



IEG
INDEPENDENT
EVALUATION GROUP

WORLD BANK GROUP
World Bank • IFC • MIGA

PROJECT PERFORMANCE ASSESSMENT REPORT



ETHIOPIA, MALI, MOROCCO, SOUTH AFRICA,
TANZANIA, TUNISIA

Africa Stockpiles Program

Report No. 108524

SEPTEMBER 29, 2016

© 2016 International Bank for Reconstruction
and Development / The World Bank
1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

RIGHTS AND PERMISSIONS

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Any queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: pubrights@worldbank.org.

Report No.:108524

PROJECT PERFORMANCE ASSESSMENT REPORT

ETHIOPIA, MALI, MOROCCO, SOUTH AFRICA, TANZANIA, TUNISIA

AFRICA STOCKPILES PROGRAM

September 29, 2016

Currency Equivalents (annual averages)

Currency Unit = Ethiopian birr (Br)	Br = US\$1
Currency Unit = West African CFA franc (CFAF)	CFAF 484.91 = US\$1
Currency Unit = Moroccan dirham (DH)	DH = US\$1
Currency Unit = South African rand (R)	R = US\$1
Currency Unit = Tanzanian shilling (TSh)	TSh = US\$1
Currency Unit = Tunisian dinar (TD)	TD = US\$1

Abbreviations and Acronyms

APL	Adaptable Program Lending/Loan
ASP	Africa Stockpiles Program
ASP-P1	ASP Country-Specific Project
AVCASA	Association of Veterinary and Crop Associations of South Africa
CESA	Country Environmental and Social Assessment
CIDA	Canadian International Development Agency
DAFF	Department of Agriculture, Forestry and Fisheries
DALY	Disability-Adjusted Life Year
DEA	Department of Environmental Affairs
FAO	Food & Agriculture Organization of the United Nations
GEF	Global Environment Facility
ICR	Implementation Completion and Results Report
IEG	Independent Evaluation Group
IPM	Integrated Pest Management
M&E	Monitoring and Evaluation
NEMC	National Environment Management Council
NEPAD	New Partnership for Africa's Development
NGO	Non Governmental Organisation
ONSSA	Office National de Sécurité Sanitaire des Produits Alimentaires
OP	Operational Policy
PAD	Project Appraisal Document
PAN	Pesticides Action Network
PAN-UK	Pesticides Action Network – United Kingdom
PAN-Africa	Pesticides Action Network – Africa
PCU	Project Coordination Unit
PDO	Project Development Objective
PMU	Project Management Unit
POP	Persistent Organic Pollutant
PPAR	Project Performance Assessment Report
PSMS	Pesticide Stock Management System
TPRI	Tropical Pesticides Research Institute (Tanzania)
WHO	World Health Organization
WWF	World Wildlife Fund

Director-General, Independent Evaluation	:	Ms. Caroline Heider
Director, IEG Financial, Private Sector & Sustainable Development	:	Mr. Marvin Taylor-Dormond
Manager, IEG Sustainable Development	:	Ms. Midori Makino
Task Manager	:	Mr. Stephen Hutton

Contents

Preface.....	vii
Summary	ix
1. Background and Context.....	1
Background	1
Project Context.....	2
2. Objectives and Design, and their Relevance.....	3
Objectives	3
Relevance of Objectives	4
Design	6
Relevance of Design	9
3. Implementation	9
Planned versus Actual Expenditure by Component.....	10
Implementation Experience	11
4. Achievement of the Objectives.....	14
Objective 1: Eliminating inventoried publicly held pesticide stockpiles and associated waste (original target, 100 percent removed)	14
Objective 2: Implementing measures to reduce and prevent future related risks (original target, no new or additional stockpiles)	16
5. Efficiency	19
6. Ratings	20
Outcome	20
Risk to Development Outcome.....	21
Bank Performance.....	22
Borrower Performance.....	24
Monitoring and Evaluation	25
7. Lessons.....	27
References.....	30
Appendix A: Basic Data Sheet	33

This report was prepared by David Colbert (consultant), who assessed the project in May–June 2016. The consultant was supervised by Stephen Hutton (task team leader). The report was peer reviewed by Tadele Tefera and panel reviewed by Chris Nelson. Vibhuti Narang Khanna and Grace Chilambo provided administrative support.

Appendix B: List of Persons Met during Country Missions.....	35
Appendix C: Briefs on Country Missions.....	38
Appendix D: ASP-P1 Project Costs by Component	42
Appendix E: FAO Environmental Management Toolkit for Obsolete Pesticides	43

Tables

Table 2.1. Original and Modified PDO for the Four Countries.....	4
Table 2.2. Country Implementing Agencies	9
Table 3.1. Planned versus Actual Expenditure by Component	11

Principal Ratings

	ICR*	ICR Review*	PPAR
Outcome	Moderately unsatisfactory	Unsatisfactory	Unsatisfactory
Risk to development outcome	Moderate	Non-evaluable	Moderate
Bank performance	Moderately unsatisfactory	Unsatisfactory	Unsatisfactory
Borrower performance	Moderately satisfactory	Moderately unsatisfactory	Moderately Unsatisfactory

* The Implementation Completion and Results (ICR) report is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEG product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

Project	Task Manager/ Leader	Division Chief/ Sector Director	Country Director
Appraisal	Steven Maber, Denis Jordy, Peter Kristensen	Vijay Jagannathan, Mary Barton-Dock	Theodore Ahlers, Mark Tomlinson
Completion	Dinesh Aryal	Magda Lovei	Various

IEG Mission: Improving World Bank Group development results through excellence in independent evaluation.

About this Report

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20-25 percent of the Bank's lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEG peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. The PPAR is also sent to the borrower for review. IEG incorporates both Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: <http://ieg.worldbankgroup.org>).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, and Operational Policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. The efficiency dimension generally is not applied to adjustment operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High, Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Preface

This Project Performance Assessment Report (PPAR) is for the first set of investment projects (ASP-P1) for the Africa Stockpiles Program (ASP), launched in the initial six participating countries: Ethiopia, Mali, Morocco, South Africa, Tanzania, and Tunisia. Nigeria was originally included but dropped out of ASP-P1, with separate financing from the Canadian International Development Agency (CIDA).

The ASP was approved and became effective in September 2005, with the various ASP-P1 country projects following from 2005 to 2007. The ASP-P1 projects were financed with a Global Environment Facility (GEF) grant of \$25 million, which was divided between the two principal implementing agencies – the World Bank (\$21.74 million) and the Food and Agriculture Organization (FAO) (\$3.26 million)—and allocated in various amounts to the participating countries.¹ At project close, \$16.32 million of the Bank’s \$21.74 million and all of the FAO’s \$3.26 million had been disbursed, after project restructuring in four of the six countries and extension of the closing dates in five of them. The ASP closed in May 2013 after a two-year extension; the various ASP-P1 projects closed in 2010 (Morocco), 2012 (Mali, South Africa, Tunisia), and 2013 (Ethiopia, Tanzania).

This PPAR presents findings and conclusions based on a review of the ASP-P1’s Implementation Completion and Results Report (ICR), Project Appraisal Document (PAD), GEF grant agreements and other legal documents, and Bank and country project records where available. In order to gather information directly from country sources, an IEG mission visited three of the countries, Morocco, South Africa, and Tanzania. These countries were selected based on their very diverse outcomes in project implementation—Morocco is considered unsuccessful; South Africa, partially successful (with a high degree of private sector engagement); and Tanzania, successful. The mission met with Bank staff, officials in the relevant government institutions, ASP partners where available, and representatives from the private sector and nongovernmental organizations (NGOs) that participated in the project (see appendix B for a complete list of stakeholders met during the mission). The mission also visited various sites where pesticides had been collected, inventoried, stored and/or shipped for eventual disposal, including the Holfontein Hazardous Waste Landfill in South Africa and the Tropical Pesticides Research Institute (TPRI) in Tanzania (see appendix C for a brief on each country mission). Because the Independent Evaluation Group (IEG) mission was unable to visit all six countries, this PPAR focuses primarily on the details in the three countries visited, but draws broader conclusions on project performance applicable to all six countries.

The contributions of the national consultants who collaborated with the IEG mission (Ms. Carin Bosman in South Africa, Mr. Ignace Mchallo in Tanzania, and Mr. Mohamed Wakrim in Morocco) and all the stakeholders the mission met in the three countries, as well as the insights from the Bank staff interviewed in Washington (Mr. Dinesh Aryal, Mr. Garry Charlier, Mr. Laurent Granier, and Ms. Dahlia Lotayef), have proved invaluable to preparation of this PPAR. The IEG mission also greatly appreciates the administrative and

¹ Ethiopia, US\$2.62 million; Mali, US\$2.55 million; Morocco, US\$4.0 million; South Africa, US\$1.7 million; Tanzania, US\$6.87 million; and Tunisia, US\$4.0 million.

logistical support provided by the Bank country teams, particularly Ms. Faustina Chande in Tanzania.

Following standard IEG procedure, copies of the draft PPAR were shared with relevant government officials in the three countries covered by the field evaluation (Morocco, South Africa, Tanzania), but no comments were received.

Summary

During the second half of the twentieth century, the nations of Africa accumulated large quantities of obsolete pesticides. Among the factors that contributed to this accumulation were donations and purchases of pesticides in excess of requirements, inadequate coordination among and within international aid agencies and domestic commercial interests, international bans on certain pesticide products, inadequate stores and poor stock management, and unsuitable products and packaging. Too often these obsolete pesticide stockpiles were improperly stored and/or located in the vicinity of urban or rural populations and vital public infrastructure, including water supplies, where they presented a serious risk to human and livestock health, ground and surface waters, productive land use, and broader environmental conditions. Some of these obsolete pesticide stocks included persistent organic pollutants (POPs) identified by the Stockholm Convention (UNEP 2001), which can pose serious long-term threats to human health and the environment because of their mobility, toxicity, bioaccumulation potential, and persistence.

