition or buffer zones and appropriate approaches be developed if required.

b. *People*: Improve local communities' access and tenure rights to forests, promote good governance systems, transfer public forest lands to local control and provide incentives for participatory forest management. Local communities and their leaders should be involved in land-use planning and project design. With regards to indigenous peoples, efforts to promote free prior and informed consent are required.

c. *Gender*: Projects promoting community forest management and forest-based alternative livelihoods should involve women.

d. *Climate change mitigation*: Afforestation, reforestation and, particularly, forest restoration have potential for climate change mitigation. Increase the efficiency of fuelwood use through energy-saving stoves and the installation of renewable sources of energy, such as solar or biogas systems, to meet rural people's power needs. IFAD should also explore opportunities for tapping financial resources in existing and emerging carbon and ecosystem markets, and invest in building the capacity of national and local institutions so they can obtain access to international financial mechanisms and benefit from these. Payments for environmental services, such as carbon sequestration, can provide an additional source of income, thereby incentivizing SFM.

e. *Climate change adaptation*: Although knowledge on the impacts of climate change on forest ecosystems is currently limited, adaptation is clearly crucial to maintaining the functions of forest ecosystems and protecting rural communities' livelihoods. Management activities that can increase the adaptive capacity of forests include those aiming to: (i) maintain forest health and vitality, such as by applying appropriate silvicultural treatments and controlled fire, pest and disease management; and (ii) conserve biodiversity in forests, such as through the effective management and creation of protected areas, enhancing connectivity between forest areas. Many management actions also contribute to mitigation through the reduction of emissions from forests, the conservation of forest carbon or the enhancement of forest carbon sinks. Forests also play a role in reducing people's vulnerability to negative climate change impacts and help them adapt, for example, by developing forest-based employment and enterprises for diversifying livelihood options (FAO, 2010).

f. *Development of value chains and SFM certification schemes* for sustainable and renewable forest products including where possible, community funds that benefit from a percentage of the resources generated through these mechanisms.

g. *Roads*: Avoid the construction of roads that increase forest access or limit the integrity of forest life.

h. *Ensure compliance with national and international laws and treaties*, such as the United Nations Framework Convention on Climate Change (UNFCCC) and Reducing Emissions from Deforestation and Forest Degradation plus Conservation (REDD+).

14. The following are specific measures for mitigating the negative impacts of deforestation; these and any site-specific measures identified in ESIA's or other environmental studies can be included in project ESMPs:

a. *Vegetation*: Identify and establish protected areas/parks for ecologically significant forest areas, encourage the integration of trees and shrubs that maintain or enhance biodiversity and ecosystem functionality, and minimize damage to surrounding wooded areas. Establish multi-purpose forest areas such as grazing reserves.

b. *Biodiversity*: Ascertain the presence of endangered species, and ensure that adequate areas are available for the migration of wildlife and conservation measures are in place (protect the change of status from natural forest to officially protected forest area).

c. *Soils*: Limit the clearing of land systems to the areas that are most suitable for agricultural production, and identify areas that should not be cleared. Avoid clearing during the rainy season, and protect cleared areas with plant remnants and other material (litter, mulch, etc.). Avoid the use of fire as a land clearing method. Encourage the combination of and interaction between agriculture and forestry particularly in the buffer zones. These activities also promote integrated soil fertility management, which is a good practice and low regret option for climate change adaptation.

d. *Water*: Maintain vegetation as a buffer zone along all streams and bodies of water, emphasizing the importance of riparian vegetation. Provide adequate facilities for the disposal of agricultural wastes. If appropriate, reward upstream land practices that improve the quality and quantity of water available for downstream users.

e. *Limit the negative environmental effects of reforestation and afforestation* activities through careful selection of the locations and tree species to be planted.

REFERENCES

Guidelines

International Finance Corporation. 2012. *Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

Thompson I.; Christophersen T. (2008). *Cross-sectoral toolkit for the conservation and sustainable management of forest biodiversity*. Montreal: Convention on Biological Diversity. Available at: <http://www.cbd.int/doc/publications/cbd-ts-39-en.pdf>

World Bank (2002, revised 2004). *Forests and Forestry Operational Policy*. Washington DC: World Bank. Available at: <http://go.worldbank.org/6FU4CE16K0>

Studies

Food and Agriculture Organization of the United Nations (FAO) (2010). *Global Forest Resources Assessment*. 2010. Rome. Available at: <http://www.fao.org/forestry/site/fra/en/>

Food and Agriculture Organization of the United Nations (FAO) (2011). *State of the World's Forests 2011*. Rome. Available at: <http://www.fao.org/forestry/sofo/en/>

Food and Agriculture Organization of the United Nations (FAO) (2012). *Forests and Climate Change Working Paper 10*. Rome. FAO. Available at: <http://www.fao.org/forestry/climatechange/53622/en/>

Hosonuma N., Herold M., De Sy V., De Fries R.S., Brockhaus M., Verchot L., Angelsen A. and Romijn E. 2012. An assessment of deforestation and forest degradation drivers in developing countries. *Environmental Research Letters* 7.

International Fund for Agricultural Development (IFAD) (2006). *Evaluation Profile, Breaking New Ground: Leasehold Forestry in Nepal*. Rome: IFAD. Available at: http://www.ifad.org/evaluation/public_html/eksyst/doc/profile/pi/np.htm

International Fund for Agricultural Development (IFAD) (2004). *Case Study, Nepal. Fighting Poverty and Land Degradation with Leasehold Agreements*. Rome: IFAD.

Available at: <http://www.ifad.org/events/reducingpoverty/nepal.pdf>

World Conservation Union (IUCN). 2008. *Causes of forest land use change*. The Encyclopedia of Earth. Eds. Cutler J. Cleveland. Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment.

Kozak R. (2007). *Small and medium forest enterprises: instruments of change in the developing world*. Vancouver: Rights and Resources Institute, University of British

Columbia. Available at: http://api.ning.com/files/6OFZobIPdyKvslZPLj-6czSFtZhx2pLMNyNDkdiwq7Y_/Kozak.pdf

Mayers, J. and D. Macqueen, (2007). *The big significance of small forestry enterprises*. London: International Institute for Environment and Development (IIED). Available at:

<http://www.iied.org/NR/forestry/documents/Bigsignificanceofsmallforestenterprises-August2007.pdf>

Sunderlin, W. D., Angelsen, A. and Wunder, S. 2010. Forestry and poverty alleviation. Available at: http://www.cifor.org/publications/pdf_files/research/livelihood/Forests-poverty.pdf

United Nations Environment Programme (UNEP). 2008. Africa: Atlas of our changing environment. Nairobi Available at: <http://www.unep.org/dewa/africa/africaAtlas/>

Websites

The Collaborative Partnership on Forests (CPF) <http://www.cpfweb.org/76228/en/>

Food and Agriculture Organization of the United Nations (FAO). Forestry website. <http://www.fao.org/forestry/en/>

World Agroforestry Centre. <http://www.worldagroforestry.org/>

Center for International Forestry Research (CIFOR). <http://www.cifor.cgiar.org/>

United Nations Framework Convention on Climate Change. <http://unfccc.int>

United Nations collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (UN-REDD). <http://www.un-redd.org/>

Clean Development Mechanism. <http://cdm.unfccc.int/>

International Union of Forest Research Organization <http://www.iufro.org/>

GUIDANCE STATEMENT 6

Livestock and range resources

INTRODUCTION

1. Driven by population increases, urbanization and economic growth, livestock production is one of the fastest growing agricultural subsectors in developing countries. Accounting for 30 per cent of agricultural gross domestic product (GDP) and spurring a demand for animal-source food products that is likely to double in the next 20 years (FAO, 2002), livestock production contributes to the sustainable livelihoods and food security of more than 800 million poor smallholders. The growth of the sector exerts some pressure on natural resources such as the rangelands for the livestock and without adequate measures being taken, in rangeland and feed stock management, may lead to an increase in the greenhouse gases and thus contribute to climate change.

2. Livestock and rangeland⁷⁹ management are two areas in which IFAD is very active. Frequently, the land and natural resources on which poor rural people depend are common pool resources. These resources form an important safety net for the poorest, but limited legal recognition for community tenure and customary management systems makes them vulnerable to degradation. Herd mismanagement is one of the most notorious negative impacts of this lack of recognition, causing damage to vegetation, loss of biodiversity and soil carbon, and reduced soil fertility and water supply. Other negative impacts include public health problems with diseases and pests, and competition for resources with wildlife. In arid, semi-arid and dry sub-humid lands, human activities such as fuelwood harvesting, charcoal production and slash-and-burn crop cultivation – together with natural phenomena such as droughts – have huge impacts on rangelands and accelerate their degradation.

3. In IFAD's Environment and Natural Resource Management (ENRM) Policy, basic guidances and good practices for IFAD interventions in the management of livestock and range resources involve promoting and supporting: (i) integrated crop/livestock systems; (ii) introduction of improved, locally adapted livestock genetics, and avoidance of erosion or loss of animal genetic resources; (iii) pastoral institutions and recognition of tenure rights and customary grazing lands; (iv) strengthened local governance capacity, national governance policy and institutional coherence; (v) increased livestock diversity; (vi) management and recycling of livestock manure as organic nutrients for restoring soil fertility; and (vii) range restoration and enhancement.

RANGELANDS AND LIVESTOCK PRODUCTION IN IFAD PROJECTS

4. IFAD projects address small- and medium-scale livestock operations through, for example, technology transfer, education and training, credit for restocking, delivery of

⁷⁹ Rangelands include grasslands, woodland savannahs, open forest (and some cleared areas of closed forests), shrub lands, wastelands, abandoned agricultural areas, and deserts that support domestic ruminants and wild herbivores. The uses of these range areas include large-scale commercial ranching, mixed farming and traditional pastoral systems.

animal health services, feed and breed improvement, and best husbandry practices. These operations may occur in traditional extensive pastoral systems relying mainly on grazing on natural range vegetation, or in pastoral systems that involve a mixture of natural and cultivated feed resources. Such livestock projects aim to improve the productivity and competitiveness of livestock products through the efficient and sustainable use of natural resources, while creating stable incomes and sustainable livelihoods.

5. The primary beneficiaries are poor livestock keepers, particularly those who are economically or socially at risk and politically marginalized, such as rural women, youth, landless poor people, and people for whom animals such as poultry and small ruminants provide, at most, subsistence or a minimum contribution to daily nutritional guidances. IFAD is committed to developing a sustainable livestock sector in which poor farmers and herders might obtain higher incomes and better access to assets, services, technologies and markets.

ENVIRONMENTAL AND CLIMATE CHANGE ISSUES

6. Mismanagement of range resources and the resulting degradation of land are often a consequence of complex interactions among climate change, inappropriate practices, policies and regulations, lack of enforcement, and political dominance by groups or individuals.

7. Livestock projects may lead to increased competition with wildlife for forage and water and result in human-wildlife conflicts. However, wildlife and livestock can be sustainably managed together for increased income by using innovative, environmentally sound approaches, including various preventive measures – artificial barriers, wildlife/livestock ranching; mitigation strategies – compensation schemes, insurance; facilitation strategies – using livestock to increase the nutritional value of pasture; and benefit-sharing schemes, mainly from ecotourism.⁸⁰

8. Several social and institutional issues have a direct impact on how rangelands are used and managed, with direct effects on the state of the natural resource base. The most important factors to assess in the development of new projects are formal and informal resource tenure arrangements, livestock ownership patterns, land/population ratios, and local and national governance capacity and institutions.

9. Rangeland management projects are subject to external land-use changes that affect range resource use in the project area. Agricultural encroachment on rangelands, mining, wildlife conservation measures, tourism and other uses generally reduce the land available for livestock production and increase the pressure on the remaining resources, even when available alternatives would yield a win-win scenario, particularly for agriculture, wildlife and tourism.

10. Climate change is expected to have far-reaching consequences for dairy, meat and wool production, mainly through its impact on grassland and rangeland productivity. The heat stress suffered by animals as a result of increased temperature will reduce animal

⁸⁰ Examples of facilitation strategies and benefit-sharing schemes include those adopted in the conservancies of Kenya (IUCN, 2012: box 25) and Namibia, and some indigenous community conserved areas.

feed intake and result in poor growth. Higher temperatures and changing rainfall patterns could translate into increased spread of vector-borne diseases and macroparasites, accompanied by the emergence and circulation of new diseases. In some countries, lack of water and increased frequency of drought will affect the primary productivity and quality of forage and rangelands. However, some livestock systems – particularly the most extensive ones – have enormous intrinsic potential for climate change adaptation that makes herders more resilient as long as their capacity for mobility is conserved.

11. Livestock production systems contribute to global warming directly through the production of greenhouse gas (GHG) emissions, and indirectly through land-use changes and deforestation. The three main sources of GHG emissions are enteric fermentation of animals, manure, and production of feed and forage (Dourmad, Rigolot and van der Werf, 2008). However, environmentally sound rangeland management practices offer significant carbon sequestration potential. Rangelands account for about 40 per cent of the total land surface area, with an estimated 100–200 million pastoralist households occupying 5,000 million ha of rangelands, where 30 per cent of the world’s carbon stocks are stored (Tennigkeit and Wilkes, 2008).

12. The table in the section below outlines the potential impacts of rangeland management and livestock production.

MEASURES REQUIRED IN PROJECT PREPARATION

13. Environmental impacts need to be assessed at an early stage in the development of projects involving range/livestock production systems. For effective consideration in project design, the following steps should be carried out with extensive consultation and full participation of local communities. To reduce potential conflicts, decision-making processes should be designed to include all stakeholders (different livestock grazing systems, agricultural and non-agricultural users). The following subsections list measures for preparing effective projects.

Scoping exercise

- i. Analyze traditional knowledge and customary practices relevant to range management.
- ii. Identify the full geographical area and ecosystems that livestock exploit over a full cycle of wet and dry seasons/years, particularly the resources needed for survival in dry seasons and drought periods, and identify loss of access or other factors that impede the mobility of herds or encourage voluntary sedentarization, such as lack of access to education, health and financial services, need for women’s empowerment, etc.
- iii. Identify factors that lead communities to disregard sustainability aspects, such as weak land tenure or unpredictable access to land.
- iv. Define the area for project intervention, based on the full cycle area used by the target herder groups – livestock movements during dry and wet seasons.

- v. Assess current range conditions and the potential for intensified use, including biomass availability (quantified) and stocking rates (species and numbers).
- vi. Assess current soil conditions – erosion, compaction, decreased fertility.
- vii. Assess potential additional locations for water points, considering the water quantity. Assess current water quality conditions.
- viii. Assess current wildlife populations and habitats.

Reduction of potential negative project impacts

- i. Determine the type and degree of all the potential negative impacts of project interventions on current vegetation, soils, water and wildlife resources.
- ii. Assess the potential negative impacts of the project in terms of exacerbating or initiating conflicts between resource users. Determine institutional responsibility for implementing environmental management measures.
- iii. Assess externally planned land-use changes in the project area and how they will affect/be affected by project interventions.
- iv. Assess externally planned water infrastructure changes in the project area and how they will affect/be affected by project interventions.
- v. Avoid risks of disease transmission to other animal species, wildlife and humans.
- vi. Discuss potential impacts with the target population to verify the impacts' relevance and significance, including the potential impacts on women's status and economic control over resources and property. Integrate social issues into interventions, including consideration of women's role and needs in livestock management.
- vii. Develop an environmental management plan with beneficiaries participation, including recommendations on how to avoid, mitigate or compensate for significant negative impacts of the project or specific project components.

