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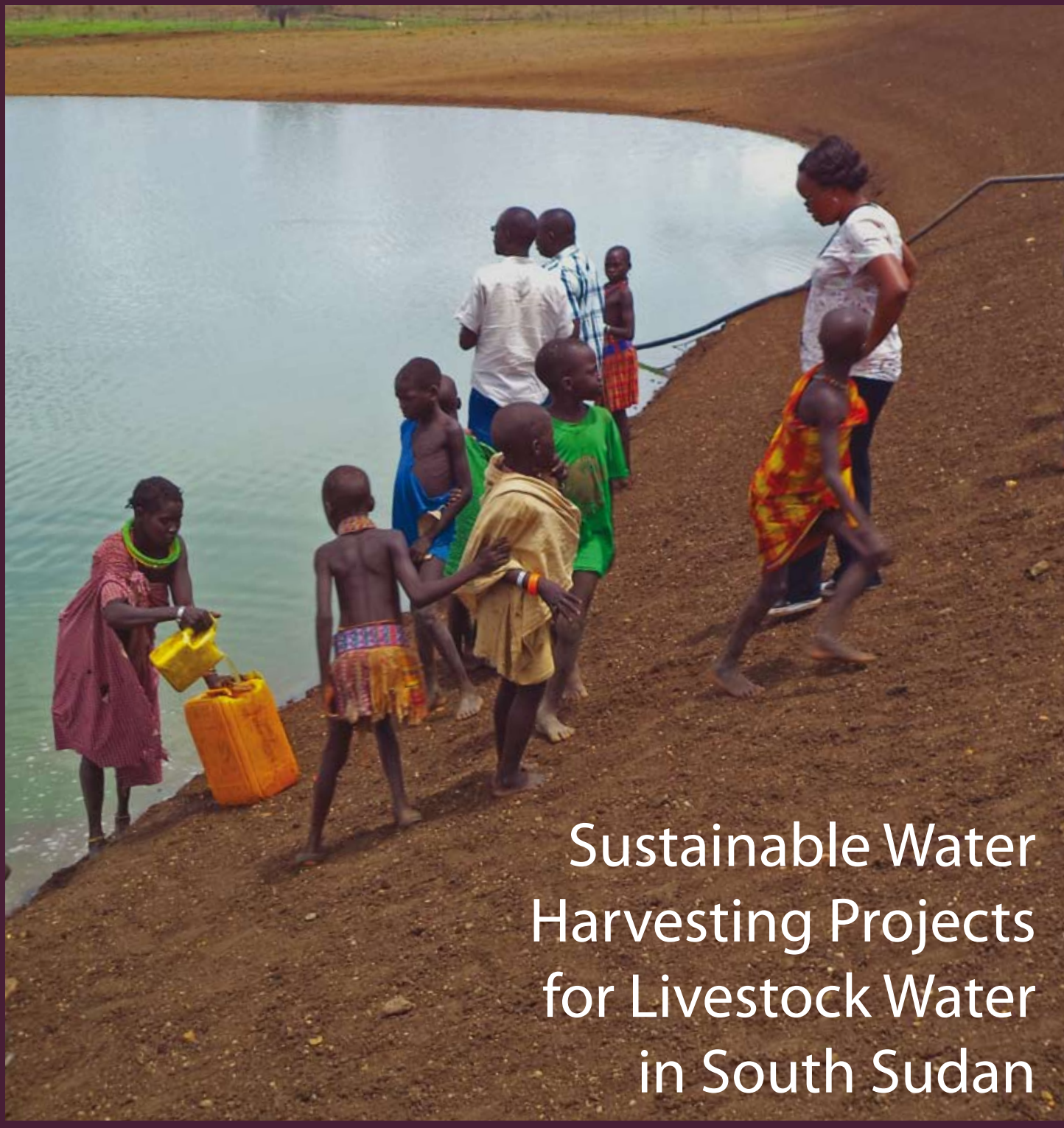

Sustainable Water Harvesting Projects for Livestock Water in South Sudan

Guidelines on Environmental and Socio-Economic Assessment (ESEA)

Food and Agriculture Organization of the United Nations

UNEP

PBSO
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Acronyms and abbreviations

CB . . . . . Community-based
CEAP . . . . . Community Environmental Action Planning management
CIDA. . . . . Canadian International Development Agency
DRR . . . . . Disaster Risk Reduction
EA. . . . . Environmental Assessment
EIA . . . . . Environmental Impact Assessment
ESEA . . . . . Environmental and Socioeconomic Assessment
ESMF . . . . . Environmental and Social Management Framework
FAO . . . . . Food and Agriculture Organization of the United Nations
IA . . . . . Impact Assessment
SWOT . . . . . Strengths, Weaknesses, Opportunities and Threats
IAIA. . . . . International Association for Impact Assessment
IUCN. . . . . International Union for Conservation of Nature
NGO. . . . . Non-Governmental Organisation
NRM . . . . . Natural Resource Management
OECD. . . . . Organisation for Economic Co-operation and Development
PAR. . . . . Participatory Action Research
PESEA . . . . . Preliminary Environmental and Socioeconomic Assessment
UN . . . . . United Nations
UNDESA . . . . . UN Department of Economic and Social Affairs
UNEP . . . . . United Nations Environment Programme
UNHCR . . . . . United Nations High Commissioner for Refugees
UNU . . . . . United Nations University
WCED. . . . . World Commission on Environment and Development
WH . . . . . Water Harvesting

1 Introduction

1.1 Rationale and purpose of the guidelines

Water harvesting (WH) projects do not depend on good engineering and technology alone. Environmental impacts and socioeconomic considerations are equally important, and need to be addressed through the entire process of development interventions.