The Africa Stockpiles Program (ASP) was the international response to this threat. The ASP was intended to address the human health and environmental risks posed by the accumulation of obsolete pesticides in African countries. The goal was to develop and implement cost-effective and efficient inventory, collection, and disposal operations and to promote activities for the prevention of future pesticide accumulation in selected countries through a new partnership of collaborating international organizations.

The ASP's international partners included (i) the World Bank, which would provide program-level coordination and manage the funds; (ii) the Food and Agriculture Organization of the United Nations (FAO), which would provide the specialized technical expertise; and (iii) the civil society organizations Pesticide Action Network (PAN) in the United Kingdom and Africa (PAN-UK and PAN-Africa, respectively) and the World Wildlife Fund (WWF), which would provide support and services in communications, knowledge management, research, and capacity building for national nongovernmental organizations (NGOs). The pesticide industry, represented by CropLife International, later joined the ASP partnership to provide technical support and additional financing.

The ASP-P1 was launched in September 2005 employing a World Bank adaptable program lending (APL) instrument. It was to be implemented over a four-year period in seven countries: Ethiopia, Mali, Morocco, Nigeria, South Africa, Tanzania, and Tunisia (Nigeria withdrew from the ASP-P1, with separate financing from the Canadian International Development Agency, CIDA). The primary financing instrument for the ASP-P1 was a Global Environment Facility (GEF) grant of \$25 million, divided between the two principal implementing agencies—the World Bank (US\$21.74 million) and the FAO (US\$3.26 million)—with a total program cost estimated at US\$60 million. Additional funds were mobilized by the World Bank through a multi-donor trust fund, the French Global Environment Facility, and bilateral financing from various donor countries.

The objectives of the ASP-P1 were to assist the recipients in: (a) eliminating inventoried, publicly held obsolete pesticide stocks and associated waste and (b) implementing measures to reduce and prevent future related risks. The ASP-P1 would support direct

implementation of the Stockholm Convention on Persistent Organic Pollutants and the associated GEF operational program that aimed to reduce the impact of POPs on the global food chain, pollution of transboundary waters, land, and biodiversity. The project's design encompassed (i) activities to achieve the project's objectives, including cleanup and disposal, measures for prevention of pesticide accumulation, capacity building, and project management and monitoring; (ii) technical and specialized expertise required for implementation, supervision, and monitoring of country-level activities; (iii) knowledge management, awareness-raising, strategic studies, and outreach services; and (iv) project coordination.

The ASP-P1 underwent a long period of preparation, from 2001 to 2005, with surprisingly little in concrete terms (such as implementation arrangements and roles for the partners at the program level, the scope of the obsolete pesticide problem at the country level) to show for it. This extended preparation time was not the result of scoping the extent and nature of the obsolete pesticide stocks in the participating countries, but instead the product of the lengthy partnership-building process at the program level required by the complex implementation arrangements agreed on by the two principal international institutional partners. The core of the problem resided in fundamental differences over leadership of the ASP-P1 and budget allocations for project implementation between the FAO, with its technical expertise and extensive experience with obsolete pesticide disposal in Africa, and the World Bank, with its project management experience and direct access to GEF grant funds.

The ASP-P1 produced a number of outputs that led to the elimination of some pesticide stockpiles, including the inventory and database on pesticide stocks, the Country Environmental and Social Assessment identifying mitigation measures for compliance with environmental and social safeguards, the technological assessment of treatment and/or disposal options, and the implementation of the treatment and/or disposal technology selected. But the ASP-P1 had much less success in achieving the desired outcome. None of the countries succeeded in "eliminating pesticide stockpiles and associated waste" to the extent envisioned in the original objective, and only four of the six countries succeeded in disposing of and/or safeguarding pesticides and associated waste after project restructuring.

The overall project outcome is rated *unsatisfactory*, reflecting the substantial relevance of the ASP-P1's objectives, the modest relevance of its design, and the modest efficacy of development objectives and modest efficiency. From the outset, the ASP-P1 had trouble delivering its outputs, which constituted the sequential building blocks for achieving its outcomes. In the end, the ASP-P1 delivered only modest results, despite the Bank's efforts after the mid-term review to restructure the country projects in four of the six participating countries to enable them to achieve program outcomes. For these reasons, the overall outcome is rated *unsatisfactory*.

In spite of the long preparation time devoted to the ASP-P1, it remained inadequately prepared for effective implementation. Despite numerous preparatory missions and the generation of background information and technical analyses, there was considerable difficulty, stemming from the fundamental differences mentioned above, among the partners in reaching agreement on the ASP-P1's design and implementation arrangements.

The design in the Project Appraisal Document (PAD) for the ASP-P1's monitoring and evaluation (M&E) program had its shortcomings and, in the end, was never implemented, because the partners did not succeed in establishing an effective project coordination unit (PCU). For these reasons, quality at entry is rated *unsatisfactory*. Following the mid-term reviews in 2008 and 2009, and delivery of the recommendations in an associated Bank evaluation in 2010 (World Bank 2010), the Bank team increased its efforts to effectively address the project's implementation delays and increase the likelihood of program success in the participating countries, but even these efforts were not sufficient to overcome the significant implementation problems the country projects had in delivering the outputs necessary to achieve outcomes. For these reasons, Bank supervision is rated *moderately unsatisfactory*. These findings led to a Bank performance rating of *unsatisfactory*.

Borrower performance varied widely across the six participating countries. The performance of the governments was hindered by both the general ASP-P1 design limitations they all faced and by a host of country-specific constraints that challenged implementation in each particular national context. The rating for government performance is *moderately unsatisfactory*.

The performance of the particular implementing agencies in the governments varied markedly. As can be expected, various institutional constraints impeded implementing agency performance. The rating for the performance of these implementing agencies is *moderately satisfactory*. This leads to a borrower performance rating of *moderately unsatisfactory*.

No systematic M&E program was implemented at either the program or the country level, which precluded the utilization of results for either meaningful measurement of implementation progress or modification of project activities to enhance achievement of project outcomes. Therefore, M&E is rated *negligible*.

The ASP-P1 offers a number of lessons that may be instructive for similar environmental cleanup projects, as well as for broader environmental management operations:

- Investments in highly technical environmental cleanup operations often face significant unknowns with respect to the nature and extent of the pollution problem and the available options for remedial actions. They will require a more rigorous preparation process to fully determine the scope of the operation. Preparation of the ASP-P1 failed to fully determine the scope of the obsolete pesticide problem, and thus grossly underestimated both the amount of obsolete pesticides and associated wastes and the funds necessary to address them properly.
- A horizontal adaptable program loan may not add efficiencies in preparation or synergies in implementation if country circumstances are significantly different and if there is little opportunity for intercountry cooperation and coordination. In the ASP-P1, the uniform approach to project preparation, with its standard template for project design, complicated rather than facilitated efficient project preparation, and the desired synergies among the countries in project implementation were never realized because of significant differences in country context.

- Complex international partnership arrangements, such as those in the ASP-P1, can result in conflicts in defining roles and responsibilities, challenges in effective coordination, and confusion in project interventions. The partnership arrangements designed for the ASP-P1 ended up imposing a burden on project implementation rather than delivering the synergies and benefits originally intended.
- In environmental operations involving pollution cleanup, the design needs to ensure a careful balance between immediate remedial actions to address threats to human health and the environment and longer-term preventive measures to ensure that similar pollution problems do not recur. Project design should account for the fact that prevention is a long-term process and is likely to extend well beyond the timeframe of the remediation activities. Pollution cleanup activities dominated the project design and budget in the ASP-1 relative to important activities to prevent future environmental pollution.
- In complex environmental cleanup operations, it may be more effective to employ existing environmentally sound technologies outside the country than to create new capacity for this purpose in-country. In the ASP-P1, the governments of the four countries that disposed of their pesticide stocks decided to utilize high-technology incinerators abroad rather than install such capacity for a limited waste stream in-country.
- Complex regional programs with multiple country projects can fail without focused and sustained supervision by Bank staff. The lack of sustained commitment to the ASP-P1 at the program level and rapid turnover of task team leaders managing supervision of country projects contributed to the highly mixed project outcomes and resulted in widely disparate treatment of the various participating countries.

Marvin Taylor-Dormond
Director, Financial, Private Sector and
Sustainable Development Evaluation
Independent Evaluation Group

1. Background and Context

Background

1.1 During the second half of the twentieth century, the nations of Africa accumulated large quantities of obsolete pesticides.² In most cases, this accumulation occurred as a result of uncoordinated or inappropriate oversupply of these chemicals to national governments by donor agencies, inadequate stock management by government institutions, and discontinued use resulting from international bans on specific pesticides (such as DDT). Too often these obsolete pesticide stockpiles were improperly stored and/or located in the vicinity of urban or rural populations and vital public infrastructure, including water supplies, where they presented a serious risk to human and livestock health, ground and surface waters, productive land use, and broader environmental conditions. Moreover, some of these obsolete pesticide stocks included persistent organic pollutants (POPs)³ identified by the Stockholm Convention on Persistent Organic Pollutants (UNEP 2001), which can pose serious long-term threats to human health and the environment because of their mobility, toxicity, bioaccumulation potential, and persistence. During the country visits, the Independent Evaluation Group (IEG) mission discussed the threats posed by POPs-containing pesticide stocks and highly contaminated soils at former stockpile sites, which exposed adjacent populations to POPs through surface water runoff, leaching into groundwater, food crop uptake, and exposure of domestic animals.