Project planning

- i. Determine the national policy measures required to support environmental project design.
- ii. Determine the costs of implementing environmental management measures.
- iii. Include components for providing communities with environmental education and practical training in, for example, rangeland rehabilitation, agro-ecological technologies and practices for producing and conserving fodder.
- iv. Take into account current climate variability and future climate change impacts. Assess the trend and potential uses under different climate scenarios, to promote the integration of livestock adaptation strategies in the project. Among the main options to be considered are production adjustments, such as modifications to stock routes and

distances, and changes in livestock/herd composition. Other options include identifying and strengthening local breeds that are adapted to local climatic stress and feed sources, to reduce vulnerability; improving local genetics through cross-breeding with heat- and disease-tolerant breeds; preserving livestock diversity at the species and generic levels; and establishing livestock early warning systems and other forecasting and crisis-preparedness systems, which contribute to reducing the impact of severe weather events and prevent losses. Facilitate remote access to financial services,⁸¹ accompanied by training in the use of financial tools that are new to local communities; promote index-based insurance schemes; and improve understanding of climate change impacts on livestock and of patterns in current and projected climate variability and seasonal forecasts, to increase the capacity of livestock producers, herders and government staff to plan and implement strategies for anticipating shocks and losses (Thornton *et al.*, 2008; Sidahmed, 2008; IFAD, 2009).

v. Activities that can contribute to mitigating climate change impacts in the livestock sector include improving animal feeding to reduce enteric fermentation and the emission of methane from the rumen or hindgut, and managing animal waste products through mechanisms such as the use of covered storage facilities, which is another GHG abatement strategy. Efficient manure management also includes anaerobic digestion to produce biogas that can be used for heating and lighting or in modified gas boilers. Other mitigation options include: (i) proper management of forage or feedcrop production; (ii) rotational, site-specific, planned or adaptive grazing, and facilitation of pastoralism for increased soil carbon stocks; (iii) introduction of grass species and legumes to enhance carbon storage in soils; and (iv) restoration of degraded rangelands (FAO, 2009; 2006; IFAD, 2009).

vi. Ensure compatibility with the principles and obligations of international conventions, such as the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD) and the Global Plan of Action for Animal Genetic Resources

Rangeland management and livestock production: potential negative environmental and social impacts and corresponding mitigating measures.

1. IMPACTS

2. MITIGATING MEASURES

3. Vegetation

4. Degradation of vegetation due to herd mismanagement

5. - Use indigenous practices and the livestock management methods of local pastoralist communities, such as adaptive grazing

6. - Reassess carrying capacity

7. - Control grazing times and periods in specific areas

⁸¹ Such as through the use of mobile phones for money transfers and storage, as in Somalia and Kenya.

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8. - Mix livestock species to maximize the use of vegetation
 9. - Reseed to increase fodder supplies
 - 10.- Establish zero-grazing schemes⁸²
 - 11.- Implement cut-and-carry practices
 - 12.- Locate water points and salt at strategic sites
 - 13.- Produce hay in restricted areas during the wet/summer season, for use in dry-/winter-season feeding
 - 14.- Introduce payment schemes for environmental services from livestock-based land uses
 - 15.- Establish rangeland governance schemes or restore those that have been lost
 - 16.- Restore herd mobility

17. Soil

18. Increased soil erosion due to grazing, clearing of vegetation and trampling

20.- Restrict livestock access to unstable areas such as steep slopes

21.- Implement soil erosion control measures such as reforestation, reseeding of grasses, land preparation, terracing

19. Increased siltation/salinization of surface waters

22.- Carry out afforestation with multipurpose indigenous plants such as *Acacia senegal* (gum arabic); use the multi-purpose shrub sea buckthorn, which is excellent for binding soil – especially on steep slopes – and also provides fodder for livestock and fruits for human use

23.- Implement grazing regimes that guarantee the availability of litter cover before seasonal rains, the reseeding of grasses and forbs, and fertilization from manure

⁸² Not practical in semi-arid areas and likely to accelerate desertification.

24. Deterioration of soil fertility and physical characteristics through removal of vegetation, fire, increased erosion and soil compaction

- 25.- Restrict livestock access to unstable areas such as steep slopes
- 26.- Implement soil erosion control measures such as reforestation, reseeding of grasses, land preparation, terracing
- 27.- Control human activities such as charcoal production
- 28.- Implement grazing regimes that guarantee the availability of litter cover before seasonal rains, the reseeding of grasses and forbs, and fertilization from manure
- 29.- Implement composting or manure disposal
- 30.- Explore possibilities for using manure to produce biogas at the village or household level, which will also reduce deforestation

31. Increased water runoff due to vegetation clearing and soil compaction (decreased infiltration capacity)

- 32.- Implement soil and water conservation measures
- 33.- Restrict livestock access to unstable areas such as steep slopes
- 34.- Implement soil erosion control measures such as reforestation, reseeding of grasses, land preparation, terracing
- 35.- Implement grazing regimes that guarantee the availability of litter cover before seasonal rains, the reseeding of grasses and forbs, and fertilization from manure
- 36.- Control grazing times in specific areas
- 37.- Mix livestock species to maximize the use of vegetation resources
- 38.- Reseed to produce fodder
- 39.- Implement cut-and-carry practices
- 40.- Locate water points and salt at strategic

sites

41. Water supply

42. Degradation of vegetation and soil around water points

45.- Develop small-capacity water sources, including storage ponds for storing excess water from flash floods

43. Overtapping of groundwater

46.- Locate water points at strategic sites

44. Lowering of water table and degradation of local vegetation from the drilling and use of boreholes

47.- Control use of water points (animal numbers and times of year)

48.- Establish community ownership of water resources prior to technical implementation (water user associations)

49.- Close permanent water sources when temporary pools and streams are available

50.- Stimulate pastoral mobility for efficient use of seasonal water resources

51. Excessive salts from increased runoff

52.- Limit well capacity by selecting appropriate technologies such as hand pumps or buckets rather than motor pumps

53.- Establish community ownership of water resources prior to technical implementation (water user associations)

54. Wildlife

55. Displacement and reduction of wildlife populations due to reduction of habitat

61.- Plan and implement management strategies – species selection, grazing timing, grazing areas – that minimize impacts on wildlife

56. Disruption of migratory routes

62.- Establish compensatory wildlife refuges

57. Competition for food and water resources

63.- Establish management of wildlife ranching to help protect wildlife resources, such as community management of livestock and wildlife together for ecotourism

58. Introduction of diseases

64.- Improve pasture for wildlife through livestock management

59. Impacts of burning

65.- Construct artificial barriers, such as chilli

60. Increased poaching and

<p>killing of wildlife considered as pests or predators of livestock</p>	<p>fences, for avoiding human-wildlife conflict</p> <p>66.- Introduce compensation systems and insurance</p> <p>67.- Carry out community education on the economic value of wildlife</p>
<p>68. Pollution</p>	
<p>69. Pollution, environmental disruption and health hazards from disease and pest control measures</p> <p>70. Distribution and use of manure (especially with high concentrations of livestock)</p>	<p>71.- Choose chemicals that are species-specific, with short residue times (active periods) and low impacts on other biological resources</p> <p>72.- Carry out community education on proper use of acaricides</p> <p>73.- Implement protective measures for fieldworkers</p> <p>74.- Manage spraying methods and time/manage acaricide dips to minimize potential for water pollution</p> <p>75.- Select disease-resistant, indigenous/locally adapted livestock breeds</p> <p>76.- Implement non-chemical methods for disease control and herd management such as sanitary voids or the male effect</p> <p>77.- Implement composting or manure disposal</p> <p>78.- Explore possibilities for using manure to produce biogas at the village or household level, which will also reduce deforestation</p>
<p>79. Social conditions</p>	
<p>80. Displacement of human population</p> <p>81. Resettlement in other areas</p>	<p>82.- Design project to avoid any displacement of people, to prevent wildlife-people conflicts.</p> <p>83.- Examine the options through extensive community consultations</p>
<p>84. Interference with traditional rights of</p>	<p>85.- Promote integration of crop-livestock systems, facilitating their mutual</p>

access to resources or stock routes (increased pressure on existing scarce resources leads to escalation of conflict along migratory routes, especially between settled communities and nomadic pastoralists)

interdependence, such as through use of crop residues for livestock, fertilization of crop fields by manure

86.- Perform economic valuations of livestock and agricultural activities to advise local government, if appropriate, on the profitability of mobile pastoralism and the convenience of maintaining livestock corridors

87.- Raise local communities' awareness of the value of stock routes as biological corridors⁸³ to enhance their role in biodiversity conservation

88.- Provide alternatives to clearing, which should be only a last resort

89. War (tribal, rustling and raids)

90.- Carry out community education and dialogue

91.- Set up restocking programmes after drought, and facilitate the delivery of remote financial services

92.- Introduce government policies and legislation to address community concerns

93. Greenhouse gas emissions

94. Increased GHG emissions from livestock production activities

95.Improve livestock productivity through diets

96.Manage the numbers of livestock

97.Improve management of manure

98.Adopt renewable energy sources for processing facilities where feasible.

MEASURES REQUIRED IN PROJECT IMPLEMENTATION

14. The effectiveness of mitigation and adaptation measures needs to be monitored during project implementation. A process for monitoring the natural resource base should be established and implemented at intervals determined in the project design.

⁸³ IUCN (2012), box 6

Important changes in resource conditions and in social conditions affecting range resource users should be brought to the attention of project managers for remedial action. Community training in community-based monitoring of range resources (during and after project implementation) should be included.

REFERENCES

Guidelines:

Food and Agriculture Organization of the United Nations (FAO), *Livestock, Environment and Development – LEAD Initiative Livestock and Environment Toolbox*. Rome: FAO. Available at: <http://lead.virtualcentre.org/en/dec/toolbox/Index.htm>

International Finance Corporation. 2012. *Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

Overseas Development Institute (ODI) and International Livestock Research Institute (ILRI) Pro-Poor Livestock Policy Research. Available at: <http://www.odi.org.uk/RAPID/Projects/RAP0009/Index.html>

Studies:

Dourmad, J., Rigolot, C., and Hayo van der Werf, 2008. Emission of Greenhouse Gas: Developing management and animal farming systems to assist mitigation. Livestock and Global Change conference proceeding. May 2008, Tunisia.

Food and Agriculture Organization of the United Nations (FAO) 2002. *World agriculture towards 2015/2030* Rome. Available at: <http://www.fao.org/docrep/004/y3557e/y3557e00.htm#TopOfPage>

Food and Agriculture Organization of the United Nations (FAO) 2009. *Enabling agriculture to contribute to climate change mitigation*. FAO, Rome. Available at: <http://unfccc.int/resource/docs/2008/smsn/igo/036.pdf>

Food and Agriculture Organization of the United Nations (FAO). 2006. *Livestock's long shadow*. FAO, Rome. Available at: <http://www.fao.org/docrep/010/a0701e/a0701e00.HTM>

International Fund for Agricultural Development (IFAD) Webpage. *Combating Range Degradation: The Experience of IFAD*. Rome: IFAD

Available at: <http://www.ifad.org/lrkm/theme/range.htm>

International Fund for Agricultural Development (IFAD). *Livestock and Climate Change, Livestock Thematic Paper*, prepared for the Workshop on Communities of Practice (CoP) for Pro-Poor Livestock and Fisheries/Aquaculture Development, 12-13 January 2009, Rome. Available at: <http://www.ifad.org/lrkm/events/cops/papers/climate.pdf>.

IUCN (2012). *Supporting Sustainable Pastoral Livelihoods: A Global Perspective on Minimum Standards and Good Practices*. Second Edition March 2012: published for

review and consultation through global learning fora. Nairobi, Kenya: IUCN ESARO office. vi + 34pp. Available at: iucn.org/wisp/resources/publications/?9442

Sidahmed, A. 2008. Livestock and Climate Change: Coping and Risk Management Strategies for a Sustainable Future. In Livestock and Global Climate Change conference proceeding, May 2008, Tunisia.

Squires V. and Sidahmed A.E. (1998). *Drylands: sustainable use of rangelands into the twenty-first century*. IFAD Series: Technical Reports. Rome: IFAD.

Tennigkeit, T. and Wilkes, A. 2008. Carbon finance in Rangelands. An Assessment of the Potential in Communal Rangelands. WISP-IUCN, ICRAF, Nairobi. Available at <http://iucn.org/wisp/resources/publications/?2645>.

Thornton P., Herrero M., Freeman A., Mwai O., Rege E., Jones P., and McDermott J., 2008. "Vulnerability, Climate Change and Livestock – Research Opportunities and Challenges for Poverty Alleviation". ILRI, Kenya.

Websites:

Animal Health for the Environment and Development (AHEAD). <http://www.wcs-ahead.org/>

Food and Agriculture Organization of the UN – Animal Production and Health Division. <http://www.fao.org/ag/againfo/home/en/index.htm>

ELDIS Pastoralism resource guide. <http://www.eldis.org/pastoralism/index.htm>

Global Livestock Collaborative Research Support Program (GL-CRSP). <http://glcrsp.ucdavis.edu/>

International Livestock Research Institute (ILRI). <http://www.ilri.org/>

League for Pastoral Peoples (LPP). <http://www.pastoralpeoples.org/>

Livestock Development Group (LDG). <http://www.livestockdevelopment.org/>

Livestock, environment and development initiative (LEAD). <http://www.virtualcentre.org/en/frame.htm>

Overseas Development Institute (ODI). The Pastoral Development Network.

<http://www.odi.org.uk/networks/pdn/index.html>

Rural Poverty Portal: Livestock and Rural Poverty:

<http://www.ruralpovertyportal.org/english/topics/livestock/index.htm>

World Alliance of Mobile Indigenous Peoples (WAMIP). <http://www.iucn.org/themes/ceesp/WAMIP/WAMIP.htm>

World Initiative for Sustainable Pastoralism (WISP). <http://www.iucn.org/wisp/index.html>

World Organization for Animal Health (OIE). http://www.oie.int/eng/en_index.htm

GUIDANCE STATEMENT 7

Water (agricultural and domestic use)

INTRODUCTION

1. Agricultural production accounts for 70 per cent of global freshwater use, mainly through crop irrigation⁸⁴ (UNEP, 2008); this figure rises to more than 95 per cent in many countries where agriculture is the primary economic activity (FAO, 2007; 2008). Roughly 15 to 35 per cent of agricultural water use is considered unsustainable (Millennium Ecosystem Assessment, 2005). Industrial use (that includes agro-processing) and domestic use of water account for 15 per cent of global freshwater use each.

2. Many poor rural people face severe constraints in their access to adequate quantities of good-quality water for domestic and agricultural uses. Clean water supplies and sanitation remain major problems in many parts of the world, with 11 per cent of the global population lacking access to safe drinking water. Worldwide, about 780 million people do not have access to improved water supply (UNICEF WHO, 2012). This water scarcity is amplified with increasing pollution. Climate change is exacerbating water scarcity in some regions while other regions will have increased or even excess water flows. Events such as droughts and floods are also expected to increase in both frequency and intensity in some locations. With an increasing number of countries facing severe water shortages, agriculture's efficient use of water to reduce poverty and hunger is a significant issue, which can be addressed by putting in place systems and investments for managing water resources equitably. These activities need to be grounded in: (i) improved governance through community empowerment; and (ii) coordinated watershed or landscape-based approaches.

WATER MANAGEMENT⁸⁵ IN IFAD PROJECTS

3. IFAD evaluation of water in 2013 made clear that about 61 per cent of IFAD projects have a water component to them (166 of 272), and that all regions have at least 55 per cent of projects that have some water intervention including water resource management at the catchment or watershed level, hence going beyond the immediate household or community level of use. Water-related interventions are often linked to enhancing or restoring the asset base, particularly to building, rehabilitating or modernizing small-scale irrigation or multiple-use water infrastructure. IFAD's investment strategy focuses on supporting farmer-managed crop water management systems and domestic water supply, with all day-to-day activities and decisions

⁸⁴ Irrigation systems for improving crop yields per unit of land include: (i) water storage; (ii) water conveyance; (iii) water delivery to plants; and (iv) disposal of drainage water.

⁸⁵ Water resource management covers all aspects of the rural water sector, including institutional aspects. Its operational scope varies from transboundary flows, through parts of river basins and smaller watersheds, to small-scale groundwater and drainage schemes. Its institutional scope ranges from international, national and lower-level administrative units, through associative group forms to the communal and household levels, with efforts to improve rural people's institutional capacities to obtain, allocate, use and manage water sustainably and productively.

undertaken by the farmers. Irrigation schemes initiated by governments are also financed, but are then handed over to farmers.

Water in agriculture

4. Water management in agriculture includes projects fed by surface or groundwater and/or rainfall in irrigation, soil and water conservation, swamp rehabilitation, watershed management, water for livestock, and inland fisheries and aquaculture. The size and scope of interventions vary widely, from a single well or rainwater harvesting system for household backyards in a few hundred square metres, through series of small groundwater or surface irrigation schemes covering about 5 ha, inland valley and other swamps of several hundred hectares, smallholder development through large-spate irrigation schemes of tens of thousands of hectares, and catchment and watershed improvement of several square kilometres, to soil and water conservation measures covering several thousand square kilometres. All infrastructure measures are mirrored in corresponding social capital building for ownership and secured operation and maintenance (O&M).