An environmental evaluation of a widespread WH pond construction program in Ethiopia, for instance, found that little attention was paid to the environmental consequences. As a result, the construction of ponds in susceptible areas increased incidences of malaria (Landell Mills 2004).

Likewise, socioeconomic issues need attention when introducing any WH system into a community. For example, people in drier environments have developed their own priorities for sustaining their livelihoods through centuries of surviving under the harsh environmental conditions. It would be important therefore to take adequate consideration of their values, perceptions, attitudes, and preferences rather than trying to impose prescribed solutions on them.

These guidelines build on experience and techniques from across the Sub-Saharan region and are an extension of the first stage of this project, as reported in the 2014 *Preliminary Environmental and Socioeconomic Assessment (PESEA) of Selected Water Harvesting Structures in South Sudan*, a joint initiative of the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP). Providing WH structures (for example, haffirs, artificial ponds to store rainwater) can improve the livelihoods of pastoral communities that face the challenges of a marginal environment with highly variable rainfall. However, appropriate socioeconomic and environmental considerations are needed in their planning, construction, and operational phases in order to avoid undesirable consequences that may undermine social stability or environmental sustainability.

Some well-intended WH projects have exacerbated rather than mitigated risks for pastoralists. To prevent this, one of the main challenges is to adapt to the seasonality and variability inherent in pastoralist production systems. If, for example, a series of water points are built to enhance wet-season grazing, an unintended impact might be that the water leads to concentration of livestock populations and overgrazing, which would undermine the availability of other natural resources. The negative social and environmental impacts would affect different livelihood groups in different ways.

It is vital therefore that any development initiative be based on adequate understanding of such dynamics, including conflict dynamics and their links to competing uses of natural resources. Acquiring relevant information on the potentials, capacities, and functions of natural systems together with the prevailing cultural characteristics, livelihoods, and attitudes of affected people are among the vital socioeconomic and environmental aspects that constitute effective planning to ensure sustainable interventions.

These guidelines provide the essential environmental and socioeconomic assessment tools that planners and practitioners need to identify and integrate environmental and socioeconomic considerations into their development plans and implementation of WH projects. The latter might include a diversity of WH systems such as haffirs, other types of excavated ponds, or earthen microdams for livestock watering and other purposes. In short, users of these guidelines will be able to:

- Identify the most important environmental and socioeconomic aspects that need consideration in the planning and implementation of WH systems;
- Articulate general and specific constraints resulting from inadequate consideration of environmental and socioeconomic factors;
- Augment their existing conceptual knowledge and practical skills in environmental and socioeconomic dimensions to effectively facilitate participatory planning and implementation of WH systems in a manner that ensures sustainable development (i.e., socially acceptable, environmentally sound, and economically viable and equitable.

1.2 The guidelines' scope, target users, and approach

These guidelines focus on the environmental and socioeconomic assessment (ESEA) of WH structures for livestock in general and specifically on excavated open ponds, including haffirs. These are surface water storage facilities, which constitute a subgroup under macro-catchment water harvesting systems.

The information contained in these guidelines can serve technical managers and professionals involved with the planning of projects and preparation of technical designs for haffir construction initiatives in South Sudan. These professionals could be engineers, environmentalists, or social scientists with government agencies and development partners in the country who are in a position to implement these guidelines and design environmentally and socioeconomically sound WH projects.

The guidelines provide users with a useful and practical approach to carry out an ESEA of a WH project. The uniqueness of the ESEA process encouraged in these guidelines, compared to a conventional environmental assessment (EA), is its community-based and participatory nature, allowing an integrative and holistic approach to the entire course of action in the process. This approach to an ESEA, as practiced in many East African countries, has proven to be a beneficial tool for addressing social, economic, and environmental or ecological issues concurrently. The added component is called community environmental action planning (CEAP) and has become known for its empowering of affected communities right from the beginning of the EA process. The conceptual basis and practical

1.3 Structure of the guidelines

The ESEA guidelines are laid out in the following manner:

1. Section 1 provides introductory notes about the guidelines about their purpose, scope, intended users, and structure.

2. Section 2 provides an overview of the conditions of existing WH structures in South Sudan, including the key findings of the *Preliminary Environmental and Socio-Economic Assessment (PESEA) of Selected Water Harvesting Structures in South Sudan* and requirements for sustainable WH projects.

3. In Section 3 users will find an overview of concepts, practical issues, and alternative approaches to ESEA. It provides essential aspects of ESEA, including definitions and major elements, challenges and limitations with their applications of the conventional EA approach, and available options for implementation of ESEA and other environmental management functions.

4. Section 4 is devoted to introducing an emerging participatory ESEA approach and process—Community Environmental Action Planning (CEAP). This section presents concepts and practices of CEAP with an overview of its background, application process, principles, and values. It describes the tools used for conducting CEAP and other participatory appraisal techniques when undertaking ESEA, as well as steps in developing participatory environmental action plans with community members' direct involvement. This section also links the CEAP approach and process to the preparation of the ESEA report