1.2 Prior to the Africa Stockpiles Program (ASP), the Food and Agriculture Organization (FAO), which had worked for decades with African countries on pesticide management issues, had estimated that there were approximately 51,794 tons of publicly held obsolete pesticides stockpiled in Africa.⁴ At the time, most African countries lacked adequate technical, institutional, and financial capacity to properly manage the collection, destruction, and safeguarding of their obsolete pesticide stocks, much less to clean up the contaminated sites left behind. Furthermore, these countries had limited capacity and inadequate financial means to implement sound prevention practices and develop the necessary policy and regulatory framework to avoid the risks posed by future accumulation. Without effective policies limiting importation of pesticides to meet specific agricultural and/or public health needs and promoting sound pest management alternatives (for example, integrated pest management, or IPM), countries could easily return to unnecessary accumulation of pesticide stocks.

² For ASP purposes, pesticides were considered obsolete when they were banned, had deteriorated, or had been damaged, had passed their expiration date, could not be used for any other reason, or were no longer wanted by their owner.

³ Again, for ASP purposes, the POPs identified under the Stockholm Convention include the pesticides aldrin, dieldrin, endrin, chlordane, heptachlor, DDT (dichlorodiphenyltrichloroethane), mirex, hexachlorobenzene, and toxaphene.

⁴ This rough FAO estimate did not include contaminated soils (except for those in Botswana and Mali) and was intended to be refined through the country-specific, detailed inventories planned under the ASP. In the end, the ASP proved that this was a gross underestimate of the amount of pesticide stockpiles in Africa.

1.3 Although several international institutions, including the FAO, and a number of bilateral donors, including Germany, Denmark, the United States, and Canada, had supported initial collection and disposal operations and prevention activities in some of the countries, the national resources dedicated to this issue in most countries remained limited because of other national development priorities, such as agricultural intensification, poverty alleviation, and food security. This situation presented the international community (particularly the international nongovernmental organizations, NGOs, active on pesticides, who took the initiative on the ASP, along with the FAO and the Bank, who joined in the effort) with the opportunity to promote a strategic, programmatic approach to dealing with obsolete pesticides in Africa. And financial support for this approach from the Global Environment Facility (GEF), under its POPs program envelope, provided the basis for developing the ASP.

Project Context

1.4 The ASP then became the collective international response to the pesticide issue in the African countries. Conceived in 2000 as an initiative by the World Wildlife Fund (WWF) and the Pesticide Action Network (PAN) to facilitate implementation of the Stockholm Convention, the ASP turned for its implementation to the FAO, which had gained technical expertise and extensive experience inventorying obsolete pesticide stockpiles since the 1980s, and the World Bank, which was an implementing agency for the GEF, and thus had access to GEF grant financing. Endorsed by the GEF, the ASP was intended to address the human health and environmental risks posed by the accumulation of obsolete pesticides in African countries.

1.5 The goal was to develop and implement cost-effective and efficient inventory, collection, and disposal operations and to promote activities for the prevention of future pesticide accumulation in selected countries through a new partnership of collaborating international organizations. As noted above, the ASP's international partners included (i) the Bank, which would provide program-level coordination and manage the funds; (ii) the FAO, which would provide the specialized technical expertise; and (iii) the civil society organizations PAN in the United Kingdom and in Africa (PAN-UK and PAN-Africa, respectively), and the WWF, which would provide support and services in communications, knowledge management, research, and capacity building for national NGOs. The pesticide industry, represented by CropLife International, later joined the ASP partnership to provide technical support and additional financing.

1.6 In order to remove and safely dispose of the estimated obsolete pesticide stockpiles in Africa, the ASP was expected to require funding of US\$200–250 million. The plan was to implement the ASP as a rolling program through a series of country-specific projects using a 10–15-year programmatic approach, with the ASP-P1 representing the first phase in this series.⁵ The ASP-P1 was launched in September 2005

⁵ Subsequent phases would be developed to continue providing support to the ASP's objectives, drawing on the experiences and lessons learned during Phase 1.

employing a World Bank adaptable program loan (APL) instrument.⁶ It was to be implemented over a four-year period in seven countries: Ethiopia, Mali, Morocco, Nigeria, South Africa, Tanzania, and Tunisia⁷ (as mentioned above, Nigeria withdrew from the ASP-P1, with separate financing from CIDA).⁸ The primary financing instrument for the ASP-P1 was a GEF grant of US\$25 million, divided between the two principal implementing agencies—the World Bank (US\$21.74 million) and the FAO (US\$3.26 million)—with a total program cost estimated at US\$60 million (including funds from donors and other sources). Additional funds were mobilized by the World Bank through a multi-donor trust fund, the French Global Environment Facility, and bilateral financing from various donor countries.⁹ In the end, the total program cost was US\$36.3 million, US\$19.6 million from the GEF grant, and US\$16.7 million from donors and other sources.

2. Objectives and Design, and their Relevance

Objectives

2.1 The ASP-P1’s project development objective (PDO) was “to assist the Recipients in: (a) eliminating inventoried Publicly Held Obsolete Pesticide stocks and Associated Waste and (b) implementing measures to reduce and prevent future related risks.”¹⁰ The statement of objectives in the Project Appraisal Document (PAD) (World Bank 2006) used identical language. Although this PDO was never modified at the program level, it was altered at the country level under a combined level 1 restructuring of the country projects for Ethiopia, South Africa, Tanzania, and Tunisia that occurred in 2011 (June 30, 2011).

2.2 The modified PDO for Ethiopia, Tanzania, and Tunisia added the term “safeguarding” to the first objective, and for Ethiopia and Tanzania replaced the second objective with the language “developing a strategy for sustainable management of future accumulations.” This modification to the PDO adds a practical alternative for safely managing the quantities of “associated waste” identified in these countries and defines an achievable solution for reducing risks from future accumulations. For South Africa, both objectives were replaced with the language “development and piloting of a sustainable

⁶ An APL provides phased support for a long-term development program, involving a series of loans that build on the lessons learned from the previous loan in the series. Progress in each phase of the program is reviewed and evaluated before the subsequent phase can be initiated.

⁷ Africa Stockpiles Program (P092437 – global program and partnership), (P075776 – Project 1 APL South Africa, Tunisia), (P105711 – Project 1 Ethiopia), (P103189 - Project 1 Mali, Morocco, Tanzania).

⁸ Phase 1 also included preparation and prevention measures (but not disposal of stocks) in a further eight countries: Botswana, Cameroon, Côte d’Ivoire, Lesotho, Mozambique, Namibia, Niger, and Swaziland.

⁹ This parallel financing included US\$7.1 million from the multi-donor trust fund, US\$1.8 million from the French Global Environment Facility, and US\$7.2 million from various donor countries (Belgium, Finland, Japan, and the Netherlands).

¹⁰ This objective is defined in schedule 2 of the Global Environment Facility Trust Fund Grant Agreements (December 19, 2006).

system to identify, collect and dispose of obsolete pesticides and associated waste.” This modified language recognizes the particular context in South Africa, where the bulk of obsolete pesticides are not publicly held and where collaboration with the private sector in managing them represents the best practical solution. The modified PDO for all four of these countries is tantamount, in effect, to the original PDO, and thus does not require a split evaluation of the original and the modified PDO.

2.3 Table 2.1 presents the original and modified PDO for the four countries.

Table 2.1. Original and Modified PDO for the Four Countries

<i>Country</i>	<i>Original PDO</i>	<i>Modified PDO</i>
Ethiopia	Eliminating inventoried publicly held obsolete pesticide stocks and associated waste	Eliminating and/or safeguarding inventoried publicly held obsolete pesticide stocks
	Implementing measures to reduce and prevent future related risks	Developing a strategy for sustainable management of future accumulations
South Africa	Eliminating inventoried publicly held obsolete pesticide stocks and associated waste	Development and piloting of a sustainable system to identify, collect, and dispose of obsolete pesticides and associated waste
	Implementing measures to reduce and prevent future related risks	See above
Tanzania	Eliminating inventoried publicly held obsolete pesticide stocks and associated waste	Eliminating and/or safeguarding inventoried publicly held obsolete pesticide stocks
	Implementing measures to reduce and prevent future related risks	Developing a strategy for sustainable management of future accumulations
Tunisia	Eliminating inventoried publicly held obsolete pesticide stocks and associated waste	Eliminating and/or safeguarding inventoried publicly held obsolete pesticide stocks
	Implementing measures to reduce and prevent future related risks	Not modified

2.4 Neither the GEF agreements nor the PAD defined the ASP-P1’s global environmental objective, but the PAD indicated that it would be a “direct implementation of the Stockholm Convention on Persistent Organic Pollutants and the associated GEF Operational Program aiming to reduce the impact of POPs on the global food chain, pollution of transboundary waters, land and biodiversity” (World Bank 2006).

Relevance of Objectives

2.5 The ASP-P1’s objectives remain highly relevant to the national strategies for disposing of existing obsolete pesticide stockpiles and improving management of pesticides in the future in the six participating countries. The commitment of the six countries to these objectives was demonstrated before the ASP-P1 by their ratification and implementation of the Stockholm Convention and the Basel Convention on Trans-Boundary Shipment of Hazardous Waste and their interest in and readiness to collaborate in the ASP-P1.

2.6 The countries had adopted and were implementing their national implementation plans for the elimination of POPs, and several of the countries had already initiated pesticide collection and disposal operations prior to the ASP-P1. In South Africa, for

example, the government and industry had worked together between 1996 and 2000 to collect and dispose of 1,000 tons of obsolete pesticides. In Tanzania, the government of the Netherlands had financed a project in 1995 to collect and dispose of 300 tons of hazardous waste (not only pesticide stocks) from the islands of Zanzibar and Pemba. The Netherlands later financed Tanzania's first national inventory of obsolete pesticides and veterinary wastes in 1997–98. And Morocco had completed an initial inventory of its pesticide stocks in 2002, in anticipation of the ASP-P1. Furthermore, the national development strategies in all of the participating countries addressed issues related to these objectives in the context of promoting public health, ensuring environmental protection, increasing agricultural development, and alleviating poverty.