Water for domestic use and sanitation

5. Water and sanitation projects are designed to respond to the needs of poor rural communities, and are aligned with national strategies for poverty reduction. Investments focus on domestic water provision for communities and, where possible, households. Activities include rehabilitation and/or construction of water infrastructure such as boreholes and shallow wells, water harvesting and ponds, and pipes and tanks; training of local beneficiaries in operation and maintenance; and formation of domestic water user associations.

6. As stated in IFAD's Environment and Natural Resource Management (ENRM) Policy, the basic guidances and good practices for IFAD interventions in water management involve promoting: (i) integrated water resource management approaches at different levels within watersheds; (ii) water-use efficiency and sustainability in production, and good practices in irrigation, sanitation and wastewater management; and (iii) enhanced rural water institutions and integrated, pro-poor governance of land and water.

ENVIRONMENTAL AND CLIMATE CHANGE ISSUES

7. The potential negative impacts of water investments affect several areas and include soil degradation, water quality, public health impacts, and effects on flora and fauna, particularly when introduced on a large scale. In the near future, accelerating changes in the global climate will cause major alterations in the patterns of the water cycle and the geographical distribution of water, with significant effects on agricultural activities (UNEP, 2008). For poor countries with limited capacity to respond to hydrologic variability, climate change will make the achievement of water security even more difficult and costly. Extreme variability of precipitation is expected to put 2.8 billion people at risk of water shortages (World Bank Water and Climate Change website).

8. Climatic change will have significant consequences on water supply, water systems, infrastructure and agriculture. For example, sea-level rise could lead to salinization of water supplies from coastal aquifers; irrigation demand might increase because of decreased rainfall and increased evapotranspiration, placing additional pressure on irrigation systems; and soil erosion from increased rainfall intensity could affect watershed sustainability and lead to sedimentation in reservoirs (World Bank, 2009), with impacts on the operation of facilities. In addition, the water supply for human communities will become uncertain – particularly water accessibility – with increased levels of water stress worldwide exacerbating existing conflicts over water use (UNEP, 2008).

9. Unless adequately addressed in all development stages, climate change could undermine IFAD's investments and reduce the long-term sustainability of results. IFAD should therefore aim to reduce the vulnerability of water management and infrastructure to current climate variability while also considering the long-term effects of climate.

10. Environmental impacts can occur at four main phases of water management and infrastructure development – siting, design, construction and operation – and are quite different for each phase. To facilitate and focus environmental assessments for IFAD projects, the following issues should be considered:

a. *Siting phase* – possible displacement of people, loss of agricultural land, loss of unprotected natural forests and biodiversity, impact on protected areas, impact on historic sites, effect on water resources upstream and downstream of the command area, depletion of the aquifer, and loss of access to water for non-irrigation users (e.g. livestock), flood prone areas, coastal low lying areas exposed to sea level rise.

b. *Design phase* – inadequate engineering and design of infrastructure, disruption/modification of surface water flow, drainage adjustments, inefficient uses of water, and inadequate analysis and consideration of climate change-associated risks on water resources and standards for infrastructure.

c. *Construction phase* – soil erosion at construction, sand mining and borrow sites, disposal of construction spoils, public health concerns associated with construction camps, conflicts between construction crews and the local population, and wastewater management.

d. *Operation phase* – inefficient use of irrigation, domestic and other uses, soil degradation (salinization, waterlogging), pollution by agrochemicals, changes in groundwater levels, changes in surface water quality (return flows), reduction of downstream flows (with implications for downstream drinking water quality and aquatic biota), intrusion of seawater, and spread of waterborne diseases associated with permanent water bodies serving as breeding ground for vectors.

Many of these factors may have greater impacts in wetland areas.

POTENTIAL MITIGATION

11. This section provides guidance on mitigation measure for reducing the possible negative environmental impacts of projects which mobilize surface or groundwater for

irrigation. Rainwater harvesting or improved rainfed farming systems investments are typically in less need for mitigation.

12. IFAD projects dealing with irrigation should include a comprehensive ESMP with all the measures deemed feasible and necessary to reduce significant adverse environmental impacts. Most measures can be incorporated in the project design phase. Once remedial measures have been identified, they should be clearly spelled out in contract documents. Tenders should specify the environmental guidance in detail, and include them as work items. Bidders should be asked for detailed descriptions and cost estimates of proposed remedial works. The active involvement of rural communities, and the use of a multisectoral approach that considers many issues – gender, social and new concerns such as energy sources and climate change – in both the planning and implementation stages will contribute to: (i) prevention of potentially harmful design choices; (ii) optimum use of locally available materials; (iii) sustainability of service, by involving a critical mass of users, operators and suppliers; and (iv) incorporation of locally adapted environmental measures.

13. In IFAD projects, responsibility for the engineering design, construction, supervision and hand-over of infrastructure components is usually delegated by the responsible Government agency (e.g. MoI, MoA) to local authorities, which normally have their own standards and expertise. National authorities may delegate measures for mitigating environmental damage to construction firms through the project, but enforcement of compliance and monitoring of environmental protection measures are often weak. The project's mitigation plan must indicate suitable engineering designs, quality construction standards and make provisions for the effective implementation of recommended environmental and social actions. Training may be required for infrastructure engineers and technicians, construction crews and site supervisors, local public works agencies and contractors, organizations responsible for infrastructure maintenance, and local administrative authorities. Project mitigation plans should assess the institutional needs and include recommendations to ensure that supervising agencies have the authority, skills and means to enforce (contractual) compliance with environmental guidance.

Siting phase

a. *Water-use efficiency and sustainability:* Promote water-efficient irrigation systems (e.g. drip irrigation) and enhance water drainage on agricultural land. Support watershed assessments and sustainable land-use plans for coastal or inland wetlands. Minimize the relocation of local people and their animals, and develop resettlement plans. Optimize water use by selecting irrigated areas with suitable soils and corresponding crops and farming systems. Promote water harvesting practices including capture of runoff where feasible.

b. *Climate change proofing:* Assess how vulnerable project sites and water management systems are to climate change, based on the status of regional and local water resources, water demand, use and depletion, and the primary hydrologic drivers of vulnerability such as annual average precipitation, precipitation extremes, glaciers and snow melt, sea-level rise, evapotranspiration, soil moisture, runoff and river discharge

(World Bank, 2009). Develop water-related disaster risk reduction strategies (UN Water, 2010).

c. *Water use conflict*: Infrastructure must be compatible with the physical resource base and complementary to up- and downstream activities. It should take into account competing, gender-differentiated demands, especially for agriculture and domestic and livestock drinking water. Development plans should address issues regarding the current efficiency of (rainfed) water use or irrigation practices. Proposals for water infrastructure for a given area should match mid- and long-term, up- and downstream, agricultural and non-agricultural developments. Decisions regarding the location of a new water point or distribution network should consider the potential growth of new settlements or communities. Assess the potential impacts of water management development at the transboundary level.

Design phase

d. *Watershed protection*: Preserve surface and underground water hydrology, and ensure water quality and supply within and adjacent to the project area. Avoid detrimental changes in downstream water flow. Limit erosion in watershed areas, intakes, waterways and reservoirs, including by designing all infrastructure to minimize scouring, sedimentation and stagnant water and to facilitate cleaning. Explore options for rewarding communities for watershed or ecosystem services (financially and non-financially) or benefit-sharing mechanisms.

e. *Participation of target groups and equitable distribution of benefits*: Consult all local water users, and involve beneficiaries in all stages of infrastructure development, from design, through operation and management, to rehabilitation and reconstruction. Ensure equitable, reliable and sustained access to, and use and control of, water. Address the gender dimensions in all stages.

f. *Climate change*: Incorporate climate change risk analysis into projects; the potential impacts of climate change on water availability should be thoroughly examined when designing any type of intervention – climate moisture index, local climate variability data and projections can be very useful in this regard. Projects in areas prone to floods, drought and other natural disasters often require explicit incorporation of climate change effects into economic analysis, including assessment of the cost of adaptation and measures for reducing vulnerability at the river basin or watershed level (World Bank, 2009). Promote multiple-benefit approaches or technologies that have positive impacts on climate resilience, yields and soil moisture, such as rainwater harvesting and conservation agriculture.

g. *Project design*: Prioritize the rehabilitation of existing irrigation schemes, the development of several small-scale irrigation schemes rather than one large system, the use of sprinkler or drip irrigation, the use of treated wastewater, and the combined use of surface and groundwater. Include early warning systems and emergency plans for extreme events. Introduce new technologies such as wastewater reuse, recycling and solar panels (UN Water, 2010).

Construction phase

h. *Site selection:* Select project sites where social, environmental and climate change impacts are commensurate with the expected long-term benefits. Include flood control works. Build additional or improved water storage facilities or diversify the community's water supply portfolio to hedge against drought. Re-vegetate borrow sites after use. Control the disposal of construction waste (human faeces, fuel, oil, containers and parts), and provide facilities for construction crews and local labourers.

Operation phase

i. *Water-use efficiency and sustainability:* Maintain drainage systems and flush soils to leak the salinity deriving from irrigation. Use sprinkler or drip irrigation to minimize soil degradation (salinization, waterlogging). Maintain level irrigation fields. Monitor surface runoff and groundwater levels for long-term effects, and regulate runoff. Adopt a watershed approach and correct design weaknesses in a timely fashion to avoid seepage and overwatering problems.

j. *Health and sanitation:* Promote waste management and ensure proper drainage. Support prophylaxis and treatment against waterborne diseases. Enforce water quality criteria and promote environmental and public health education of local communities.

k. *Institutions and pro-poor governance of land and water:* Given the need to strengthen national land and water governance systems in the countries in which IFAD invests, capacity building in water management should blend traditional knowledge and local institutions with modern, State-level considerations on water use. Focus on empowering water users by strengthening their local institutions or, where these are absent, supporting the creation of water user groups. Wherever feasible, promote delegation or turnover of the management of water management schemes, or pass the schemes themselves to local groups – with attention to gender equality issues in management, and clearly defined operation and management responsibilities. Local and customary laws and regulations for resource allocation, costing and cost recovery should be taken into account.

REFERENCES

Guidelines and studies

United Nations Environment Programme (UNEP). 2008. Vital Water Graphics.

<http://www.unep.org/dewa/vitalwater/article186.html>

Food and Agriculture Organization (FAO). 1995. Environmental impact assessment of irrigation and drainage projects.

<http://www.fao.org/docrep/V8350E/V8350E00.htm>

Food and Agriculture Organization (FAO). 2007. Coping with water scarcity, challenges of the twenty-first century. World Water Day, 22nd March 2007.

<http://www.fao.org/nr/water/docs/escarcity.pdf>

Food and Agriculture Organization (FAO). 2008. Climate Change, Water and Food Security. Rome.

<http://www.fao.org/nr/water/docs/HLC08-FAOWater-E.pdf>

International Finance Corporation. 2012. *Performance Standard 3: Resource Efficiency and Pollution Prevention*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

Millennium Ecosystem Assessment. 2005. Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC.

<http://www.maweb.org/en/index.aspx>

UN Water. 2010. Climate Change Adaptation: The Pivotal Role of Water. Policy Brief.

http://www.unwater.org/downloads/unw_ccpol_web.pdf

World Bank. 2009. Water and Climate Change: Understanding the Risks and Making Climate-Smart Investment Decisions.

http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/02/01/000333038_20100201020244/Rendered/PDF/529110NWP0Box31ge0web0large01128110.pdf

Websites

UN Water <http://www.unwater.org/>

World Bank Water and Climate Change Website

<http://water.worldbank.org/topics/water-resources-management/water-and-climate-change>

FAO Water <http://www.fao.org/nr/water/>

GUIDANCE STATEMENT 8

Small dams

INTRODUCTION

1. As a water storage structure, whether above or below ground (sand dams), small dams make water available when needed, thus giving more flexibility to water users, and may be used for the various aspects of full livelihood support (crops, livestock, aquaculture, domestic, energy, etc.). Compared to other water storage possibilities, small dams can be a cost effective option.

2. Sub-surface dams are less commonly known. However, these dams are highly suited to dryland areas (40% of the Earth's surface), where 80% of the poor live, and constitute an affordable means to harvest rainwater and address local water and food security, desertification and climate change.

3. Except in sub-Saharan Africa where little of the water available is mobilized (around 3%), many of the easy sites for large dams have already been developed: the new sites will prove technically more complex from socio-environmental perspective, and likely more expensive. As a consequence, people are turning to small dams alternative, and adhering to good practice is becoming all the more essential.

4. There is no clear definition of what is a small dam. Different countries have different definitions for small dams. FAO defines a small dam as "no more than 5m in height or 50,000 cubic meters of storage"; and the International Committee on Large Dams (ICOLD) as "less than 15m in height and 1,000,000 cubic meters of storage". IFAD's reality is closer to the FAO definition but also follows the national definition of small dams which may be different from the FAO definition.

5. Design criteria and typical features for small dams are generally different from those for large dams, because the design and construction methods focus upon economy. The basic principle of design and construction is to produce a satisfactory functional structure at a minimum total cost. So the risk of failure of small dams may be high. The low water levels in small dams limit damage that may be caused by accidents.

6. This guidance statement intends to support stakeholders to adhere to best practice enshrined in national and international standards, thus ensuring the sustainability and the consequent safety of small dams.

SMALL DAMS IN IFAD PROJECTS

7. IFAD invests in building or rehabilitating small dams, always in the context of large poverty reduction programs. Small dams support higher local water security through flood retention, aquifer recharge, wetland consolidation, and water for social, environmental and productive uses.

8. Small dams are developed through IFAD-supported projects, which are implemented by national (borrower) agencies. As such, national standards apply during design, construction and when ownership and/or management responsibility are handed over to a group of beneficiaries or designated entity.

9. IFAD's approach to small dam development is a participatory one, involving the future users in the design and the definition of the future O&M arrangements, building the capacity of actors along the whole life-cycle of the investment (users, regulators, entities in charge of the construction and of the oversight) until the hand-over of the ownership and/or the responsibility of the O&M of the infrastructure.

ENVIRONMENTAL, CLIMATE CHANGE AND SOCIAL ISSUES

10. Small dams can have an environmental impact. When placed on streams and rivers, they constitute an obstacle to the flow pattern, they interrupt fish migration routes, they capture sediments thereby reducing the nutritional value of the water for the aquatic ecosystem, etc. Small dams are also at the source of water-borne diseases, soil degradation, flooding of productive land. Property issues around small dams may limit access to water by (temporarily) excluded traditional water user groups (e.g. pastoralists).

11. With overall rising demand for water and because the impact of climate change translates into more variable rainfalls, the demand for water storage is rising. Small dams can act as a way to mitigate variability in water security and compensate for droughts and floods. The environmental analysis (SECAP/ESIA) will need to identify the expected benefits of the investment and its impact on the local society and other affected parties.

12. With the development of a small dam, an area will change uses and the IFAD note on resettlement gives further guidance on this. In addition, new or increased uses of water will be made possible from the storage, and there is a need to look into the governance mechanisms of these new or additional uses during the design stage of the small dam to avert potential inequities or conflicts, especially during the dry season.

13. Likely issues to arise along the development of a small dams are:

- Insufficient participation of local stakeholders in the decision-making process;
- Deficient option assessments before the decision is made: is the small dam the best and most feasible option?
- Poor design;
- Insufficient considerations of downstream environmental and social impacts;
- Insufficient consideration of the multiple uses that will be made of the water: should the design be adapted to provide good quality of drinking water?

- Insufficient consideration of health impacts and the possible mitigation through adapted operation rules;
- Insufficient consideration of measures to mitigate environmental impact and ensure equitable outcomes;
- Unclear O&M responsibilities;
- Deficient analysis of the capacity building needs, in particular for O&M;
- Poor supervision of construction works.

SAFETY OF SMALL DAMS

14. The risk for small dams to fail is generally recognized as higher than for large dams. This is mainly due to poor care taken during design, construction and maintenance of small dams, and the disregard of local regulations.

15. The major causes for dam failure are: overtopping during flood because of undersized or obstructed spillway (65%), internal erosion and piping of embankment and foundations (12%), slope instability for lack of adequate drainage in the embankment (12%).