2.7 The countries showed their continuing commitment to these objectives during and after the ASP-P1 by their adoption of policies, strategies, and legislation for improving the management of pesticides to reduce and prevent accumulations of pesticide stocks and associated future risks to human health and the environment. The countries recognized the risks posed by new accumulations of pesticide stocks as a result of increased agricultural intensification and continuing efforts to combat food insecurity. South Africa, for example, promulgated a new national pesticide management policy in 2010. Tanzania, with technical support from the ASP-P1, prepared a strategy for managing pesticide accumulations based on a detailed “Roadmap for Sustainable Pesticide Management in Tanzania” (Tanzania 2013b) and drafted legislation (a Plant Protection Act and a Pesticide Management Act) to strengthen its legal/regulatory framework. Similarly, Morocco took steps to strengthen its legal/regulatory framework by adopting the Law on Waste Management in 2006, with implementing regulations in 2007, becoming party to the Rotterdam Convention in 2011, and promulgating a new Decree on Hazardous Wastes in 2015.

2.8 Granting the relevance of these objectives in the context of the six participating countries, it is worth examining the relevance of the wording of the objectives themselves in clearly defining the scope of the ASP projects. The focus on pesticide stocks, the primary source of POPs in these countries, is certainly warranted, given the ASP's global environment objective of supporting implementation of the Stockholm Convention with respect to elimination of POPs. And the initial focus on “publicly held” stocks would appear justified, since most of the pesticide imports, stores, and stockpiles were under government control in these countries, rather than in the hands of the private sector (with the important exception of South Africa, where most were privately held).

2.9 The original language of the objectives, which called for “eliminating” pesticide stocks and associated waste and measures to “prevent future related risks,” unnecessarily restricted the use of practical alternatives to reaching these goals, as noted above, such as “safeguarding” associated waste and “developing a strategy” for managing future accumulations.¹¹ This was corrected by the decision to modify the original language in four of the countries to permit “safeguarding” stocks and associated waste, where

¹¹ The term “eliminate” may have been taken from the Stockholm Convention itself, which requires parties to the convention to take measures to “eliminate the production and use of the chemicals listed under appendix A” (which includes all of the pesticides mentioned here, except DDT).

appropriate, “developing a strategy” for properly managing future accumulations, and establishing a “sustainable system” for managing pesticide stockpiles and waste.

2.10 While the ASP-P1’s objectives are not specifically referenced in the Bank’s country partnership strategies for these countries, they are consistent with the emphasis on sustainable development in the strategies. They are also in line with the Bank’s higher-level objective of supporting implementation of international agreements on pollution control. Furthermore, these objectives were consistent with the Bank’s 2001 environment strategy (World Bank 2001), in effect at the time of Board approval (2005), which recognized the health and environmental risks posed by pesticide residues, and they remain relevant to the Bank’s current environment strategy (World Bank 2012), which places particular attention on helping countries to address environment-related health issues by supporting the creation of regulatory, economic, and financial incentives to reduce pollution and increase clean production.

2.11 The relevance of objectives is rated **substantial**.

Design

COMPONENTS

2.12 The ASP-P1 had four components: (1) country operations, (2) technical support, (3) cross-cutting activities, and (4) project coordination.

2.13 **Component 1: Country Operations** (expected, GEF, US\$21.74 million; expected total, US\$51.37 million; actual, US\$16.3 million). The program’s principal component encompassed a full range of cleanup, disposal, and prevention activities to achieve the PDO in the participating countries. Subcomponents were: (i) cleanup and disposal, (ii) measures for prevention of pesticide accumulation, (iii) capacity building, and (iv) project management and monitoring.

2.14 **Component 2: Technical Support** (expected, GEF, US\$3.26 million; expected total, US\$4.31 million; actual, US\$3.3 million). This component provided the highly technical and specialized expertise required for implementation, supervision, and monitoring of country-level activities outlined under the first component, including technical advice for the design and delivery of training; production of technical guidelines for cleanup and prevention operations; supervision of specialized contractors; enhancement of health and safety; and oversight of M&E. The technical support also included advice on disposal options that was targeted to specific country and site conditions. The FAO was responsible for maintaining a technical support unit to coordinate delivery of these technical services.¹²

2.15 **Component 3: Cross-cutting Activities** (expected total, US\$2.44 million; actual, not available): This component delivered knowledge management, awareness-raising, strategic studies, and outreach services through a coordinated, multi-country, multi-

¹² The technical support unit provided the participating countries with technical guidelines (for example, FAO 2009a, 2009b, 2011a, and 2011b), Safeguarding Guidelines, and technical manuals (such as the FAO Pesticide Disposal Series).

partner approach. The key subcomponents included outreach, NGO capacity building, knowledge management, and communication. The strategic studies included an evaluation of alternative technologies for the disposal of obsolete pesticides and studies to support better understanding of environmental health risks associated with specific pesticides. The WWF and PAN-UK were responsible for maintaining a cross-cutting activities management entity for delivery of these support services.

2.16 Component 4: Project Coordination (expected total, US\$2.44 million; actual, available): This component was intended to coordinate implementation and monitoring of the ASP-P1 among the various partners. This included developing a fund-raising strategy; reporting to donors; preparing work plans, progress reports, and financial reports; ensuring project monitoring; and designing follow-on projects. The World Bank was initially responsible for supporting a project coordination unit (PCU) until it could be transferred during implementation to an appropriate African organization.

2.17 The ASP-P1 program-level components were not formally revised through any Bank-approved restructuring. However, as noted above, four ASP-P1 country projects underwent a level 1 Board restructuring in 2011 that included modification of project development objectives in each case and revision of components and activities in order to achieve those objectives. After the restructuring, the subcomponent dealing with disposal of obsolete pesticides was revised to include the addition of “safeguarding” as an outcome and to clearly define “associated waste” as an integral part of the stocks to be treated. (In South Africa, the geographical area for this subcomponent was limited to three pilot provinces; in Tunisia, there were no changes to this subcomponent.) The subcomponent dealing with prevention of obsolete pesticide accumulation was revised to: (i) reflect the transition from prevention (zero new accumulation) to reduction of new accumulations (in Tanzania and Tunisia); (ii) integrate the capacity-building subcomponent into the prevention subcomponent to improve pesticide management practices and remove integrated pest management practices where the potential impact was likely to be marginal (in Ethiopia); (ii) add pesticide and container-management strategies as key outputs (in Tanzania). (In South Africa, there were no changes to this subcomponent.) As noted above, the modified PDO and revision of project components in these cases are, in effect, tantamount to the original PDO and project components, and thus do not require a split evaluation of original and modified PDO and components.

IMPLEMENTATION ARRANGEMENTS

2.18 The ASP-P1 was implemented at both the program and the country levels in the participating countries. At the program level (as described in the project components above), implementation was to be based on a PCU (World Bank) and a steering committee, with technical support provided by the technical support unit (FAO) and support for cross-cutting activities (outreach, public awareness raising, strategic studies) provided by the cross-cutting activities management entity (WWF, PAN-UK). These implementation arrangements were based on the complex partnership of the international partners, each with its organizational culture, distinct internal procedures, and requirements. In the end, however, neither the PCU nor the steering committee was

created,¹³ leaving the ASP-P1 without its basic institutional structure for coordinating effective program implementation. This left it to the Bank to assume these responsibilities and exercise these functions, which only exacerbated the underlying tensions between the ASP partners over project management and budget allocations during implementation, particularly between the FAO and the Bank. This breakdown in project coordination among the partners often resulted in substantial delays at the country level.¹⁴

2.19 At the country level, implementation was based on a project management unit (PMU) located in the government's environmental agency (where the GEF focal point is situated) or agricultural ministry (see table 2.2 for the implementing agency in each country), which coordinated closely with the other relevant government institutions (environment, agriculture, health) involved in project implementation. Implementation at the country level was characterized by highly disparate performance across the participating countries, which was often the result of weak institutional capacity, exacerbated by organizational restructuring (as in Morocco) or rivalries between the national institutions implementing project activities (environment versus agriculture), as in South Africa and Tanzania. In many cases, these challenges were compounded by changes in direction resulting from the rapid turnover of Bank task team leaders and by frustration with Bank requirements and procedures, particularly with respect to approvals, procurement, and reporting.¹⁵ In 2010, activities at the program level were terminated when several of the partners, including the FAO, exhausted their resources. However, the ASP-P1 continued to be implemented at the country level in several of the countries.

¹³ The PCU was intended to be housed in the New Partnership for Africa's Development (NEPAD), a technical body of the African Union, which, among other things, promotes sustainable development in agriculture through its Comprehensive Africa Agriculture Development Programme. The NEPAD appeared to be a logical place for the PCU, but it had insufficient capacity to host its functions.

¹⁴ As the Bank's "Independent Evaluation of Design and Initial Implementation of Africa Stockpiles Programme" (World Bank 2010) indicates: "Unclear division of roles and responsibilities has among other things resulted in divergence in the FAO-Bank collaboration, which in return has caused tensions, and has negatively affected the perception of the ASP as a partnership. It has delayed implementation of ASP-P1" (p. 85).

¹⁵ FAO's *Terminal Evaluation of the Technical Support Unit to the Africa Stockpiles Programme* (2014b) concludes "Differences of opinion regarding applicable rules and procedures led to massive delays and sometimes stoppages of work at country level. ... WB rules and procedures seemed not to take account of the specific needs of ASP countries, and also did not seem to do justice to the urgency of some situations" (p. 25).