16. To reduce risk of dam failure, provide for dam safety during design, construction and operation for the lifetime of the dam (usually done by IFAD project team with advice from an engineer qualified in safety of small dams).

POTENTIAL MITIGATION

17. **Follow international best practice.** The World Commission on Dams (WCD) issued a key report in 2000 (see references) that makes for useful reference, with the identification of the following 5 key decision points:

1. Needs assessment: validating the needs for water and energy services
2. Selecting alternatives: identifying the preferred development plan from among the full range of options
3. Project preparation: verifying agreements are in place before tender of the construction contract
4. Project implementation: confirming compliance before commissioning
5. Project operation: adapting to changing contexts

18. In addition, WCD report proposes a set of guidelines for good practice for decision makers considering dam construction, with recommendations in chapter 9 for decision-making, including 26 detailed guidelines on how to assess options and implement dam

projects in a way that meets the Commission's criteria. This report mainly concerns large dams, and while it may not be adapted to investment in small dams, the principles remain fully valid.

- Strategic priority 1: Gaining public acceptance
 1. Stakeholder analysis
 2. Negotiated decision-making process
 3. Free, prior and informed consent
- Strategic priority 2: Comprehensive options assessment
 4. Strategic impact assessment for environmental, social, health and cultural heritage issues
 5. Project-level impact assessment for environmental, social, health and cultural heritage issues
 6. Multi-criteria analysis
 7. Life-cycle assessment
 8. Valuation of social and environmental impacts
 9. Improving economic risks assessment
- Strategic priority 3: Addressing existing dams
 10. Ensuring operational rules reflect social and environmental concerns
 11. Improving reservoir operations
- Strategic priority 4: Sustaining rivers and livelihoods
 12. Baseline ecosystem surveys
 13. Environmental flow assessment
 14. Maintaining productive fisheries
- Strategic priority 5: Recognizing entitlements and sharing benefits
 15. Baseline social conditions
 16. Impoverishment risk analysis
 17. Implementation of the mitigation, resettlement and development action plan
 18. Project benefit-sharing mechanisms

- Strategic priority 6: Ensuring compliance
 - 19. Compliance plans
 - 20. Independent review panels for social and environmental matters
 - 21. Performance bonds
 - 22. Trust funds
 - 23. Integrity pacts
- Strategic priority 7: Sharing rivers for peace, development and security
 - 24. Procedures for shared rivers

19. Closer to IFAD investments, the FAO references below should be used for close guidance. They are practical, designed for different readers (a manager, a practitioner, a field worker) and can be used for guidance at all steps of the investment cycle.

- FAO Manual on small earth dams - A guide to siting, design and construction, 2010
- FAO Guidelines for social analysis of Agriculture and Rural Investment Projects, 2011

20. Ensure adequate planning (usually done by IFAD project team), following national and/or co-financing partner criteria, with adequate prior knowledge of the water availability (at watershed level), of the water demand (gender differentiated), of environmental needs and consultation of the local community on the possible technical options. Once the decision is made to invest in a small dam as the best of the possible solutions available, then the cost-benefit analysis should consider the multiple benefits that can be derived from a small dam, and not only from a single use of the water mobilized (like irrigation); for example, aquifer recharge can be considered.

21. Secure the quality of the design (usually done by IFAD project team and service providers along contract specifications cleared by the Country Portfolio Manager)

- Secure a close consultation process with the beneficiaries (including the multiple water users differentiated by space, use, season, gender and required levels of reliability of water security) with the disclosure of data and grievance redress mechanisms
- Be conscious of changing demand and use patterns (e.g. small dams designed for local irrigation may turn into drinking water reservoirs for expanding cities)

- Design-for-management, i.e. consider local management capacities for O&M (including major repairs).
- Design for safety. Ensure that a qualified civil engineer either prepare or reviews and approves the dam design and periodically checks the quality of construction.
- Minimize future operation constraints and maximize flexibility of future water use: additional benefits may offset a higher cost, and a good understanding of the full costs contributes to contain procurement costs.
- Secure reliable geo-hydrological data both for precipitation as well as surface, sub-surface and groundwater(s) in the context of the climate risk analysis
- Anticipate accompanying measures at a larger scale to secure sustainability of the infrastructure: for example, an integrated watershed management approach will naturally anticipate various options to address erosion and sedimentation issues

22. Secure the quality of the construction (usually done by IFAD project team and service providers along contract specifications cleared by the Country Portfolio Manager)

- Secure a close consultation process with the beneficiaries in order to disclose plans, maps and means of grievance redress and in compliance with ESIA procedures and findings.
- Mobilize qualified staff for effective procurement and good quality oversight: capacity building may have to be provided to project technical staff to raise their profile, but also to contractors, even to help them know how to participate in bidding process in a proper way (case of Liberia, for example). Where the HIMO approach is chosen, oversight of the quality of works becomes essential

23. Foster optimum use of the storage infrastructure after construction (usually done by IFAD project team)

- Facilitate the multiple uses of water, including by upstream and downstream water users, especially when they are in competition or when they tend to exclude themselves (for example, when a reservoir is used for livestock in Africa, it is often better not to use it for drinking water, except if you can properly treat the water)
- Adapt the O&M arrangements accordingly, to avoid or mitigate conflicts
- Build capacity for more efficient downstream / in-field use of water for crops and/or livestock in order to optimize overall reservoir efficiency

24. Ensure adequate safety monitoring (usually by the owner of the small dam)

- Ensure that a dam safety plan is prepared and disclosed to relevant officials when failure of the dam would cause hazard to life and property downstream. The plan should be commensurate with the risk. In general, the risk of inundation from small dams failure can be considered to affect not more than 6-7km downstream of the dam wall.
- For the dam owner, develop an annual inspection maintenance program that includes an inspection and maintenance checklist based on Chapter 9 of the FAO Manual on small earth dams (2010).

REFERENCES

Guidelines and studies

World Commission on dams, Final report November 2000

http://www.internationalrivers.org/files/attached-files/world_commission_on_dams_final_report.pdf

Synthesis and 10 recommendations

<http://www.internationalrivers.org/resources/the-world-commission-on-dams-framework-a-brief-introduction-2654>

Small dams and weirs in earth and Gabion materials, FAO 2001

<ftp://ftp.fao.org/agl/aglw/docs/misc32.pdf>

Small dams: Guidelines for design, construction and monitoring, Cemagref editions 2002

<http://www.ciccp.es/ImgWeb/Castilla%20y%20Leon/Normativa/Small%20Dams.pdf>

An Investor's Guide to Dams, WWF March 2003

<http://awassets.panda.org/downloads/investorsguidedams.pdf>

Water Quality Protection Note: Dam construction and operation in rural areas

Government of Western Australia, Department of Water, November 2006

<http://www.water.wa.gov.au/PublicationStore/first/76204.pdf>

Water from Small Dams. A handbook for technicians, farmers and others on site investigations, designs, cost estimates, construction and maintenance of small earth dams, Danida 2006

<http://cdm16658.contentdm.oclc.org/cdm/ref/collection/p267501ccp2/id/324>

Gestion et surveillance des petits barrages en Seine-Maritime - Novembre 2009

(avec fiches techniques téléchargeables)

<http://dise.seine-maritime.agriculture.gouv.fr/Gestion-et-surveillance-des-petits,169>

Manual on small earth dams: a guide to siting, design and construction, FAO 2010

Irrigation and Drainage paper #64

<http://www.fao.org/docrep/012/i1531e/i1531e.pdf>

Improving the Implementation of Environmental Impact Assessment Follow-up, CPWF 2010

<https://cgspace.cgiar.org/bitstream/handle/10568/33636/10.8%20Improving%20the%20Implementation.pdf?sequence=1>

Guidelines for social analysis of Agriculture and Rural Investment Projects, FAO 2011

<http://www.fao.org/docrep/014/i2816e/i2816e00.htm>

Manager's guide (<http://www.fao.org/docrep/014/i2816e/i2816e00.pdf>)

Practitioner's guide (<http://www.fao.org/docrep/014/i2816e/i2816e01.pdf>)

Field guide (<http://www.fao.org/docrep/014/i2816e/i2816e02.pdf>)

Climate change, water and food security, FAO Water Report #36, 2011

<http://www.fao.org/docrep/014/i2096e/i2096e.pdf>

Small dams: Design, Surveillance and Rehabilitation

Petits barrages: Conception, Surveillance et Réhabilitation
ICOLD September 2011

<http://www.cbdb.org.br/bulletins/ICOLD-Small-Dams-Sept-2011.pdf>

Environmental impact assessment: Guidelines to FAO Field Projects, FAO 2012

<http://www.fao.org/docrep/016/i2802e/i2802e.pdf>

Soil & Water Conservation Manual for Eritrea – Chapter 10: Design and construction of sub-surface dams

http://www.worldagroforestry.org/units/Library/books/Book%20100/soil%20and%20water%20conservation%20manual%20for%20eritrea/erithrea/html/10_design_and.htm?n=70

Subsurface Dams to Augment Groundwater Storage in Basement Terrain for Human Subsistence in Brazil and Kenya

Sustainable Groundwater Management: Lessons from Practice – Case profile #5. WB December 2004

http://www.un-igrac.org/dynamics/modules/SFIL0100/view.php?fil_Id=182

Sand Dam Manual: a Practical Guide for the Siting, Design and Construction of Sand Dams (also includes benefits). Excellent 2012

<http://www.excellentdevelopment.com/sand-dam-manual>

Information on trainings available from cate@excellent.org.uk

A practical guide to sand dam implementation - Water supply through local structures as adaptation to climate change, RAIN 2011

http://www.bebuffered.com/downloads/PracticalGuidetoSandDamImplementation_April_2011.pdf

Les petits barrages de décrue en Mauritanie: Recommandations pour la conception et la construction, FIDA juillet 2012

<http://www.ifad.org/pub/pa/mauritania.pdf>

Manuel de suivi et d'entretien des petits barrages en Mauritanie, FIDA octobre 2012

http://www.ifad.org/pub/pa/mauritania_entretien.pdf

Poulain, D., D. Boubée, P. Royet, P. Derognaucourt, C. Guignard y L. Ballut (2013): La surveillance et l'auscultation des petits barrages : Adaptation au nouveau contexte réglementaire, 2013

http://www.barrages-cfbr.eu/IMG/pdf/col2012-4-04-surveillance_et_auscultation_-_petits_barrages.pdf

Is small better? A comparison of the effect of large and small dams on cropland productivity in South Africa. Elodie Blanc and Eric Strobl. WB August 2013

http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/000158349_20130813093427/Rendered/PDF/WPS6567.pdf

SubSurface Dams : a simple, safe and affordable technology for pastoralists

A manual on SubSurface Dams construction based on an experience of Vétérinaires Sans Frontières in Turkana District (Kenya) – September 2006

http://www.samsamwater.com/library/Sub_surface_dams_-_a_simple_safe_and_affordable_technology_for_pastoralists.pdf

WaterAid Technology Note – section 11 (pages 36 and 37)

<http://www.wateraid.org/~media/Publications/technology-notes-2011.pdf>

Linking technology choice with operation and maintenance in the context of community water supply and sanitation - A reference document for planners and project staff, WHO 2003 (pages 34-36)

http://www.who.int/water_sanitation_health/hygiene/om/wsh9241562153.pdf

Websites

Small Reservoirs toolkit - Planning and evaluating ensembles of small, multipurpose reservoirs for the improvement of smallholder livelihoods and food security

<http://www.smallreservoirs.org/>

A Toolkit to Assist Small Reservoir Design and Management (7 pages summary)

<https://cgspace.cgiar.org/bitstream/handle/10568/33621/10.4%20A%20toolkit.pdf?sequence=1>

Improved Decision Making for Dam Planning and Operation (6 pages on recurrent issues)

<https://cgspace.cgiar.org/bitstream/handle/10568/33644/10.5%20Improved%20decision%20making.pdf?sequence=1>

Dam Operation for Irrigation Benefits, CPWF 2014

A study of the trade-offs between irrigation and power generation in the Sesan River catchment found that existing reservoirs could be used for irrigation without significantly affecting hydropower generation. This means that reservoirs could help improve incomes and food security for nearby communities.

<http://wle-mekong.cgiar.org/portfolio-item/mk3-optimizing-cascades-or-systems-of-reservoirs-in-small-catchments/>

Reservoir Flood Control Index

The *Reservoir Flood Control Index* can help determine a reservoir's capacity for flood control, its vulnerability to flood threats, and the potential for damage downstream in case of flood events. The index can be used to evaluate hydropower projects and improve reservoir management in support of strengthened flood control.

<http://wle-mekong.cgiar.org/portfolio-item/mk12-the-impact-of-wsi-on-floods-and-drought-in-the-mekong-region-and-the-implications-for-food-security/>

Construction of small sub-surface dams

<http://www.wikiwater.fr/e8-construction-of-small-sub.html>

Excellent, pioneers of sand dams

<http://www.excellentdevelopment.com/home>

Global Reservoir and Dam (GRanD) Database

<http://www.gwsp.org/products/grand-database.html>

AgWATER Solutions Project – Small reservoirs

<http://www.awm-solutions.iwmi.org/small-reservoirs.aspx>

Small reservoirs and water storage for smallholder farming - The case for a new approach

<http://awm-solutions.iwmi.org/Data/Sites/3/Documents/PDF/publication-outputs/small-reservoirs-&-water-storage.pdf>

Regional analysis of small reservoirs - Potential for expansion in Sub-Saharan Africa
<http://www.awm-solutions.iwmi.org/Data/Sites/3/regions/regional-analysis-small-reservoirs-ssa.pdf>

GUIDANCE STATEMENT 9

Physical Cultural Resources

INTRODUCTION

1. For purposes of this Guidance Statement, physical cultural resources (PCR), also known as cultural heritage or cultural property, may be defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, historical, religious, spiritual, or other cultural significance. As such, PCR may be found almost anywhere, in urban or rural settings, above or below ground, or even under water.

2. PCR may derive their significance from various sources, whether as part of a community's cultural identity and heritage, as assets for economic or social development, or as sources of valuable scientific or historical information. As a result, their cultural significance may be local, provincial, national or even international in nature.

3. Although the likelihood that IFAD programmes/projects will involve or affect PCR is small, in such unlikely cases where PCR is found, IFAD will assist borrowers in avoiding, minimising or mitigating adverse impacts on PCR in the development programmes/projects that it finances. To this end, IFAD will use due diligence in applying its SECA Procedures to ensure that PCR are properly identified and adequately addressed and that any measures to protect PCR comply with the borrower's national legislation as well as with its obligations under relevant international treaties and agreements (e.g. UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972).

4. Where IFAD, through the CPMT, determines that the borrower's capacity to manage or protect the programme/project-related PCR is inadequate, IFAD may include appropriate capacity-building components in its programme/project. Given that the borrower's responsibility for management and protection of PCR extends beyond the individual programme/project, IFAD may consider broader capacity building activities as part of its overall country programme.

PCR IN IFAD PROJECTS

5. While it is unlikely that IFAD's portfolio of agricultural and rural development programmes/projects will involve or affect PCR, IFAD is committed to identifying and protecting PCR in all its operations. After all, even small-holder agriculture and rural development projects on marginal lands may, depending on location, involve resources of archeological (e.g. ancient ruins, monuments, pre-historic caves), historical (e.g. original structures, architectural works, historic sites), religious (e.g. churches, mosques, temples, sacred grounds) or cultural (e.g. cemeteries, traditional meeting places) significance. Of particular concern are IFAD programmes/projects: (i) involving significant excavations, demolition, movement of earth, flooding, or other environmental

changes; and (ii) located in, or in the vicinity of, a PCR site recognized by the borrower. For this reason, IFAD will use its SECA Procedures to ensure that any PCR involved in or potentially affected by an IFAD programme/project are properly identified and adequately protected.

USE OF ESA PROCEDURES, AVOIDANCE AND MITIGATION

6. The borrower will address PCR in programmes/projects financed by IFAD in the context of the environmental and social assessment (ESA) process established by IFAD's SECA Procedures. The SECA Procedures prescribe general steps for programmes/projects that apply in cases involving PCR: screening; collecting data; assessing impacts; and formulating mitigating measures.

7. As a first step, the borrower will screen, using qualified personnel and with full and effective participation of local people, the programme/project area in order to identify and collect data on any PCR likely to be affected by the operation and then will assess the potential impacts on these resources as part of the SECA process. If the programme/project is likely to have adverse impacts on the PCR, the borrower will identify appropriate measures for avoiding, minimizing or mitigating these impacts.

8. As a second step in the SECA process, when there is potential for the programme/project to affect PCR, the borrower will develop a concise PCR management plan (which may be a component of the overall environmental management plan for the programme/project) that includes: (i) measures for avoiding, minimising or mitigating any adverse impacts on the PCR, (ii) provisions for managing "chance finds" of PCR during implementation, (iii) necessary measures for strengthening institutional capacity with respect to protection of the PCR and (iv) a monitoring system to track the progress of these activities. In the end, the PCR management plan will ensure compliance with the country's overall policy framework, national legislation and international standards for protecting PCR and will reflect the institutional capabilities for protecting the PCR.

9. Where a project or programme proposes to use PCR, including knowledge, innovations or practices of local communities for the benefit of the project or for commercial purposes, communities should be informed of their rights under national law, the scope and nature of the proposed use, and the potential consequences. Free, prior and informed consent should be obtained, and there should be arrangements in the project for fair and equitable sharing of the benefits.

10. The IFAD CPMT will work with the borrower in addressing the PCR, reviewing the findings and recommendations developed during the ESA process and determining whether they will provide adequate protection for the PCR during implementation of the programme/project.

11. As part of the public consultations included in the SECA process, the consultative process for the PCR component will normally include project-affected groups, relevant Government authorities, and interested non-governmental organizations. These groups will assist the borrower and IFAD CPMT in documenting the presence and significance of PCR, assessing potential impacts, and exploring avoidance and mitigation options through a consultation process leading to consent.

12. The findings of the PCR component of the SECA process will be disclosed to the public as part of, and in the same manner as, the draft ESIA report.

INTERNATIONAL LEGAL CONTEXT

13. As noted above, UNESCO adopted a Convention Concerning the Protection of the World Cultural and Natural Heritage in 1972. The Convention defines the kinds of cultural and natural sites that may be considered for inscription on the [World Heritage List](#). It also sets out the duties of Borrower Countries in identifying potential sites and their role in protecting and preserving them. By signing the Convention, each country pledges to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage.

REFERENCES

Guidelines

International Finance Corporation. 2012. *Performance Standard 8: Cultural Heritage*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

Websites

UNESCO World Heritage Convention: <http://whc.unesco.org/en/convention/>

World Bank OP 4.11 Physical Cultural Resources:

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20970737~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html>

GUIDANCE STATEMENT 10

Rural roads

INTRODUCTION

1. This guidance statement addresses environmental issues associated with IFAD projects and programmes that support the construction and rehabilitation of rural roads. Rural roads are also known as village roads, community access roads, tertiary roads. Their use is to connect villages and/or production areas to higher order road networks. Rural roads are generally built to improve transport and provide better communications and mobility in rural areas. Improved transport infrastructure enhances the poor's access to: (i) economic and social services – agriculture, education, health and financial; (ii) agricultural markets – inputs, agro-processing, wholesale, retail and export; (iii) other income-generating opportunities; and (iv) social, political and community activities. The rural roads beneficially open up rural areas but the construction quality often limit their robustness, and thus they are often vulnerable to destruction during extreme climatic events such as floods.

2. According to IFAD's Environment and Natural Resource Management (ENRM) Policy, the basic guidances and good practices for IFAD interventions in the planning and financing of infrastructure are to promote and support: (i) synergies between rural infrastructure construction and sustainable natural resource management; (ii) incorporation of social and environmental mitigation measures; (iii) community-driven approaches and local employment, especially the creation of green jobs; (iv) adoption of context-specific and climate-resilient technologies; and (v) new infrastructure investment that is climate-smart.

RURAL ROADS IN IFAD PROJECTS

3. IFAD's approach is to promote effective and environmentally sound design, construction, maintenance and rehabilitation of rural roads, which may have direct and/or indirect impacts on the environment. According to its ENRM Policy, IFAD does not finance rural road development in national parks or other protected areas (except as part of a small group of projects involving the management of protected areas), or in support of commercial logging operations in tropical forests.

There is growing awareness of the potentials of rural roads in water harvesting for livelihood sustenance or productive purposes. IFAD encourages exploring such multiple use options.

With the development of economic corridors connecting 'export' areas to consumer or shipping areas, opportunities along these axes often imply densification of tertiary or rural roads networks. Furthermore, closing the social inequity gap oftentimes is done through 'désenclavement' or connecting hitherto non-connected areas to higher order networks. In all cases, complementary road investments in transportation and travel (RTT) are recommended.

ENVIRONMENTAL ISSUES

4. The following are the most important direct consequences of rural road construction, maintenance and rehabilitation:⁸⁶

a. *Loss of life of road users or adjacent population*, due to excessive speed or loads of vehicles during or after construction of rural roads.

b. *Soil erosion* may be caused by incorrect clearing and cutting of the road (especially on slopes) and may result in landslides or soil exposure; poorly maintained roads and tracts may provide channels for gully erosion. These effects in turn lead to uncontrolled drainage with consequential damage to surrounding land and vegetation, and siltation and sedimentation of nearby water bodies. The excessive build-up of nutrients (eutrophication) in water bodies causes rapid growth of weeds and other effects.

c. *Damage at borrow sites* created for the removal of road construction materials may leave local areas and sources of sand, gravel, rock or coral reef and their surroundings exposed to erosion or permanently damaged. Failure to restore borrow pits increases the risk of accidents through landslides or drowning. Excavation can also exhaust the supply of local building materials.

d. *Interruption of streams and drainage*: Roads may concentrate and accelerate runoff, increasing the risk of flooding from rivers, canals and lakes.

e. *Impoundment of water*: Roads and unrestored borrow pits may create stagnant pools of water, which can become habitats for disease vectors such as mosquitoes, and pose a public health hazard.

f. *Water contamination*: Improper management of road construction equipment, road traffic and the chemicals used to control weeds and dust may lead to runoff from roads contaminated with oil, grease, fuel or chemicals.

g. *Air pollution*: Vehicle traffic may increase roadside dust, which is a health hazard and causes damage to vegetation.

5. There may also be *indirect* impacts resulting from the improved access that rural roads enable. These impacts tend to be more difficult to predict, but may include the following:

a. *Vegetation and soil losses*: Improved accessibility may lead to uncontrollable human in-migration, which may result in unsustainable land uses, illegal land clearing and logging, farming of unsuitable soils (including steep slopes), and accelerated deforestation and soil erosion. Improved accessibility to towns and cities may increase charcoal production and deforestation on a large scale because of urban dwellers' high demand for charcoal.

b. *Disruption and loss of wildlife*: Unplanned development and expansion into new areas may increase poaching, interrupt migratory routes or increase noise disturbance,

⁸⁶ Carefully designed and implemented rural road rehabilitation projects do not normally have significant negative impacts on the environment, and often provide an opportunity to correct past mistakes in road design and construction. IFAD's policy is to use road rehabilitation as a means of promoting positive impacts on the environment.

potentially threatening wildlife resources. New roads are also likely to increase the illegal supply of bushmeat to towns and cities, leading to wildlife depletion.

c. *Social and economic disruption*: Planned and unplanned settlements and development may cause influxes of new settlers who compete with local people for natural resources. The increased land values along new roads may also lead to changes in land use and ownership, with adverse effects on small landowners and vulnerable groups.

d. *Spread of disease*: Increased movements of human/animal populations and plant material may affect the occurrence and patterns of disease. Transport hubs, corridors and infrastructure construction sites are locations of high HIV/AIDS risk.

6. The potential environmental impacts on the project – including those related to climate variability and change – should be addressed and taken into account in infrastructure design, construction and maintenance plans. Rural roads will come under growing pressure from climate hazards, particularly extreme climatic events. As increasingly frequent and intense erosion damage, floods, sandstorms, etc. are expected to cause greater impacts, effective planning for the protection and sustainability of infrastructure requires in-depth understanding and prioritization of major risks and vulnerabilities. Such understanding can be developed through the use of hazard maps, meteorological information and climate scenario projections, leading to greater preparedness for emergencies and disasters. Design standards for climate-change-smart rural roads have been tested and mainstreamed throughout IFAD's portfolio (e.g. Bangladesh, Madagascar). Furthermore, designs for rainwater harvesting from rural roads is practiced in many IFAD projects and Borrower countries (e.g. Yemen, Kenya). The national roads standards and maintenance practices will also need to be addressed, although this entails broader policy debates and decision making.

7. The central constraint to providing sustainable roads and maintenance services is the limited institutional capacity of rural communities and local governments. IFAD-supported projects should encourage the integrated planning of roads, focusing on the priority demands of rural dwellers, who in turn should be willing to carry out maintenance responsibilities and ensure benefits from complementary services, including water supply for agricultural purposes; reforestation to replace timber lost during construction; and vegetation cover on embankments to reduce soil erosion, stabilize vulnerable slopes, water harvesting for runoff, improved drainage, etc. These actions are all standard good civil engineering.

POTENTIAL MITIGATION

8. Projects with a rural infrastructure component must include mitigation measures to eliminate, offset or reduce adverse impacts. Such measures should be based on an evaluation of the direct and indirect negative impacts of the project, which should be ascertained during project design. An environmental analysis must be carried out to: (i) check engineering designs and plans for construction/rehabilitation and assess any direct negative impacts; and (ii) evaluate land use and land-use plans in the road's zone of influence, to determine the potential for indirect negative impacts. It is also important to plan for a long-term, post-project evaluation to assess project impacts.

9. Mitigation measures for the project should focus on careful siting of the roads and good engineering design, both of which can minimize most adverse effects. (Issues related to agricultural water infrastructure and sanitation facilities are explored in Guidance Statement 5). Although IFAD is mostly involved in rehabilitation of rural roads and very few investments are geared towards new roads, the Fund adheres to good practice. Good practice in road design includes the following mitigation measures.

Geotechnical measures

a. *Siting of roads* is the most important measure for avoiding or reducing adverse direct and indirect impacts. It requires analysis of maps, environmental information (on soils, climate, geology, topography, hydrology, ecology and significant historic or cultural sites), and socio-economic factors and land uses in the project region. This land-use planning approach is particularly effective in identifying areas where agriculture or ranching may be unsustainable, or where protected areas may be threatened. Analysis of road alignment for environmental purposes may lead to: (i) cancellation of the proposed construction/upgrading, if undesirable development is judged to be inevitable; or, more usually, (ii) alternative alignments that avoid or reduce any negative impacts. The key mitigation measure in new road construction is the selection of alternative alignments.

b. *Provisions for construction and maintenance operations*: Essential measures here are the establishment of specific contractual directives (in legal covenants) for dealing with surplus materials, particularly in mountainous, erosion-prone areas; proper management, collection and recycling of oils and lubricants from construction machinery; precautions for avoiding spillage of pollutants into soils and surface waters; careful siting of construction camps to minimize environmental impacts on the local area; and prudent application of water to minimize dust from construction activities.

Socio-economic measures

c. *Participatory/consultative design of road sites* using local knowledge: Local users know which tracks (or alignments) offer the best connections for safe travel (avoiding flooding, rock fall and animals), and whose lands are affected by these alignments. It is particularly important to ensure local people's participation from the start, including that of women, to increase the local ownership required for the design and implementation of sustainable road maintenance plans and activities.

d. *Disease control*: Assess the ecology of disease vectors, and implement fill-and-drain activities to avoid creating vector habitats. Build partnerships with the relevant existing institutions to promote activities that help minimize the spread of animal and plant diseases. Organize HIV/AIDS sensitization activities, and support community-based activities and institutions that emerge along transport corridors, at hubs and at infrastructure construction or maintenance sites in response to the HIV/AIDS crisis.

e. *Involvement of the population and local enterprises* through community-driven development approaches. There may already be positive experiences of labour-based approaches to road works and favourable government policies for local enterprise

involvement in this sector. Involving women and youth can be key to early benefit sharing, mobilizing women groups as contractors or daily workers (e.g. labour contracting societies in Bangladesh).

f. *Assessment of technology choices* and the potential for using locally available human and material resources for road construction, rehabilitation and maintenance: The optimum use of local skills (local enterprises, contractors and artisans) and materials will help reduce the adverse environmental consequences and promote the development and implementation of sustainable approaches to mitigation.

g. *Road maintenance planning*: A plan for road maintenance should be established in consultation with the responsible authority and the local population, with agreed levels of funding and clearly defined ownership and responsibilities. Lack to achieve such agreements ex-ante and live up to them may lead to abandoning rural road investments as sustainability would be adversely compromised.

Hydrological measures

h. *Erosion control measures*: Carry out earth-moving activities during dry periods, protecting vulnerable soil surfaces with mulch, and drainage channels with berms, straw or fabric barriers. Establish vegetative cover as early as possible.

i. *Drainage works and river crossings*: To avoid the interruption of subsoil and surface drainage patterns, especially in areas around cuttings or embankments, works must be implemented to minimize changes in surface flows and to stabilize cuttings, using correctly-sized culverts walls, gabions, etc. Special drainage guidances should be incorporated in new rural road designs. Where appropriate, rainwater harvesting from roads should be explored.

j. *Creation and restoration of borrow pits*: Locations for borrow pits should be carefully selected, and restoration of borrow pits should be clearly specified in construction contracts, to ensure proper drainage of suitable borrow pits.

k. *Provision for watercourse buffer zones*: These are areas of vegetation that are set aside to prevent water contamination from the new rural road. The optimal distance from the road depends on the soil type and vegetation cover.

Land-use measures

l. *Crossing points*: Include designated human and animal crossing points (on busy roads or in cuttings/embankments) in plans for new rural roads, to facilitate safe road crossing. "Speed bumps" in villages can help reduce pedestrian and animal accidents.

m. *Disaster prevention and recovery*: Plan climate-related risk management, emergency response, and rehabilitation of damaged rural infrastructure, to enhance the efficiency and longevity of investments by constructing, for example, submersible rural roads that can withstand flooding or seasonal inundation, or submersible embankments that reduce

the risk of farmers losing their crops to flash flooding. Climate proofing⁸⁷ of infrastructure entails integrated economic, engineering and environmental analysis to assess the benefits and incremental costs of alternative adaptation options under different assumptions about hazards, vulnerabilities and capacities (UNDP, 2010).

10. IFAD rural road projects should include a comprehensive mitigation plan with all the measures deemed feasible and necessary to reduce significant adverse environmental impacts. Most measures can be incorporated in the project design phase. Once remedial measures have been identified, they should be clearly spelled out in contract documents. Tenders should specify the environmental guidances in detail, and include them as work items. Bidders should be asked for detailed descriptions and cost estimates of proposed remedial works. The active involvement of rural communities, and the use of a multisectoral approach that considers many issues – gender, social and new concerns such as energy prices and global warming – in both the planning and implementation stages will contribute to: (i) prevention of potentially harmful design choices; (ii) optimum use of locally available materials; (iii) sustainability of services, by involving a critical mass of users, operators and suppliers; and (iv) incorporation of locally adapted environmental measures.

11. In IFAD projects, responsibility for the engineering design, construction, supervision and hand-over of infrastructure components is usually delegated by the responsible Government agency (e.g. MoPW, MoT) to local authorities, which normally have their own standards and expertise. National authorities may delegate measures for mitigating environmental damage to public works departments or construction firms, but enforcement of compliance and monitoring of environmental protection measures are often weak. The project's mitigation plan must indicate suitable engineering designs, quality construction standards and make provisions for the effective implementation of recommended environmental and social actions. Training may be required for infrastructure engineers and technicians, construction crews and site supervisors, local public works agencies and organizations responsible for infrastructure maintenance, and local administrative authorities. Project mitigation plans should assess the institutional needs and include recommendations to ensure that supervising agencies have the authority, skills and means to enforce (contractual) compliance with environmental guidances.

12. Alternative environmental procedures are recommended for projects in which the exact location of the infrastructure to be built is unknown. For these projects, a regional environmental assessment should be conducted during project preparation.

⁸⁷ Climate proofing is the set of actions that make infrastructure more resilient and resistant – less vulnerable – to anticipated scenarios of long-term climate change, hazards associated with climate variability and extremes, and geological hazards (UNDP, 2010).