Table 2.2. Country Implementing Agencies

<i>Country</i>	<i>Implementing agency</i>
Ethiopia	Ministry of Agriculture and Rural Development, Crop Protection Department
Mali	Direction Nationale de l'Assainissement et du Contrôle des Pollutions et des Nuisances
Morocco	Ministère de l'Agriculture, du Développement Rural et des Pêches Maritimes
South Africa	Department of Water and Environmental Affairs
Tanzania	National Environmental Management Council
Tunisia	Agence Nationale de Gestion des Déchets

Relevance of Design

2.20 The ASP-P1 was designed to address the risks of obsolete pesticides by supporting country-specific disposal operations and prevention activities based on establishment of a partnership of the six African countries and their collaborating international partners. These included the two principals, the Bank and the FAO, as well as supporting partners CropLife, PAN-Africa/UK, and the WWF. The ASP's basic design was sound, starting with the pesticide inventory and database activities, the technological assessment of disposal alternatives, the identification of potential adverse environmental impacts to be mitigated in the Country Environmental and Social Assessment (CESA), and so on, to provide the basis for country decision making with respect to collection, storage, and ultimate disposal operations.

2.21 In this sense, the theory of change—moving from these outputs to arrive at project outcomes and beneficial impacts—is valid. The design did not specify the method for disposing of pesticide stocks and associated waste, appropriately leaving that determination to the government and implementing agency in each country. And, in the absence of environmentally acceptable and feasible in-country disposal alternatives, the decision in each case to eliminate the pesticide stocks in Europe was also sound (although this design failed to anticipate the problem posed by the large quantities of associated waste and the costs of shipping and eliminating stocks in overseas incinerators). Finally, the design was correct in balancing the need to address disposal of pesticide accumulations with prevention measures to reduce future risks posed by new accumulations. The ASP-P1's support for awareness-raising activities, improvements to legal/regulatory frameworks, and strategies for sustainable pesticide management provide a sound basis for achieving this objective.

The relevance of design is rated **modest**.

3. Implementation

3.1 The ASP-P1 was long in preparation, from 2001 to 2005, with surprisingly little in concrete terms (implementation arrangements and roles for the partners at the program level, the scope of the obsolete pesticide problem and disposal alternatives available at the country level, and the like) to show for it. The preparation took more than four years, from

GEF eligibility in July 2001, and more than three years from concept note review in July 2002 to approval by the Bank Board in September 2005.

3.2 This extended preparation time was not the result of scoping the extent and nature of the obsolete pesticide stocks in the participating countries, but instead from the lengthy partnership-building process at the program level required by the complex implementation arrangements agreed on by the two principal international institutional partners. At the core, there were fundamental differences over leadership of the ASP-P1 and budget allocations for project implementation between the FAO, with its technical expertise and extensive experience with obsolete pesticide disposal in Africa, and the World Bank, with its operational experience in environmental project management and direct access to GEF grant funds. This partnership-building process included defining each partner's role and responsibilities; clarifying the Bank's legal, fiduciary, and operational requirements for a high-risk regional program; and avoiding conflicts of interest among contracting partners.

3.3 In particular, the collaboration between the two principal partners was jeopardized by institutional rivalries over program leadership and competing interests of the two in accessing GEF funding resources (the Bank's share of the GEF grant was almost seven times that of FAO's). In retrospect, the conflict between these two rivals should have been foreseen and dealt with at the outset. The failure to do so often resulted in confusion at the country level as a result of conflicting directives from the two partners, which created unnecessary delays in implementation. As the Bank's 2010 independent evaluation report noted: "the specialized partners are characterized by deeply embedded organizational cultures, traditions, practices, procedures and interests. Thus, collaboration between agencies is not automatic or easy" (World Bank 2010, p. 84).

3.4 The collaboration between CropLife International and the Bank, in contrast, went more smoothly, but it also involved lengthy negotiations on finding modalities for channeling industry funds directly into the projects. CropLife International resisted the Bank's request that it turn its financing resources over to Bank control. In the end, the necessary agreement between the two on funding arrangements was not finalized prior to Board approval in 2005, so CropLife International's role as a partner in program implementation and anticipated funding commitments were not included in the PAD or the Operational Manual.

Planned versus Actual Expenditure by Component

3.5 The ASP-P1 was financed with a GEF grant of US\$25 million and parallel financing that included US\$7.1 million from the multi-donor trust fund, US\$1.8 million from the French Global Environment Facility, and US\$7.2 million from various donor countries—Belgium, Finland, Japan, and the Netherlands. As indicated in the table of ASP-P1 costs below, at project close (May 31, 2013), aggregated totals of actual/latest estimates of cost by component are not available. However, these costs are available on a country-by-country basis for most of the ASP-P1 countries; these costs are shown in the table in appendix D.

Table 3.1. Planned versus Actual Expenditure by Component

<i>Component</i>	<i>Appraisal estimate (US\$ million)</i>	<i>Actual/latest estimate (US\$ million)</i>	<i>Actual as percentage of appraisal estimate</i>
1. Disposal of obsolete pesticides	51.37	N/A	N/A
2. Prevention of accumulation	4.31	N/A	N/A
3. Capacity building	2.45	N/A	N/A
4. Project management	1.88	N/A	N/A
Total	60.0	N/A	N/A

N/A = Not available.

Implementation Experience

3.6 As noted above, the complex implementation arrangements for the ASP-P1 at the program level resulted in substantial delays at the country level. Among the shortcomings that affected implementation are the following:

- **Basic project governance structures identified in the PAD never became operational.** Neither the PCU, which was intended to coordinate and monitor implementation activities among the partners, nor the steering committee, which was intended to serve an advisory function, was ever established. As a substitute, an implementation committee was created as a forum for partners to oversee program implementation, but it was never formalized, which resulted in a confusing overall governance structure, unclear roles and responsibilities, cumbersome decision-making processes with inconsistent coordination, and the lack of an independent M&E function. This is a significant shortcoming for project implementation that could not be overcome by the Bank, the FAO, or the other ASP partners.
- **Lack of clearly defined roles, responsibilities, and partnership functions significantly affected collaboration among partners and resulted in implementation delays at the country level.** As also noted above, collaboration between the FAO and the Bank was challenging throughout implementation. The unclear roles of the two agencies, and their different organizational cultures and internal procedures and requirements, translated into difficult discussions on even the most routine matters, such as standard document formats for project-related activities. This led to frustrating delays in approvals and no-objections for project actions, and often to conflicting messages being given to participating countries, depending on which organization was in the field. All of this exacerbated the already weak operational and technical capacity of the countries.¹⁶ In 2008, the FAO and the World Bank prepared and agreed on a memo that defined exact roles, responsibilities, and procedures. While this memo improved collaboration between the two entities, disagreements remained.

¹⁶ The IEG mission confirmed the impacts of these delays and conflicting messages in the three countries visited in its discussions with Bank staff in the country offices, government staff in the implementing agencies, and representatives from ASP-P1 partner organizations.

- Institutional challenges within the Bank contributed to implementation delays.** ASP-P1 supervision within the Bank was complicated by the Bank's own regional structure (that is, some of the countries were in the Africa Region, others in the Middle East and North Africa Region), with staff from both Regions involved in supervision. ASP-P1 supervision was headed by a program-level task team leader with full budget authority, one program-level co-task team leader responsible for the three francophone countries, and six co-task team leaders at the country level with no budget authority. During the first three years, this arrangement translated into confusion among Bank staff, ASP-P1 partners, and country PMUs. It also resulted in lengthy Bank review and clearance processes of project-related documents. The program also experienced inexplicably high turnover of Bank task team leaders, resulting in transition periods for handover and, in some cases, abrupt changes in direction. All of these constraints were confirmed to the IEG mission by officials in Morocco, South Africa, and Tanzania. Finally, the Bank's internal administrative systems were not designed for administration of an umbrella program with multiple subprojects in more than one Region. For example, the Bank's budgeting system did not allow tracking all ASP-P1 country projects under one project number, which meant that an aggregate disbursement profile was not possible. This issue with Bank administrative systems resulted in high transaction costs and inaccurate reporting. Efforts undertaken to solve these system-related challenges met with little success.

3.7 In the end, the anticipated advantages of the innovative ASP-P1's design as a multi-country, horizontal APL were largely unrealized—the project was unsuccessful in achieving the expected synergies or other related benefits. The IEG mission learned that, while there were some recognized synergies among the six countries in cross-country collaboration and knowledge sharing, only limited synergies were realized among the ASP-P1's partner institutions (for example, the FAO and CropLife managed collaboration across several of the countries). It is unclear whether there were any real cost savings in project preparation and implementation for the countries (or if they were at the expense of better project preparation), nor is it apparent that there were cost savings in preparation or implementation on the Bank side (the multi-Region, multi-country approach actually ended up increasing transaction costs for the Bank). And, in the end, the burdens imposed on the countries in applying the uniform project design may have outweighed any benefits.

SAFEGUARDS COMPLIANCE

3.8 Because of the potentially significant adverse environmental impacts of handling obsolete pesticides, the ASP-P1 was classified as category A, triggering Operational Policy (OP) 4.01 on Environmental Assessment (requiring a full environmental assessment) and OP 4.09 on Pest Management. A detailed Framework Environmental Assessment looked at the environmental and social impacts and an Environmental and Social Management Framework identified appropriate mitigation measures to address them. An *Environmental and Social Assessment Synthesis Report* (World Bank 2004) was prepared based on these documents, which provided guidance to the ASP-P1 countries on

preparing country-specific safeguard instruments, including CESAs and environmental management plans.

3.9 The IEG mission reviewed the CESA prepared in Tanzania (neither Morocco nor South Africa produced one) and found it to be comprehensive in addressing environmental compliance issues. The mission was unable to review the environmental management plan prepared in South Africa for the pilot collection and disposal operations in Limpopo Province. The IEG mission was assured in all three countries that all pesticide handling activities, including collection (from publicly held and private-sector sources), cleanup, packaging, transport, storage, and disposal, were conducted in compliance with safeguard requirements. The mission found no evidence to the contrary. The ASP-P1 drew on a wealth of experience with similar projects implemented by the FAO in defining methodologies and steps to be taken to ensure full compliance with international standards.

3.10 With respect to pest management, the ASP-P1 did not finance the procurement of pesticides or any other agricultural chemicals, nor did it lead to their increased use. The prevention component was initially designed to reduce reliance on pesticide use by promoting IPM, improving pesticide procurement and management systems, and building capacity to prevent future accumulation of pesticides. To meet the Bank's safeguard requirements for pest management, the program needed to promote IPM, improve pesticide management, and build capacity to address IPM and pesticide management. ASP-P1 provided adequate training to all participating countries on promoting IPM, on adherence to the *International Code of Conduct on Distribution and Use of Pesticides* (FAO 2002), and on using the Pesticide Stock Management System (PSMS) (all countries have access to the system and many have been using it beyond ASP). The project did not include country-specific IPM activities, since they were outside its scope. The activities proposed by ASP-P1 largely met the requirements of the pest management policy.

FINANCIAL MANAGEMENT AND PROCUREMENT

3.11 The Bank supervised the use of the funds under its control—the GEF and multi-donor trust fund grants—through regular missions, review of progress and financial reports, audits, follow-up meetings, and regular contact as needed. With a few exceptions (for example, Morocco), quarterly financial monitoring reports and annual audit reports were prepared by the PMUs and submitted to the Bank's satisfaction. In its supervisory role, the Bank reportedly produced monthly financial reports, which could be accessed by authorized users through the World Bank donor portal or upon request. The IEG evaluator, however, was unable to find these reports in the project portal or obtain them from either officials in the three countries visited or the last task team leader for the ASP-P1.

3.12 Very little procurement took place at the program level; most ASP-P1 procurement activities were carried out by the projects at the country level. These procurements were subject to Bank procurement procedures and required Bank approval in most cases, which invariably resulted in delays in implementation at the country level. The countries the IEG mission visited voiced their frustrations with what they viewed as the unnecessary delays caused by the constraints imposed by Bank procedures. Specifically, they cited the delays in approvals caused by the frequent changes of Bank task team leaders, the lags in pending approvals during the transfer from one task team leader to the next, and the occasional

changes in direction with the new task team leaders. The IEG mission found that the similarities in these complaints in all three countries strongly suggest they are valid. Procurement capacity in the PMU was certainly an issue in most countries, but the delays caused by inactivity during the numerous transition periods resulting from turnover in Bank task team leaders were substantial. The ASP partners each used their own procurement procedures to acquire necessary services and consultancies and to pay for operating costs without any reported problems.

4. Achievement of the Objectives

Objective 1: Eliminating inventoried publicly held pesticide stockpiles and associated waste (original target, 100 percent removed)

OUTPUTS

4.1 A number of outputs were produced under this objective, leading to the elimination of pesticide stockpiles. These included the inventory and database on pesticide stocks, the CESA identifying mitigation measures for compliance with environmental and social safeguards, the technological assessment of treatment and/or disposal options, and implementation of the treatment and/or disposal technology selected. Completion of these outputs varied from country to country.

4.2 **Inventory and database.** The governments in five of the six countries (Ethiopia, Mali, Morocco, Tanzania, and Tunisia) used the *FAO Environmental Management Toolkit for Obsolete Pesticides* (FAO 2009–11) to complete a detailed inventory of obsolete pesticides and create a database, the PSMS, with risk-based prioritization of the stocks (see appendix E for more information on the *FAO Environmental Management Toolkit*). The information obtained by the inventory (such as pesticide type and quantity, general condition of the stocks, location and state of the storage sites) permitted risk-based prioritization of the stocks and provided the governments with the baseline data and knowledge necessary to make informed decisions with respect to collection and disposal of the pesticides. The remaining country, South Africa, had already performed an inventory of its obsolete pesticides and maintained a registry of pesticides containing the relevant information. For these reasons, the government decided not to conduct another inventory or create a new database under the project.

4.3 **Country Environmental and Social Assessment.** The governments in four of the six countries (Ethiopia, Mali, Tanzania, and Tunisia) prepared and implemented CESAs in order to ensure compliance with environmental and social safeguards in the collection, transportation, storage, and disposal of their pesticide stocks. The IEG mission reviewed the CESA prepared in Tanzania (Tanzania 2011b) and found an extremely thorough document that identified the country's high-priority pesticide sites, reviewed the options available for treatment/disposal, and specified necessary preventive actions and mitigation measures to address any adverse environmental or social impacts.

4.4 The remaining two countries, Morocco and South Africa, did not prepare CESAs. In the case of Morocco, the government intended to prepare a CESA and, after much delay, began the search for a contractor to perform the task, but the Bank closed the project

before the government could complete the contracting process. In South Africa, the government decided to forgo the preparation of a CESA for its pilot project and prepare a risk assessment and environmental management plan instead, in order to identify necessary preventive actions and mitigation measures before undertaking collection and disposal of its pesticides in the pilot province. The IEG mission was not able to obtain a copy of the environmental management plan prepared in 2011 for the pilot activity,¹⁷ and thus was unable to review it, but the environmental management plan had been reviewed by two independent reviewers and cleared by the Bank.

4.5 Technological assessment and implementation of treatment/disposal options. The governments in five of the six countries (Ethiopia, Mali, South Africa, Tanzania, and Tunisia) completed a technological assessment of treatment and/or disposal options for eliminating their pesticide stocks. In several cases, the WWF, in its role of providing support for strategic studies under the ASP, performed the technological assessments for the governments. These assessments were performed separately, but their findings were incorporated into the CESA in its overall assessment of environmental and social risks associated with obsolete pesticide disposal. In Tanzania, for example, the WWF performed the technological assessment for the government in 2008, and its findings were reflected in the CESA completed in 2011.

4.6 In every case the technological studies determined that there were no adequate treatment or disposal options available in-country and that elimination of the pesticide stocks in high-technology European incinerators was the only environmentally and technically sound option. Once this decision was made, the governments in four of the countries (Ethiopia, South Africa, Tanzania, and Tunisia) identified and contracted international waste management firms to transport the pesticides to their European destinations and eliminate them in high-temperature incinerators. In contrast, the governments in Mali and Morocco never reached that point. In Mali, a coup d'état during project implementation prevented further implementation progress, so the Bank had to close the project. In Morocco, a series of implementation delays largely caused by reorganization within the Ministry of Agriculture severely hindered project implementation. For example, work on the detailed pesticide inventory began in late 2007 and was completed by mid-2008, but the data were only entered and validated in 2010, the year the project closed. At that point, the consultant for the CESA had been identified but not contracted, and no tender had had been completed for disposal firms. The Bank decided to close the project there. So, by project close, both Mali and Morocco had completed their detailed inventories of obsolete pesticides and established databases, allowing them to set priorities based on risks, but what risk mitigation measures they had taken under the ASP-P1 remained unclear,

OUTCOMES

4.7 Despite the relative success of the countries in delivering the ASP-P1 outputs described above, they had much less success in achieving the desired outcome for this

¹⁷ Environmental Management Plan prepared for collection, storage, transportation and disposal of obsolete pesticides in Limpopo Province, Department of Water and Environmental Affairs, 2011.

objective (100 percent removed). Even after restructuring the projects and extending the closing dates in four of the countries (Ethiopia, South Africa, Tanzania, and Tunisia), the governments did not fully succeed in “eliminating pesticide stockpiles and associated waste” to the extent envisioned in this original objective. This was largely because the project underestimated: (i) the time required to complete the outputs necessary for deciding how to dispose of pesticide stocks (inventory, CESA, technological assessment, contracting of international waste management firm); (ii) the amount of pesticide stocks and associated waste to be eliminated; and (iii) the financial resources needed to eliminate them.

4.8 Tanzania is the only country considered by the Bank to have disposed of all its inventoried, publicly held obsolete pesticides (100 percent), followed by Tunisia (85 percent) and Ethiopia (35 percent). But, this may be an optimistic take on achieving this objective, because, in each of these cases, the bulk of “associated waste” was environmentally safeguarded, not eliminated, and remains in-country. Furthermore, the IEG mission learned in Tanzania that contaminated soils and empty containers at some of the sites remain a threat to public health and the environment in local communities (the mission learned of no remedial measures, such as soil treatment, being taken at these sites). The fourth country, South Africa, did manage to dispose of some of its pesticide stocks in a pilot program in Limpopo Province (33 percent of inventoried stocks), one of three provinces targeted by the government under the project. These pesticides were largely privately held, and their disposal was fully funded by CropLife, not the project. There was no disposal of pesticide stocks under the project in Mali or Morocco.

4.9 In summary, by project close, a total of only 3,164 of the inventoried 8,949 tons of publicly held obsolete pesticides and associated waste were eliminated (at a cost of US\$3,103 per ton) in an environmentally and technologically sound manner. This means that the ASP-P1 had disbursed 75 percent of its GEF resources, but had disposed of only 37 percent (compared with a target of 100 percent) of the inventoried, publicly held obsolete pesticides and associated waste.

4.10 Overall, the efficacy of the project in contributing to achievement of this objective is rated **modest**.

Objective 2: Implementing measures to reduce and prevent future related risks (original target, no new or additional stockpiles)

OUTPUTS

4.11 A number of outputs designed to reduce and prevent future risks from pesticides and pesticide stocks were produced under this objective. These included awareness-raising activities, improvements to the legal/regulatory framework for pesticide management, adoption of a pest/pesticide management strategy, and capacity building in pesticide management.