REFERENCES

Guidelines and studies

International Finance Corporation. 2012. *Performance Standard 3: Resource Efficiency and Pollution Prevention*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

International Finance Corporation. 2012. *Performance Standard 4: Community Health, Safety and Security*. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

International Finance Corporation. 2012. *Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

UNEP. 2011. *Comprehensive Options Assessment for Sustainable Development of Infrastructure. Training Manual*. Nairobi.

http://www.unep.org/pdf/Comprehensive_Option_Assesment.pdf

UNDP. 2010. A "No-Regrets" Risk-Based Approach to Climate-Proofing of Public Infrastructure: Improve National and Sub-National Planning for Resilience and Sustainable Growth. San Salvador, El Salvador.

<http://www.adaptationlearning.net/sites/default/files/Infrastructure%20Climate%20Proofing.pdf>

World Bank. 1997. *Roads and the environment: A handbook.*; Washington, DC: World Bank.

<http://go.worldbank.org/WESU7THA70>

World Bank. 2002. *Socioeconomic Impact Assessment of Rural Roads: Methodology and Questionnaires*; Washington, DC: World Bank.

[http://siteresources.worldbank.org/INTISPMA/Resources/383704-1153333441931/11274_Cgrootaert-Impact-Rural_Roads\].pdf](http://siteresources.worldbank.org/INTISPMA/Resources/383704-1153333441931/11274_Cgrootaert-Impact-Rural_Roads].pdf)

World Bank. 2011. *Estimating the Long-Term Impact of Rural Roads*. Washington, DC. Policy Research Working Paper 5867.

http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/10/31/000158349_20111031155734/Rendered/PDF/WPS5867.pdf

Websites

International Forum for Rural Transport and Development. <http://www.ifrtd.org>

GUIDANCE STATEMENT 11

Development of value chains, microenterprises and small enterprises (MSE)

INTRODUCTION

1. Microenterprise and small enterprise (MSE) development consists of a series of support measures to ease the constraints and asymmetries that prevent the rural poor from investing in MSE activities as a means of diversifying their incomes, finding employment and improving their livelihoods. These constraints result from policy and infrastructural gaps, including in trading laws and regulations, capital and administrative guidances, credit services, legal status, and local capacity and skills. When MSE development takes place in the coordinated context of a value chain development programme, it concentrates on intervention points along the value chain and can amplify its net benefits. MSE development encompasses agricultural and off-farm MSEs. Its four founding pillars concentrate on “access to financial and non-finance services, skills development, market links, and conducive institutional environment” (IFAD, 2004). A value chain (VC), on the other hand, is a vertical alliance of enterprises collaborating to varying degrees in the range of activities required to bring a product from the initial input supply stage, through the various phases of production, to its final market destination. Therefore, a VC approach is based on a comprehensive look at the entire commodity chain, from producers to end-market consumers (IFAD 2014, PTA, How-to-do-note on “designing commodity value chain development projects”).

2. Recently, more attention is being given to the cumulative effect of many – hundreds of thousands or millions of – smallholders on the surrounding natural resource base on which they depend for their livelihoods, because this cumulative impact might be significant, and can degrade fragile resources. In addition, impact assessment performed at the value chain level (rather than just the agricultural enterprise level) may facilitate better identification of the sustainability and climate implications of a given market segment. The adoption of comprehensive planning approaches that look at the whole life cycle of a product (taking into account all the upstream and downstream chain linkages) can support more cost-effective environment and natural resource management (ENRM), while stimulating green growth and green employment creation.

3. IFAD aims to avoid the downside risks and maximize the positive environmental impacts of value chain and MSE development projects, while promoting green growth through the incorporation of improved natural resource management (NRM) practices or the mitigation of the effects of production processes that pollute the environment. Over time, this approach can generate economic activities that are more sustainable, more resistant to the effects of natural, climatic or economic shocks, and less risky. For instance, the prices for good-quality certified organic products are less susceptible to market fluctuations than are those of other products, ensuring investment and sustainability. This articulated strategy is reflected in Value Chain Best-practice statement provided in IFAD’s ENRM Policy (IFAD, 2011).

4. As noted in this policy, basic guidances and good practices for IFAD's support to and promotion of value chain and MSE development include: (i) eco-efficiencies in agricultural value chains, including in agrochemical, water and energy use; (ii) harmonization with national and international standards for sustainable agriculture and consumption; (iii) continuation of diversified production within a given landscape; (iv) where possible, priority market access for purchasers of organic and sustainable niche environmental products; (v) creation of green jobs throughout the value chain, including in local food systems and organic production; (vi) facilitation of local and regional market access for sustainable production systems, through public-private partnerships and initiatives from local civil society and the private sector to link poor rural people to payment for environmental services schemes; (vii) national certification processes; and (viii) strengthened capacity for good practices, including waste management (IFAD, 2011). In addition to these practices, a climate change vulnerability analysis along the value chain can also inform the decision making to ensure that the investments are made in products that will not be adversely affected by climate change. The analysis will also inform the selection of appropriate climate change adaptation measures to maintain the economic viability of the value chains.

ENVIRONMENTAL, SOCIAL AND CLIMATE ISSUES

5. MSE and/or value chain development initiatives have two types of impact on the environment: (i) depletion through overuse and inappropriate use; and (ii) pollution through the waste generated by production processes. While MSE and/or value chain initiatives may not themselves generate negative impacts on the environment, their planners should be aware of environmental concerns relating to the types of farming and business they support, and should incorporate appropriate mitigation measures into project services. Well-designed value chains can drive improved ENRM, climate-smart development and poverty alleviation. As stated in Principle 5 of IFAD's ENRM Policy (2011), engagement in value chains can drive green growth by scaling up sustainable agricultural practices and reducing the risks of favouring markets based on high-input monocropping or other natural resource-depleting agroindustry models. These wide-ranging impacts are discussed in a number of documents listed in the reference section of this guidance statement; project staff can refer to these documents for a fuller understanding of the environmental impacts of specific projects in the activities they support.⁸⁸ A growing body of experience shows how new MSE development approaches incorporate climate-smart solutions and environmentally sound practices and markets, such as the production and marketing of indigenous crops that are drought-resistant and enable low-input farming to obtain value addition in local urban or international food markets.

POTENTIAL MITIGATION

⁸⁸ The Environmental Colours and ENCAPAFRICA websites are worth noting in this regard. The *Good Housekeeping Manual* (GTZ, 2006) addresses the most important environmental impacts generated by firms, and could provide the basis for an MSE development curriculum that addresses the environmental impact of its activities.

6. IFAD's Climate Change Strategy specifies how IFAD projects, including those with value chain and MSE development components, should address the potential adverse impacts of climate change on project outcomes. IFAD projects should incorporate appropriate climate adaptation measures into project design, and IFAD also seeks opportunities to combine climate mitigation measures into many projects. IFAD's Climate Change Strategy calls for building smallholders' resilience to climate change (Purpose 1), which can open new opportunities for MSE-inclusive markets.

7. Project managers of MSE development and/or value chain initiatives should recommend simplified procedures that small enterprises can use to mitigate the environmental impacts of their activities. For instance, there is increasing scope for developing certification for sustainable products to foster the conservation and use of local agro-biodiversity, sustainable forest management through value chains, and MSEs that are environmentally compliant and promote green purchasing. On the other hand, when partnering with large private agribusiness companies in value chain development projects, IFAD project design teams and project implementers should follow IFAD's basic principles of engagement with the private sector as outlined in Box 6 of IFAD's Private Sector Strategy (2011). These principles include making sure that the large and international companies that IFAD works with comply with social and environmental standards (assessed through due diligence during project preparation).

8. As mentioned earlier, for value chain development projects, environmental factors create both risks (e.g. land degradation, biodiversity loss, pollution) and opportunities (e.g. suitable soil types, plentiful water for irrigation or processing, climate change creating conditions that allow new crops). The design of value chain (VC) projects should include climate analysis; climate change adaptation is usually closely linked to environmental management, so the project designers should integrate these two dimensions as thoroughly as possible, by:

- o taking climate and environmental criteria into account when selecting VCs (when the VCs have not been pre-selected);
- o identifying the major risks and opportunities from climate change in the VC, and the most effective interventions for addressing them;
- o focusing climate-related interventions on building resilience in the VC, targeting poorer and more vulnerable people; and
- o ensuring that VC interventions help enhance and sustain a healthy natural resource base over the long term and increase climate change resilience benefits for the most vulnerable project participants.

Where possible, effective climate-related interventions in VC projects should include two main elements:

- (i) a wide set of options for diversification to increase farmers' livelihood, farming and environmental management portfolios as a risk management strategy; and
- (ii) specific interventions that make key stages of the VC more climate-resilient in ways that improve farmers' livelihoods and resilience.

REFERENCES

Guidelines

IFAD.2014. PTA - How to-do-note on “ Designing Commodity Value Chain Development Projects”

IFAD. 2011. Private Sector Strategy – Deepening IFAD’s Engagement with the Private Sector. IFAD. Rome. Available at http://www.ifad.org/pub/policy/private/2012_e.pdf

IFAD. 2004. Rural Enterprise Policy. IFAD, Rome. Available at <http://www.ifad.org/pub/policy/RE-eng.pdf>

IFAD. 2011. Environment and Natural Resources Management Policy, IFAD, Rome. Available at: <http://www.ifad.org/events/enrm/policy/index.htm>

UNIDO. 2011. Pro-Poor Value Chain Development: 25 guiding questions for designing and implementing agroindustry projects, UNIDO, Vienna, Austria. Available at:

<http://www.unido.org/index.php?id=o4531>

USAID. 2009. Community Based Natural Resources Management. Available at <http://www.encapafrika.org/sectors/cbnrm.htm>

Vorley B. et Al. (Eds.). 2007. Regoverning Markets, A Place for Small-Scale Producers in Modern Agrifood Chains ?, IIED, Gower, UK.

Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) 2006. *Good Housekeeping Manual*. Eschborn: GTZ. Available at: <http://www2.gtz.de/dokumente/bib/06-0748.pdf>

Environmental Guidelines for Small Scale Activities in Africa, 2nd Edition; ENCAP. Available at: <http://www.encapafrika.org/egssaa.htm>

Environmental Management Practices for Microcredit Programmes and Different Sectors of Microenterprise Activity. Available at: <http://www.gdrc.org/icm/environ/plan-3.html>

IFC Environmental and Social Review Procedure. Available at: <http://www.ifc.org/ifcext/sustainability.nsf/Content/ESRP>

IFAD, S. Vermeulen, HOW to Assess climate change risks in value chain projects. Rome, 2015. IFAD (we heard ECD is working on this – Sonja Vermeulen?)

Studies:

Are We Making a Difference? Measuring the Social and Environmental Impacts of Small and Medium Enterprises. Available at: <http://www.wri.org/stories/2007/11/are-we-making-difference-measuring-social-andenvironmental-impacts-small-and-medium>

Christen, R. P., and Munoz Araya C. 2008. Poverty Alleviation, Sustainable Natural Resource Management and Access to Finance: a Common Sense Approach to Environment and Microfinance, prepared for IFAD.

Small and Medium Enterprises, Issue Briefing Note, The ISO and Corporate Social Responsibility. Available at:

http://inni.pacinst.org/inni/corporate_social_responsibility/standards_sme.pdf

Guidi D. 2011. Sustainable Agriculture Enterprise: Framing Strategies to Support Smallholder Inclusive Value Chains for Rural Poverty Alleviation. Available at: <http://www.hks.harvard.edu/centers/cid/publications/research-fellow-graduate-student-working-papers/cid-research-fellow-and-graduate-student-working-paper-no.-53>.

Vermeulen S., Cotula L. 2010. Making the most of agricultural investments: a survey of business models that provide opportunities for smallholders, IIED/FAO/IFAD/SCD London/Rome/Bern. Available at: www.ifad.org/pub/land/agri_investment.pdf

Donovan J. 2010. An asset based approach for assessing the impact of value chain approaches on rural poverty, CATIE Training materials. Available at: <ftp://ftp.solutionexchange.net.in/public/mf/comm.../res17061101.pdf>

Websites:

Environmentally Sound Design and Management Capacity Building for Partners and Programs in Africa. <http://www.encapafrika.org/>

IFC SME Toolkit has a section devoted to environmental issues for use by small and medium enterprises. http://www.ifc.org/ifcext/sme.nsf/Content/SME_Toolkit

The Environmental Colours of Microfinance is a rich and evolving resource that contains suggestions for MFIs on how to manage environmental risks of small and microenterprises.

<http://www.gdrc.org/icm/environ/environ.html>

GUIDANCE STATEMENT 12

Rural Finance

INTRODUCTION

1. Developing inclusive rural financial systems and fostering innovations to increase the access of poor people in rural areas to a wide range of financial services and sound financial institutions is central to IFAD's mandate and key to agricultural and rural livelihoods development. IFAD concentrates on rural microfinance, which refers to the provision of financial services to people with low incomes in rural areas for both on- and off-farm activities.
2. Rural microfinance encompasses the full range of financial services that smallholder farmers and rural households require, not just credit but including savings, remittances, and risk management services, which, to achieve requires support to strengthening the whole sector at micro, meso and macro levels.
3. The financial sector of a partner country comprises all individual and institutional actors, on both the demand and supply sides, along with the financial sector's legislative, regulatory and supervisory framework and its support infrastructure. IFAD's strategy is to support its partners at each level to build the sustainability of institutions and models, and increase outreach to remote rural areas and marginalized poor people. IFAD's support in rural finance therefore has a unique social focus different to that of other donors, but at the same time has to ensure sustainable access to finance. The Fund is therefore dedicated to responsible approaches which lead to the financial and operational sustainability of the actors within the sector.
4. IFAD works with a range of financial service providers (FSPs) including commercial and development banks, non-bank financial institutions, cooperatives, microfinance institutions (MFIs) and semi-formal or non-formal organizations such as self-help groups or village savings and loans associations.
5. The provision of financial services to poor rural households faces many challenges, including weak infrastructure and low population density located in marginal areas, inherent risks of serving low-income clients living and working in ecologically fragile environments and areas with demarcated natural resources, lack of typical client collateral, the limited capacity of FSPs and low levels of client education. The overall financial market may be stunted and distorted from subsidized, targeted lending. Taken together, these challenges increase the transaction costs and risks of serving rural areas and require continual attention and innovation. The contemporary approach to rural finance focuses on building the sustainability of FSPs, thinking beyond the short life cycle of donor-driven projects.
6. To foster financial inclusion for poor people in rural areas, IFAD's Rural Finance Policy⁸⁹ requires compliance with six guiding principles in IFAD-financed rural finance interventions: (i) support access to a variety of financial services; (ii) promote a wide

⁸⁹ IFAD Rural Finance Policy: <http://www.ifad.org/pub/basic/finance/eng.pdf>

range of financial institutions, models and delivery channels; (iii) support demand driven and innovative approaches – including providing a full range of financial services to poor families who live in degraded areas which may, for example, support natural resource management practices and alternative livelihoods that are less harmful to the ecosystem; (iv) encourage – in collaboration with private sector partners – market-based approaches that strengthen rural financial markets, avoid distortions in the financial sector and leverage IFAD’s resources; (v) develop and support long-term strategies focusing on sustainability and poverty outreach; and (vi) participate in policy dialogues that promote an enabling environment for rural finance. Any deviation from these principles requires clear justification and approval by Management.

7. IFAD’s support to building stable, inclusive financial systems that work for poor people over the long-term is applied to all levels of the financial sector: at micro level working with retail FSPs and beneficiaries; at the meso-level including developing second-tier institutions such as industry associations and apexes, encouraging good governance and transparency in the sector; and at the macro level assisting partner governments in promoting an enabling policy, legal, and regulatory environment for market-oriented rural finance.

APPLYING SOCIAL, ENVIRONMENTAL AND CLIMATE STANDARDS TO RURAL FINANCE

8. IFAD-financed operations in rural finance focus on developing inclusive financial systems, working with and building capacity of its partners at each level of the sector (see paragraph 7) to build the sustainability of institutions and models, and increase outreach to remote rural areas and marginalized poor people. Examples of this type of support are outlined in IFAD’s Rural Finance Policy and can include promotion of financial literacy training, capacity building support to FSPs; support to savings-based approaches; development of second-tier institutions such as industry associations and apexes; and promotion of an enabling policy, legal, regulatory and supervisory environment. Rural finance programmes, projects, and components could have the objective of strengthening the financial sector overall and/or improving financial services targeted towards another sector, such as value-chain development related to a specific agricultural commodity.