4.12 **Improvements to the legal/regulatory framework for pesticide management.** Under the project, the governments in all six countries made improvements to their legal/regulatory frameworks dealing with pesticides. The ASP-P1 provided technical assistance to strengthen pesticide regulations and pesticide procurement practices, as well

as production, storage, importation, distribution, and use in the six countries. This included the provision of comprehensive guidance on pesticide regulatory frameworks and strategies for appropriate management and use of pesticides, including information on international best practice and legal requirements. For instance, in Ethiopia, there was a new Pesticide Registration and Control Proclamation to strengthen regulation and control of registration, production, storage, and sale of pesticides in the country. In Mali, Morocco, and Tunisia there were decrees and executive orders adopted on management of pesticides and empty containers. In South Africa, the government amended existing policy to address gaps, and then adopted a new National Pesticide Policy. The government in Tanzania drafted legislation, a Plant Protection Bill and a Pesticide Management Bill, which was approved by the project steering committee and was expected to be adopted by the cabinet. The IEG mission received and reviewed a number of these decrees and draft laws in the three countries visited, but was unable to determine if these legal/regulatory improvements would actually prevent future accumulation of pesticide stocks or reduce their future risks.

4.13 Adoption of pest/pesticide management strategies. Historically, pest management practices for protection of crops, animal, and human health and control of migratory pests have contributed to the accumulation of obsolete pesticide stocks. This resulted from the heavy reliance on pesticides for controlling crop pests and disease vectors (malaria, tick-borne diseases), particularly emergency donations of pesticides to control invasions of migratory pests (locusts, army worms, quele birds).

4.14 The ASP-P1 was instrumental in supporting the adoption of alternative pest management strategies in order to reduce the heavy dependence on pesticides and the resultant accumulation of obsolete stocks. Under the project, the governments of the six countries took different approaches to developing pest/pesticide or IPM strategies. In the end, only Ethiopia, Mali, and Tunisia adopted some form of pest control/pesticide management strategy. In Ethiopia, the government developed and implemented a national pesticide management strategy and crop protection support service for IPM practices; in Mali, this took the form of an empty-container strategy; Tunisia adopted an IPM strategy. In South Africa, the government adopted a national pesticide policy but decided not to prepare an IPM strategy, since the government had not adopted IPM as official policy. In Tanzania and Mali, the governments failed to develop the IPM strategy they had committed to. In Morocco, the government failed to adopt any pesticide or IPM strategy. The IEG mission was not able to obtain or review South Africa's new policy, and thus could not determine how it improved management of pesticide stocks.

4.15 Capacity building in pesticide management. The ASP-P1 offered a range of training opportunities to PMU members and relevant ministry officials in pesticide inventory preparation, PSMS database management, safeguards compliance (CESA and environmental management plan preparation), site decontamination, and pesticide management practices. In addition, PMU staff routinely received training in procurement and financial management. Under the project, the governments of four of the six countries (Ethiopia, Mali, Morocco, and Tunisia) engaged in the capacity building in pesticide

management and IPM provided by the project.¹⁸ The remaining two countries, South Africa and Tanzania, took little advantage of the project’s capacity-building program, but benefited from study tours to countries with pesticide programs of interest. In the case of South Africa, government officials from the Department of Environmental Affairs and Ministry of Agriculture participated in a study tour to Australia (funded by CropLife) to view the public-private partnership established there to address pesticide collection and disposal. In the case of Tanzania, government officials from the Ministry of Agriculture participated in a study tour to Kenya (again, funded by CropLife) to view the development of sustainable solutions for managing obsolete pesticide stocks and empty pesticide containers. The IEG mission found no evidence that the ASP-P1’s capacity-building activities had any beneficial effects on pesticide stock management in the three countries visited. In South Africa, however, the IEG mission learned of potential benefits derived from the study tour to Australia (2008), which provided the impetus for preparation of the Industry Integrated Waste Management Plan (2011).

OUTCOMES

4.16 Unlike the outcome for objective 1, which can be measured in easily quantifiable terms (that is, number of tons of obsolete pesticides eliminated), the outcome for this objective is not readily quantifiable (future risks reduced or prevented by measures implemented to prevent new accumulation of obsolete pesticide stocks). It is not clear that any of the countries are preventing future accumulation of pesticide stocks (the original target of no new or additional stockpiles) or reducing the risks these new accumulations may pose. As noted above, however, the countries have adopted a range of measures to mitigate future accumulation of obsolete pesticide stocks. In Tanzania, for example, the Tropical Pesticides Research Institute (TPRI) has identified measures to improve pesticide registration and limit importation of pesticides to that required to meet specific needs in order to avoid accumulation of unnecessary stocks. The National Environment Management Council (NEMC) has prepared a “sustainability roadmap” to serve as the basis for a strategy to control future accumulations (Tanzania 2013b). But there is no evidence that the TPRI’s measures and the NEMC’s roadmap have been put into practice by the Ministry of Agriculture, much less implemented effectively.

4.17 Similarly, in South Africa, the Industry Integrated Waste Management Plan,¹⁹ the public-private partnership proposed by industry to ensure sustainable management of pesticides and obsolete stocks, has yet to be endorsed by the Department of Environmental Affairs, and thus has not been implemented. Ethiopia introduced a new pesticide proclamation (no. 674/2010; Ethiopia 2010) to promote pesticide registration and control.

¹⁸ An estimated 4,451 governmental and nongovernmental staff received some form of ASP-P1 training in Mali; a total of 31 plant protection agents were trained in Morocco. In South Africa, the PMU staff received training in procurement, financial, and project management. In Tunisia, the ASP-P1 offered eight training courses on improved pesticide management practices; in Tanzania, it provided training on pesticide life cycle management for district plant protection officers and storekeepers. In South Africa and Tanzania, a number of PMU and ministry staff participated in CropLife International–funded study tours to Australia and Kenya, respectively, to learn about a private-public program to identify, collect, and dispose of obsolete pesticides.

¹⁹ Industry Integrated Waste Management Plan, Association of Veterinary and Crops Associations of South Africa, 2011.

The project in Morocco closed before it could make any headway in preventing future accumulation of pesticide stocks, but in 2011, the year following project closure, the FAO implemented a small project examining the life cycle of pesticides that made proposals for technical and regulatory improvements in pesticide management.

4.18 Any measure of the project's contribution to this objective must include an estimate of the efficacy of the outputs discussed above in effecting the outcome. It is likely that the ASP-P1 was somewhat effective, particularly through the NGO activities included in the project, in raising public awareness of the health and environmental hazards of pesticides in the areas where the project intervened, and in encouraging safe pesticide management through the various outreach and capacity-building activities the project promoted across the participating countries. This much was confirmed in the IEG mission's discussions with an NGO active in the ASP NGO network in Tanzania.²⁰ The NGO network's efforts to raise public awareness and promote participatory community monitoring of health and safety standards significantly improved the project's impact. This was documented in a project report prepared by AGENDA in 2013.²¹ Less measurable and thus less likely, however, is the effectiveness of the project's efforts to improve the legal/regulatory frameworks for pesticide management and to promote pesticide management strategies in the participating countries. The response of the six countries in this regard is not encouraging. For this reason, the project's contribution to this objective should not be overstated.

4.19 Overall, the project's contribution to this objective is rated **negligible**.

5. Efficiency

5.1 Rating the efficiency of the ASP-P1 is difficult, because the basic financial and economic data needed to determine such a rating are nonexistent. Because the benefits of reducing the risk to human health and the environment of pesticide contamination are difficult to measure accurately, no economic or financial analysis was performed for the ASP-P1 at appraisal, at either the program or country level. This is unacceptable given the Bank's commitment to producing and reviewing economic and financial analyses before project appraisal. And, increasingly, there are simple methods and tools for approaching the valuation of economic and environmental benefits for environmental projects. For example, the disability-adjusted life year (DALY) developed by the World Health Organization (WHO) can be used in such situations to measure reduced overall disease burden, as expressed in the number of years lost due to ill-health, disability, or early death. The DALY is increasingly used in the field of public health and in health impact assessment. For GEF purposes, the ASP-P1 did perform an incremental cost analysis at

²⁰ In Tanzania, the IEG mission met with representatives from AGENDA, the local NGO that participated in the transnational ASP NGO network and in Tanzania contributed to project outreach, inventory, and collection activities, as well as to the sustainability roadmap and pesticide management training.

²¹ "NGOs Contribution to Sustainability of ASP in Tanzania," ASP (T) Network, AGENDA, March 2013.

the program level to demonstrate the global benefits in addressing the issue of obsolete pesticides (including POPs) in the participating countries.

5.2 In the end, however, efficient use of the ASP-P1's resources could not be accurately determined for several reasons. First, there were no accurate quantitative data available from the ASP-P1 partners on the financial and human resources invested in the program's preparation. The FAO and the other international partners did not calculate the expenditures incurred in preparation of the ASP-P1. Second, there was no M&E system at the program level to track the resources spent by the ASP-P1 partners. Therefore, no accurate cost data are available at an aggregate level. Third, the Bank's own budgeting system made it difficult to adequately capture allocated funds and associated expenditures at an aggregate level in the case of a regional program such as the ASP-P1, with six country subprojects. These expenditures are available, for the most part, on a country-by-country basis, but they vary markedly and do not convey an accurate picture of efficiency on a program level. The efficiency of employing ASP-P1 resources for capacity building and prevention activities is inherently difficult to quantify due to the time lapse between project support and anticipated results. And the benefits of these activities do not readily translate into quantifiable results.

5.3 However, with respect to the efficiency of the pesticide disposal component, there are several points to consider. First, the decision to eliminate the pesticides stocks in existing, high-tech incinerators in Europe rather than find available alternatives (such as landfilling) or build new technological capacity in-country was based on technical—not cost—considerations. The IEG mission found no evidence that cost or efficiency considerations played a role in the decision making about disposal options. Both the concern about the risks of disposing of pesticide stocks in-country (and the accompanying liability issues for the Bank and the other partners) and the lack of adequate capacity for environmentally sound disposal in-country drove the decision to ship the pesticide stocks abroad for incineration. Second, putting this disposal decision aside, there are data on the amounts disposed of and the costs of doing so. At closing, the ASP-P1 had disposed of approximately 3,164 tons of obsolete pesticides and associated waste at a cost of approximately US\$3,103 per ton, slightly lower than the originally anticipated cost of US\$3,400 per ton. This suggests some efficiency gains in the pesticide disposal component of the ASP-P1. Although in the end, the ASP-P1 disbursed 75 percent of its GEF resources but disposed of only 37 percent of its inventoried publicly held obsolete pesticides and associated waste, this is more representative of an efficacy than of an efficiency issue, and can be explained by the initial underestimate of the amounts slated for disposal.