9. IFAD’s approach to building inclusive rural financial systems for its target group and the differing characteristics of its supported interventions in rural finance mean that it can sometimes be complicated to have direct oversight or strong leverage over the end-uses of the loan portfolio of an FSP partnering with an IFAD-financed programme or project. On-lending by the FSP is not always a focus of support, and if it is, the average size of the loan may often be minimal and intended for varied and marginal end-uses.

10. Only when there is a proven clear lack of liquidity in a given market, as shown by a rigorous market assessment, IFAD would consider offering a line of credit to FSPs through its projects and programmes. IFAD’s experience has shown that, in most cases, credit lines fail to trigger the development of sustainable financial services. Any proposed

line of credit has to be justified on the principles stipulated in IFAD's Rural Finance Policy.⁹⁰

11. IFAD-financed programmes and projects which include rural finance as the main focus or as a component will be assessed according to the guidelines in IFAD's Environmental, Social and Climate Assessment Procedures (SECAP) in order to determine if the focus of the programme or project will have a significant and direct effect on the country's environment and natural resources and therefore under which category it should fall.

12. Any projects or programmes initiated by IFAD, which support FSPs through the provision of a line of credit that are classified as Category A or implementing credit operations specified in Category B should meet IFAD's social environmental and climate standards/requirements – including information disclosure and consultation. For sub-projects classified as Category A, the borrower will submit ESIA, resettlement plan and/or IPP to IFAD for clearance before sub-project approval. The following measures should be carried out prior to establishing a relationship with a FSP:

12.1 The National Government through the established Programme Management Unit (PMU) for the project should conduct due diligence on the FSP and its portfolio to assess: (i) the FSP's existing environmental and social policies and procedures and its capacity to implement them – if gaps exist, highlighting an operational plan to address these (see 12.4), and (ii) environmental and social issues associated with the FSP's existing and likely future portfolio. Given that different processes related to the assessment and selection of project implementation partners can take place on a continuous basis in a project's development and implementation, the project design team should make every effort to include the project implementation partners in its identification and initial assessment of partner FSPs.⁹¹

12.2 Ensure activities being financed through loans by the FSP in the framework of the IFAD-financed project or programme meet IFAD's safeguard policy guidance, comply with applicable national laws and regulations (labour, health, safety, etc.), and the prohibited investment activities list produced by the International Finance Corporation is adhered to.⁹²

12.3 FSPs should have in place or establish an appropriate environmental and social management system (ESMS) commensurate with the nature, scale and risks of the FSP's current and likely future loan portfolio to be maintained as part of the FSP's overall management system, recognizing that the type and operations of

⁹⁰ IFAD only authorizes the inclusion of lines of credit to retail or wholesale financial institutions in its financed projects and programmes if all of the following prerequisites are in-place, which must be supported by a thorough market assessment: (i) the market demonstrates a clear lack of liquidity; (ii) private professional fund managers or institutions, and not the recipient government, manage the line of credit; (iii) loans to retail financial institutions are priced at commercial or near-commercial rates to avoid undermining their incentive to mobilize deposits or access other sources of capital; (iv) partner retail financial institutions are financially sound, independent from political interference and free to charge interest rates that allow cost recovery; (v) partner financial institutions have the capacity to efficiently and transparently absorb and manage the financial resources; (vi) opportunities exist to create linkages with other sources of refinancing that will continue after the project ends; and (vii) accountable reporting and supervision arrangements can be put in place until the line of credit is repaid;

⁹¹ IFAD Decision Tools for Rural Finance : http://www.ifad.org/ruralfinance/dt/full/dt_e_web.pdf

⁹² IFC Exclusion List: <http://www.ifc.org/ifcext/disclosure.nsf/Content/IFCExclusionList>

FSPs vary considerably and in some cases may pose minimal social, environmental and climate risks. An ESMS in a formal FSP should aim to incorporate the following elements: (i) environmental and social policies; (ii) loan screening, categorization, and review procedure; (iii) organizational structure and staffing including skills and competencies in environmental and social areas; (iv) training guidance; and (v) monitoring and reporting.

- 12.4 The Government through its PMU and IFAD will assess the adequacy of the FSP's capacity to manage environment and social impacts and risks related to its loan portfolio. If the FSP is capable the ESMS will be agreed upon between IFAD/government and the FSP on a case by case basis in-line with what is appropriate and feasible in terms of: (i) the scope of application within FSP's loan portfolio, (ii) the average loan size (iii) intended loan use (iv) the nature of standards required by the activities financed by the loan, (v) the FSP's environmental and social due diligence procedures⁹³, (vi) FSP disclosure and reporting guidance, and (vii) the guidance of the monitoring activities put in place by the project or programme (e.g. the use of Performance Based Agreements). Where there are gaps in the FSP's capacity that need to be addressed, the Government through its PMU, IFAD, and the FSP will establish a time-bound plan.

REFERENCES

Guidelines

International Finance Corporation. 2012. *Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

GUIDANCE STATEMENT 13

Physical and Economic Resettlement

INTRODUCTION

1. The purpose of this Note on Physical and Economic Resettlement is to provide guidance to country programme managers (CPMs) and country programme management teams (CPMTs) who are envisaging or dealing with activities or interventions that could imply physical relocation or any change in land use and livelihoods options resulting from an investment supported by IFAD that could negatively impact on some elements of IFAD's target groups and the wider communities where they are found. The document identifies key principles and measures that the Fund should follow in order to minimize potential risks and avoid any possible negative impacts of physical resettlement or economic displacement.

1. PHYSICAL AND ECONOMIC DISPLACEMENT AND IFAD-SUPPORTED INTERVENTIONS

2. Drawing on IFAD policies and on international guidelines and best practices referring to safeguards against involuntary resettlement⁹⁴, this *Note* considers resettlement not only as the physical relocation of people but also as restrictions on or loss of access to means of livelihoods.

3. Specifically, **physical displacement** refers to relocation, loss of residential land, or loss of shelter, while **economic displacement** implies the loss of land, assets, access to assets, income sources, or means of livelihoods⁹⁵.

4. Physical and economic resettlement could be either agreed/negotiated or involuntary: the two settings have very different implications for IFAD. For the purpose of this *Note*, we consider the following definitions:

a. **INVOLUNTARY RESETTLEMENT**: Resettlement is considered **involuntary** when affected people or communities do not have the capacity to refuse it – because the free, prior and informed consent (FPIC) principle is not properly implemented and they do not have power of choice – or their rights to refuse it are over-ridden by national law or are simply denied.

b. **AGREED/NEGOTIATED RESETTLEMENT**: There is **agreed/negotiated** resettlement when, in the respect of the do-no-harm principle and after having properly informed people and gone through the FPIC process⁹⁶, people potentially involved in the

⁹⁴ Such as: the International Finance Corporation's Policy on Environmental and Social Sustainability and its Performance Standard 5: Land Acquisition and Involuntary Resettlement, the Safeguard Policy Statement of the Asian Development Bank; the Draft Environmental and Social Policy, of the European Bank for Reconstruction and Development; the African Development Bank's Integrated Safeguards System – Policy Statement and Operational Safeguards; and the World Bank's Operational Policy on Involuntary Resettlement.

⁹⁵ Asian Development Bank, 2009, Safeguard Policy Statement.

⁹⁶ Please refer to PTA *How-to-do Note on FPIC* – currently under preparation.

resettlement agree on being relocated and/or selling or relinquishing access to assets, against fair and timely compensations for their losses.

Free, Prior and Informed Consent Principle⁹⁷

- **FREE** implies no coercion, intimidation or manipulation.
- **PRIOR** implies consent is sought far enough in advance of any authorization or commencement of activities, and the time requirements of consultation and consensus processes are respected.
- **INFORMED** implies that all information relating to the activity is provided to concerned people and that the information is objective, accurate and presented in a manner or form that is understandable to these people.
- **CONSENT** implies that the concerned people have agreed to the activity that is the subject of the consultation. These people also have the prerogative to withhold consent or to offer it with conditions. Consultation and participation are key elements of a consent-seeking process.

5. **The typology of investment projects and/or situations** in which the Fund could be facing cases of potential resettlement is mostly related to irrigation systems development (construction of canals, small dams and reservoirs) and to rural road, tracks and feeder roads construction⁹⁸. Activities can also be part of agricultural water management projects, irrigation projects – in terms of equitable land sharing – protected land, common property resource activities, and forestry and rangeland projects. These types of projects always aim at benefiting IFAD target groups in the area but some of them may entail the loss of existing land and natural resource rights or livelihoods opportunities of some households or individuals.

6. While IFAD never allocates funds for land acquisition by actors external to its target groups, and does not fund the construction of large infrastructure such as dams or roads, projects and programmes co-funded by IFAD may finance these aspects. In these cases, IFAD needs to ensure that issues of physical resettlement or economic displacement are addressed properly. Hence, situations that may lead to physical resettlement or economic displacement may be found in a range of projects and programmes supported by the Fund. However, these cases may affect a **limited number of people** and they are usually predictable at early design stage and therefore can be addressed during the design process when IFAD has the proper tools and principles to minimize risk, ensure FPIC and avoid being involved in any cases of involuntary resettlement.

2. IFAD PRINCIPLES, POLICIES AND TOOLS AND THEIR IMPLICATIONS FOR RESETTLEMENT OR ECONOMIC DISPLACEMENT

⁹⁷ Adapted from UN Permanent Forum on Indigenous Issues (UNPFII), 2005, Report on the International Workshop on Methodologies Regarding Free, Prior and Informed Consent and Indigenous People

⁹⁸ IFAD's interventions mainly focus on rehabilitation and construction of tertiary roads.

7. IFAD's core mandate is to support the social and economic empowerment of poor rural women and men. As such, it is opposed to any investment that will have a negative impact on its target groups⁹⁹.

8. Should resettlement or economic displacement be envisaged, the **FPIC** and the **do-no-harm principles** – which are two pillars of IFAD's Policy *"Improving Access to Land Tenure Security Policy"* – will be followed at all times and for all its beneficiaries for *"any development intervention that might affect the land access and use rights of communities."*

Adherence to the **"do-no-harm principle"** at all times. A broad range of development interventions, particularly those concerned with agricultural intensification, such as irrigation or technology-based agricultural production, and those focused on afforestation or rangeland management, effectively add value to land. Under such circumstances, there may be the risk that the rural poor, especially women, may lose out to more powerful groups. Projects in these areas must be designed, therefore, in such a way they 'do no harm' to the land tenure interests of the rural poor, especially those of women, indigenous and tribal peoples and other vulnerable groups. Careful measures must always be considered to avoid elite capture or forced displacement of people, and to address conflicting claims.

Adherence to the **principle of free, prior and informed consent**. Before supporting any development intervention that might affect the land access and use rights of communities, IFAD will ensure that their free, prior and informed consent has been solicited through inclusive consultations based on full disclosure of the intent and scope of the activities planned and their implications.

Source: IFAD's Policy *"Improving Access to Land Tenure Security Policy"*

9. Other **IFAD's policies** support and complement these principles, such as the *"Targeting Policy: Reaching the Poor"*, for which *"targeting" refers to a set of purposefully designed, demand-driven and mutually agreed upon actions and measures that ensure, or at least significantly increase the likelihood, that specific groups of people will take advantage of a development initiative. At the same time, these actions and measures aim at preventing disproportionate benefit capture by other groups.*" In the *"Engagement with Indigenous Peoples Policy"*, the FPIC principle is also a pillar, and in the *"Gender Equality and Women's Empowerment Policy"*, women and men should have equal opportunity to participate in, and benefit from, profitable economic activities and equal voice and influence in rural institutions and organizations.

10. During the formulation of RB-COSOPs and the design of projects or programmes, IFAD undertakes to adhere to its policies, strategies and, above all, its core mandate. RB-COSOP formulation and project/programme design is done in a participatory manner involving all key stakeholders. Where relevant, impacts on land and natural resource

⁹⁹ IFAD has been supporting the formulation and implementation of the CFS *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGs)*, the *Principle for Responsible Agricultural Investment (PRAI)*, the *African Land Policy Framework and Guidelines*, including the *Guiding Principles on Large Scale Land-based Investments*, along with other frameworks and guidelines aimed at the social and economic empowerment of poor rural women and men and social and economic equity more generally.

rights and livelihoods options are carefully considered and activities are identified for strengthening these and mitigating against potential negative impacts. This includes addressing issues pertaining to physical resettlement and economic displacement.

11. IFAD's internal mechanisms of **Quality Enhancement (QE) and Quality Assurance (QA)** guarantee that physical and economic resettlement issues – as any other issue linked to the design of a project with potential negative impact on the project target group – are dealt with and solutions are explored and agreed upon.

12. Conditions and terms for IFAD's financial investment, including mitigation measures are included in loan and grant agreements. Through direct joint supervision and implementation support with project/programme implementers, the Fund ensures that these conditions and terms and the overall objectives of its support are adhered to.

13. In this scenario, the **principles** that IFAD will follow are:

- IFAD will avoid or minimize wherever possible any physical or economic resettlement that could negatively impact the affected people; in any case this should be only for a common interest (such as in an irrigation scheme benefitting IFAD's target groups) and based on positive outcomes of FPIC.
- All land and natural resource users with a legitimate claim will be recognized – including people having informal/customary rights.
- No affected person will be left worse off, and preferably should be left in a better position than before, through proper and timely compensation or any other mitigation measures agreed upon.

3. HOW TO DEAL WITH RESETTLEMENT AND ECONOMIC DISPLACEMENT IN IFAD'S PROJECT CYCLE

14. The implications in terms of resources and time needed, will be developed in a plan, regardless of the number of people affected. In fact, while the FPIC and do-no-harm principles are fundamental for any IFAD interventions, different arrangements and procedures may be needed depending on the probability of the resettlement.

15. As indicated in the SECAP, projects and programmes dealing with resettlement or economic displacement could be part of category A or B. Projects envisaging resettlement or economic displacement will be categorised as follows:

- Category A: The probability is high that the programme/project may lead to physical and economic displacement and that such displacement may have significant adverse impacts in terms of resettlement or economic displacement. In these cases a Resettlement Action Plan will be required.
- Category B: The probability is low that the programme/project may lead to physical resettlement and economic displacement.¹⁰⁰ In these cases, the ESMP and Project Design Document will indicate the consultation processes leading to Free Prior and Informed Consent for reaching agreement with those affected and mitigation and

¹⁰⁰ See paragraph 38.

monitoring measures required to ensure that those affected will not be negatively impacted.

16. Decisions over mitigation measure related to resettlement or economic displacement need to be taken at different stages of IFAD project cycle in order to ensure that the principles are respected, and that no resettlement or economic displacement occurs without being properly addressed. The following paragraph indicates, step by step (see image below), which actions and decisions should be taken, while paragraph 3.2 presents the key elements to be taken into consideration when formulating a Resettlement Action Plan.

3.1 IFAD PROJECT CYCLE

Concept note stage

17. Two situations may be considered: a first one in which a land and natural resource use and tenure assessment, including socio-economic aspects, has been carried out at RB-COSOP level and a second one where there is no such land assessment.

18. If the assessment was done in the RB-COSOP, there may elements about risks of resettlement or economic displacement that could be included in the Concept Note (CN). However, this preliminary assessment may not be specific enough to have highlighted this aspect, and therefore some preliminary information should be collected¹⁰¹, as it is in the case where an assessment has not been done at RB-COSOP stage¹⁰².

19. Based on the information collected, the CPMT is able to point out the risk of possible resettlement or economic displacement in the risk section of the CN document, and consequently, recommend a more focused assessment to be carried out in the next step of the project design.

Project design and QE/QA

20. At this stage, the assessment needs to be carried out under the supervision of the CPMT in charge of the design. Based on the analysis, the project / programme could be categorized either as A or B. If categorized as "B" the Project Design Document and associated ESMP will indicate the consultation processes to be followed for reaching agreement with those affected and mitigation and monitoring measures required to ensure that those affected will not be negatively impacted . If categorized as "A", two different documents could be developed, depending on the knowledge of the exact location of resettlement or economic displacement and the specific people expected to be affected. If this information is not available, a Resettlement Action Framework (RAF) will be developed, which will include the key aspects and actions that will be taken into consideration in the resettlement process. In the event this information is available, a Resettlement Action Plan (RAP) will be produced, with more detailed information on the potential relocation and the compensation measures agreed upon with full and effective

¹⁰¹ See "How to address land tenure in IFAD project design", which provides information on how to carry out a land assessment at project design level and a template for Terms of Reference to conduct such assessment. These two tools are part of the Toolkit on Land Tenure, developed by PTA IFAD.

¹⁰² Ibid.

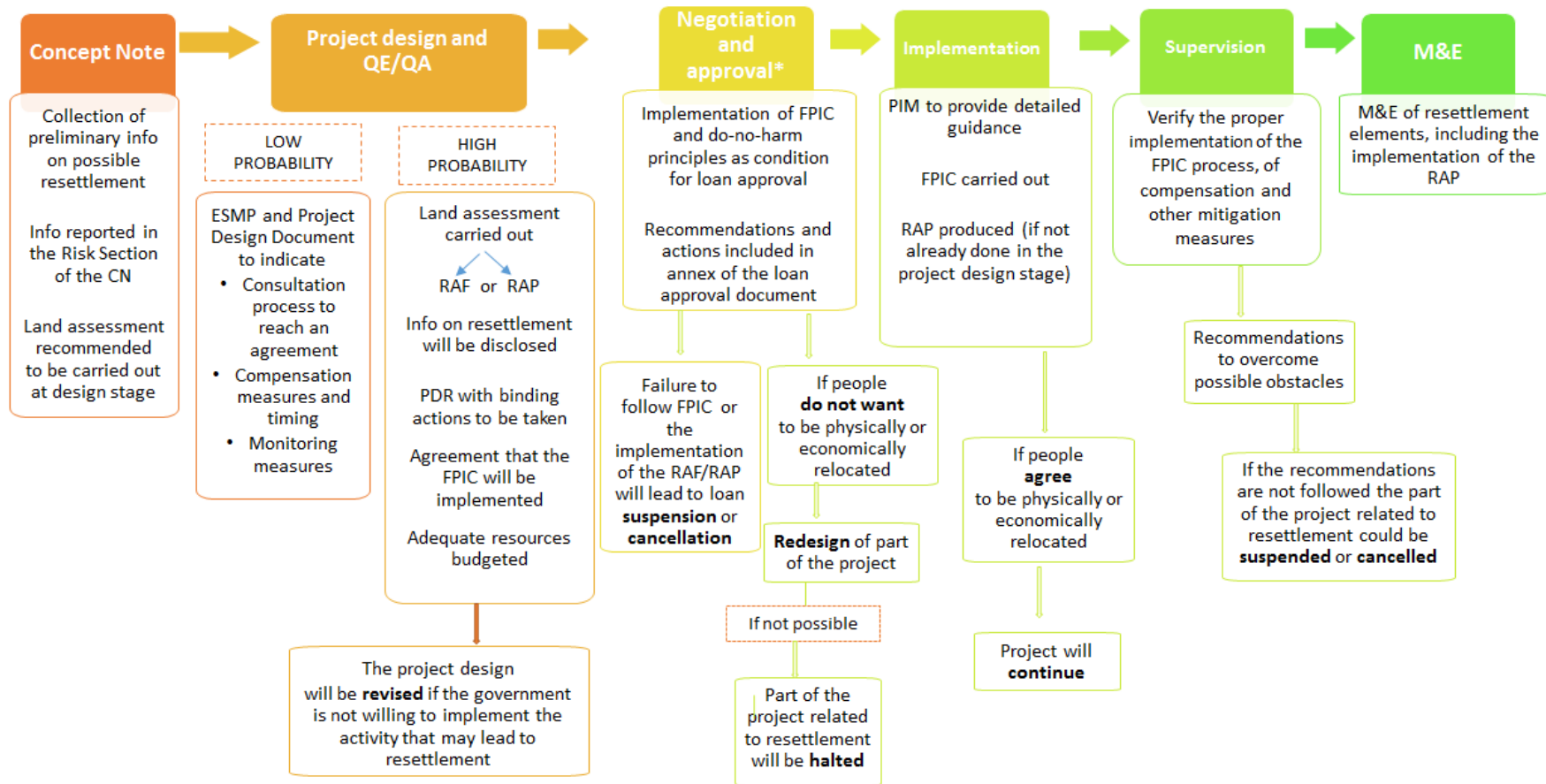
participation of affected people through FPIC process. In both cases, the content of these documents will be disclosed.

21. The Resettlement Action Plan or Framework will have a level of details and comprehensiveness commensurate with the magnitude of potential resettlement impacts and risks. The Project Design Report (PDR) will contain the Resettlement Action Plan or Framework – with the set of binding actions to be taken in order to avoid, mitigate and compensate the affected people as needed. The analysis and the binding actions will be based on the principle that resettlement or economic displacement should be avoided or minimised as much as possible, and that the design should explore all options to do so – including all possibilities of agreements with proper compensation.

22. The suggested binding actions will be tailored to the magnitude of the expected impacts and will be based on the main principles guaranteeing that the targeted people have secure and fair access to land and/or alternative livelihoods. At this project design stage, there will be an agreement that FPIC will be followed¹⁰³.

¹⁰³ FPIC should be seen as an on-going process that carries on after the resettlement action plan is implemented.

ACTIONS TO BE TAKEN DURING THE PROJECT CYCLE



* These conditions will be valid also for grants dealing with physical and economic resettlement

23. Adequate financial resources will be allocated (either as part of IFAD contribution or as government contribution) for the required consultation, sensitization, FPIC, and empowerment process, as well as for the development of a proper compensation and other mitigation plans of the affected people.

24. IFAD will modify the design of the specific activities related to the resettlement if the government refuses to tackle the issues related to such resettlement.

Loan negotiation and approval

25. Agreements that the proper¹⁰⁴ and timely implementation of the RAP or RAF and the FPIC and do-no-harm principles and the establishment of a grievance mechanism will be included in the loan or grant agreement and will be a condition for the loan/grant approval. This condition will be applied to possible resettlement or economic displacement envisaged at design level or that may emerge during implementation. A clear provision will be therefore included in the financing agreement that failure to follow FPIC procedure could lead to loan/grant suspension or cancelation, subject to IFAD's normal suspension and cancelation procedures.

26. The recommendations and actions to be taken in relation to the resettlement or economic displacement (e.g. fair and prompt compensation) will be included as an annex in the loan approval document.

27. All these provisions will be valid and implemented also in the case of grants dealing with physical and economic resettlement.

Implementation

28. The Project Implementation Manual (PIM) will provide detailed guidance on how to proceed to implement the binding recommendations contained in the PDR.

29. The FPIC process will be carried out by the project/programme implementing agency or a suitable service provider identified by the implementing agency.

30. If not produced at design level – i.e., if the programme/project is proceeding on the basis of a Resettlement Action Framework -- the Resettlement Action Plan (including a section on the FPIC process and how the FPIC will be documented) will need to be developed – somewhere between inception and before IFAD's investment becomes effective – based on the more detailed information available at this stage on the exact project sites and the involved communities.

31. In case a private sector is involved in the activity leading to physical resettlement or economic displacement, it may be legally required to pre-finance an Environment and Social Impact Assessment (ESIA) and associated RAP and may be expected to contribute to the implementation of the plan. The design of the RAP (and the calculation of the compensation) should be done by an independent service provider appointed by the company.

32. No physical activity will begin until resettlement and compensation have been accomplished. In the case where, after a thorough sensitization and consultation process, the affected people with a legitimate grievance do not agree to the compensation and

¹⁰⁴ Following PTA *How-to-do Note on FPIC*.

other mitigation measures associated with their resettlement or economic displacement, the project implementers, in consultation with IFAD, will modify the activities of project or programme specifically related to the resettlement, in line with its overall objectives, in order to explore alternative options and solutions. In case no agreement is reached, the project implementers will halt the specific interventions associated with the affected people.

33. If the project is co-funded by other donors, it is expected that there will be an agreement on the compensation and mitigation measures in line with IFAD's policies and guidelines and that the compensation and other mitigation measures should be addressed in concert with them. This collaboration should be transparent in sticking to agreed criteria that must be established at the beginning of the collaboration and formally agreed by the government and the other (private) partners. If these criteria are not met, IFAD will stop disbursing as a mean to support its beneficiaries whose agreed rights and needs are not respected. In this light, IFAD can use the 'go-and-then-stop manoeuvre'.

34. Where a situation of resettlement or economic displacement arises during the implementation of the project/programme that was not anticipated during design, the implementers and IFAD will ensure that a consultation and negotiation process is undertaken with the potentially affected people, according to the FPIC and do-no-harm principles. In case no agreement is reached, the project implementers will modify the specific interventions associated with the affected people, or halt them if changes are not possible. In the case where project/programme implementers fail to undertake a consultation and negotiation process with the affected people, according to the FPIC and do-no-harm principles, the conditions and terms of the loan or grant agreement could be considered to be breached and the loan could be suspended, following IFAD's normal procedures for loan suspension.

Supervision

35. IFAD, through its direct supervision and mid-term review of the activities, will verify the proper implementation of the FPIC process and implementation of compensation and other mitigation actions called for in the RAP. Recommendations should be made on how to proceed if obstacles impede such implementation. If these are not followed, IFAD could initiate processes for loan/grant suspension or cancellation. IFAD will also verify progress in the implementation of the binding actions (their status, progress, etc.) and actions/recommendations should be made on how to proceed if obstacles impede them.

Monitoring and Evaluation

36. Elements of the resettlement will be included in the M&E process, such as compensation and livelihood restoration mechanisms that should be monitored and properly documented. Grievance mechanisms should also be evaluated. A programme or project is not considered completed until the RAP has been fully and successfully implemented. The ex-post facto environmental and social impact assessment to be done at completion of programmes and projects will confirm that the RAP has been fully and successfully implemented.

3.2 KEY ELEMENTS OF PHYSICAL AND ECONOMIC RESETTLEMENT TO BE CONSIDERED IN RESETTLEMENT ACTION PLAN

37. In following its principles and implementing its activities, IFAD should take into considerations several key elements related to potential physical or economic displacement as resettlement is complex and sensitive issues, which, if not properly managed, can lead **to several of risks for the affected people**¹⁰⁵. These elements need to be part of a compensation and mitigation plan – a **Resettlement Action Plan (RAP)**¹⁰⁶ – and associated project programme activities, as outcome of the FPIC process. Affected people are given the opportunity to participate in the preparation, implementation, and monitoring of RAPs.

38. Key is the **identification of the potentially affected people** and to identify at what stage of the project this identification can be done (at design or implementation level). Assessment studies and baseline surveys need to be carried out prior to any major investment in order to identify potentially displaced people's entitlements and eligibility. A well-defined **cut-off date** needs to be set and respected. In this identification, all the various relevant actors will be involved (e.g. implementing agencies, local government units, traditional authorities, communities). All land and natural resource users will be recognized - holders of formal title, people having informal/customary or traditional use rights, and occupants or users with no recognized rights and an **assessment of the losses** by the various users will be done. Groups that may be particularly vulnerable to adverse impacts of resettlement, such as female-headed households, the elderly, or persons with physical or mental disabilities, must be identified and given appropriate special consideration.

39. Based on such an assessment, a **fair and timely compensation plan and other mitigation measures** will be defined and agreed upon with the affected people and put in place – to respect the do-no-harm and FPIC principle. Different types of compensation and mitigation measures will be taken into consideration (cash, land, jobs, houses, in kind compensation, alternative livelihoods options, land and natural resource conservation measures, etc.) depending on the context, the nature of the right or use or occupancy, the type of losses and the purpose of the resettlement or economic displacement. Following international best practice, in-kind compensation should be preferred. Where possible, the affected people should be given a priority opportunity to participate in project/programme being implemented or in another project or programme.

40. Compensation measures will need a careful assessment of the socio-economic and cultural characteristics of the affected people and potential receiving or **“host” communities** that may be expected to provide a resettlement site or access to alternative land, natural resources or livelihood options, in order to avoid negative impacts on them and conflicts with resettled or economically displaced people.

41. To define a fair compensation, two aspects will need to be considered: how the compensation will be calculated (i.e. the **formula** used) and how the different parts of

¹⁰⁵ Specifically landlessness, joblessness, homelessness, marginalization, food insecurity, increased morbidity and mortality, loss of access to common property and services and social disarticulation (The Economics of Involuntary Resettlement – Questions and Challenges, Michael M. Cernea, World Bank, 1999).

¹⁰⁶ See annex 1 for an outline of the RAP.

the formula (e.g. loss of houses, loss of access to land, tangible and intangible heritage - cultural, spiritual etc.) will be **evaluated** (considering not only the quantity, but also the quality of the losses). The evaluation should be done by an external and independent entity. The definition of the compensation will take into consideration the legislative norms of the country, but where IFAD's and national principles differ, the one more favorable to the affected people will take precedence¹⁰⁷. However, IFAD will ensure at design stage, and verify during implementation, that such compensation and other mitigation measures are fair, based on the principle that no one should be left worse off. In other words, compensation must allow for replacement of the lost assets. Issues of under-compensation, inflation and speculation will be monitored and avoided.

42. All the **affected people** will be compensated, based on the loss they face. Even if IFAD will endeavour not to move people from one community to another one, should the case arise, the hosting community will receive support in order to include the new comers within its socio-economic and cultural structure. This support could take the form of new infrastructures (e.g. schools, roads, etc.), new job opportunities, cash, etc.

43. Compensation and other mitigation measures will be provided in a **timely manner** to all those concerned. Depending on the form of compensation selected, the compensation could be done in one instalment, or in more than one, spread during the resettlement process and/or the life of the project.

44. In case of compensation in cash, attention will be paid to the **involvement of the whole community and household** in the acceptance and investment decisions of such agreed upon compensation. Complementary capacity building and empowerment measures should be included to enable community and household members to be involved in the decision-making process.

45. When the compensation cannot be tackled within the community with its own resources will be provided by the State and/or local bodies. However, **complementary resources** could be provided by the private sector or other actors, when these directly benefit from the project.

46. In addition to compensation, **relocation assistance** will be provided by the State, and if appropriate and agreed upon, by IFAD.

47. **Grievance mechanisms** will need to be put in place by the State – and IFAD will verify their existence and proper functioning – in order to support and respond to the needs and requests of those involved in the resettlement process (resettled people and hosting communities). Where the national grievance process has gaps, additional grievance provisions will be included in the RAP, which should describe the process to be followed by affected communities.

48. The Resettlement Action Plan will set a clear **time frame** for the compensation to take place, and the **roles and responsibilities** of the State and all the actors involved in the resettlement, including IFAD.

49. The project/programme implementers and IFAD will establish a clear, consistent and transparent **communication with external actors**, such as the media, farmers' organizations, indigenous peoples' organizations, and other civil society organizations. It

¹⁰⁷ IFAD will follow the practice of the other MFIs in making sure that valuation is at replacement costs.

is important to carefully explain the purpose of IFAD's participation, role and perspective in the project/programme. IFAD and its co-financing institutions will need to be consistent and transparent in making joint statements to the press.

50. Throughout the process of identification, planning, implementation and evaluation of the various elements of resettlement or economic displacement and their impacts, adequate attention will be paid to **gender concerns**: specific measures addressing the need of female headed households, gender-inclusive consultation, information disclosure, and grievance mechanisms will be put in place in order to ensure that women and men will receive adequate and appropriate compensation for their losses and to restore and possibly improve their living standards.

REFERENCES

Guidelines

International Finance Corporation. 2012. *Performance Standard 5: Land Acquisition and Involuntary Resettlement*. Washington DC: IFC. Available at:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps

Annex 1: Outline of the Resettlement Action Plan¹⁰⁸

Terms and definitions

Executive summary

1. Description of the project
2. Potential impacts of the resettlement and minimization mechanisms
3. Objectives of the resettlement plan
4. Census and socioeconomic studies
5. Legal and institutional frameworks - including mechanisms for conflicts resolution and appeals
6. Eligibility determination
7. Implementation of the FPIC process
8. Valuation of and compensation for losses for livelihoods restoration and improvements

¹⁰⁸ Based on the respective WB, ADB and AfDB Resettlement Plan Outlines.

9. Resettlement measures

- a) Site selection, site preparation, and relocation
- b) Housing, infrastructure, and social services
- c) Integration with host population
- d) Community participation

10. Environmental protection and management

11. Organizational responsibilities

12. Implementation schedule

13. Costs and budget

14. Monitoring, evaluation and reporting