5.4 The efficiency of the project is rated **modest**.

6. Ratings

Outcome

6.1 The relevance of the ASP-P1's objectives was substantial; of its design, modest. The efficacy of the development objectives was modest and negligible; efficiency was modest. From the outset, the ASP-P1 had trouble delivering its outputs, which constituted

the sequential building blocks for achieving its outcomes, in a timely fashion. At mid-term review, the country projects in four of the six participating countries had to be restructured (to allow “safeguarding” of pesticide stocks and associated waste and a “strategy” for sustainable management of future accumulations) in an attempt to enable them to achieve program outcomes.

6.2 In the end, however, none of the countries achieved the original outcomes, and only three of the countries (Ethiopia, Tanzania, and Tunisia) managed to achieve the restructured outcomes. For these reasons, the overall outcome is rated unsatisfactory. In these three countries, it should be noted, the risks to human health and the environment were significantly reduced through disposal of all inventoried obsolete pesticides and effective safeguarding of associated wastes.

6.3 Together, these results lead to an overall outcome rating of **unsatisfactory**.

Risk to Development Outcome

6.4 The risk to the development outcome varies markedly across the six participating countries, and thus must be assessed at the country level.

- **Tunisia:** The risk is rated low, based on the government’s demonstrated commitment and strengthened capacity to continue to sustainably manage and prevent accumulation of obsolete pesticides. With its strengthened legislation and capacity, the government is likely to continue to eliminate pesticide stocks with its own financing.
- **Ethiopia:** The risk is rated low, based on substantially strengthened legislation and national capacity. The government is well positioned to sustainably manage and reduce future accumulations of obsolete pesticides and it has demonstrated its commitment to reducing future related risks by engaging in a similar post-project pesticide risk-reduction program.
- **Tanzania:** The risk is rated moderate, based on an apparent weakening of the government’s commitment to implementing its sustainability roadmap for preventing the accumulation of obsolete pesticides. However, the government’s commitment is further demonstrated by its engagement with a new hazardous waste management project to address the pesticide-contaminated soils remaining in the country.
- **South Africa:** The risk is rated moderate, because the government has demonstrated its commitment and capacity to collaborate with industry to manage pesticides and pesticide waste. However, there remains some uncertainty about the government’s willingness to approve and implement the new industry-drafted Industry Integrated Waste Management Plan establishing a public-private partnership to collect and dispose of pesticide stocks.
- **Mali:** The risk is rated moderate, due to Mali’s post-conflict and transitional situation, its strong focus on agricultural intensification, and the relatively low priority given to obsolete stock elimination in the country’s recovery plans. However, Mali has demonstrated its commitment to addressing pesticide stocks and reducing future risks by engaging in a follow-up GEF project.

- **Morocco:** The risk is rated moderate, due to the government's apparent lack of capacity and resources to eliminate and safeguard pesticide stocks without donor-supported projects. However, the government has demonstrated its commitment and capacity through its post-project disposal of health-related pesticide stocks and its recent engagement in a follow-up GEF project (Morocco 2015c).

6.5 The risk to development outcome is rated **moderate**.

Bank Performance

QUALITY AT ENTRY

6.6 As noted above, the ASP-P1 was long in preparation (more than four years from GEF eligibility in 2001 to Board approval in 2005), and yet it was inadequately prepared for effective implementation upon Board approval. Despite the Bank's numerous preparatory missions and the generation of background information and technical analyses, there was considerable difficulty among the partners in reaching agreement on the ASP-P1's design and implementation arrangements (exacerbated by the Bank's high turnover of ASP task team leaders). This resulted in a program-level PAD that gave insufficient attention to clearly defining the roles and responsibilities of each partner and to specifying the nature of project collaboration in implementation and oversight. IEG's pre-mission discussions with the principal partners in the World Bank, the FAO, and CropLife confirmed this difficulty in clarifying roles and responsibilities at the outset of the program.²² In addition, the design in the PAD for the ASP-P1's M&E program had shortcomings and was never implemented because the partners could not agree on establishing an effective PCU. And, in the end, the PCU was not established, because the New Partnership for Africa (NEPAD), where it was intended to be housed, did not have sufficient capacity to ensure its effective operation.

6.7 The Bank's design for the ASP-P1 at entry included a number of shortcomings that hampered effective implementation of the program from the outset. At the program level, the design did not clearly specify the partnership arrangements or define the roles and responsibilities of the various partners (the two principal partners were apparently unable to agree on these questions), which often resulted in confusion and occasional conflict in project management.

6.8 These shortcomings were compounded at the country level, where the design ended up relying on PADs that were deficient in the critical country-specific details necessary to ensure smooth implementation. The design also applied a uniform approach across the six countries that did not take individual country contexts sufficiently into account (templates designed at the program level were applied to all countries, regardless of context). In South Africa, for example, the government had already performed an inventory of obsolete pesticides and maintained a register of pesticides in the country, so it did not see the need

²² The IEG evaluator met with Bank staff who worked with ASP-P1 based in headquarters (Mr. Dinesh Aryal, Mr. Garry Charlier, Mr. Laurent Granier, and Ms. Dahlia Lotayef). He also interviewed by telephone the FAO technical support unit coordinator (Mr. Mark Davis) and the stewardship director of CropLife International (Mr. Keith Jones). He was unable to reach the appropriate persons at PAN-Africa or WWF.

for these outputs in its project design. Furthermore, at project launch, the bulk of South Africa's pesticides were privately—not publicly— held, because the government, in collaboration with the private sector, had already collected and disposed of most of the publicly held pesticides between 1996 and 2000.

6.9 At the country level, the PADs for the national projects were deficient in critical country-specific details, such as the scope of the obsolete pesticide problem, the potential environmental and social impacts of project interventions, and the technological alternatives available for elimination of pesticide stocks. These fundamental baseline details were a necessary part of project preparation in order to ensure smooth implementation of the project at the country level. This information was equally critical for effective implementation of project M&E, where the lack of country-specific results frameworks impeded implementation of country-level M&E until the frameworks were developed at mid-term review. Finally, it was also apparent that, despite its routine procurement assessments, the Bank did not take steps to strengthen procurement capacity at the outset, which hindered project implementation in all of the countries.

6.10 It is apparent that the country project design was built on insufficient knowledge of the specific conditions in each country—that is, the scope and nature of the problems posed by the pesticide stocks and the disposal options available in-country. The project pesticide inventories necessary to determine the former and an initial technological evaluation to gauge the latter should have been completed during project preparation. This might have avoided the uncertainty with respect to the amount of pesticide stocks to be eliminated and anticipated the difficulties in arranging international disposal operations. Instead, these interventions were carried out during the first years of project implementation. As a result, the project grossly underestimated the amount of pesticides and associated wastes to be dealt with (and thus allocated insufficient budget resources to achieve the desired outcome), as well as the difficulties and delays involved in arranging international disposal.

6.11 Quality at entry is rated **unsatisfactory**.

QUALITY OF SUPERVISION

6.12 The failure to establish a functioning PCU, combined with confusion over the partnership arrangements at the program level, impeded effective implementation of the ASP-P1 during the first three years. It significantly affected project implementation at the country level as well. For example, lengthy discussions between the Bank and the FAO on standard formats and guidelines for the participating countries delayed implementation progress. When the Bank and the FAO failed to agree on establishing an interim PCU as a secretariat, the Bank team undertook a number of the PCU tasks in an attempt to ensure satisfactory implementation.

6.13 Moreover, the Bank's own internal implementation arrangements presented challenges because the ASP-P1 spanned two Bank Regions (Sub-Saharan Africa, and the Middle East and North Africa) and included a program-level task team leader and multiple co-task team leaders, which resulted in unnecessarily lengthy review clearance processes of project-related documents and procurements. Finally, the Bank's internal systems provided challenges for administering an umbrella program with multiple subprojects in

more than one Region, ultimately creating high transaction costs and inconsistent reporting. Efforts undertaken to solve these system-related challenges were ultimately unsuccessful. Another major shortcoming on the Bank's part was in overseeing the M&E during project implementation, as described in more detail under the M&E section below.

6.14 Following the mid-term reviews in 2008 and 2009 (which led to project restructuring in four countries), and delivery of the Bank's *Independent Evaluation of Design and Initial Implementation* in 2010 (which recommended redefining program objectives, streamlining planning and reporting, and introducing activity-based costing and budgeting), the Bank team increased its efforts to effectively address the project's implementation delays and increase the likelihood of program success in the participating countries.

6.15 The Bank's corrective actions included providing increased and more targeted operational and technical support through consultants, extending project closing dates in some cases, and reallocating existing GEF funds to maximize outcomes. The Bank corrected certain project design weaknesses by restructuring the projects of four of the participating countries, which involved revising original targets and better aligning project components and activities with country-specific conditions. But even these efforts did not overcome the significant implementation problems of the country projects in delivering the outputs necessary to achieve outcomes. In the end, only Ethiopia, South Africa, Tanzania, and Tunisia made progress in achieving project outcomes through overseas elimination of obsolete pesticide stocks and effective safeguarding of remaining associated wastes.

6.16 The quality of Bank supervision is rated **moderately unsatisfactory**. Together, these lead to an overall rating of Bank performance of **unsatisfactory**.

Borrower Performance

GOVERNMENT PERFORMANCE

6.17 Borrower performance varied widely across the six participating countries. The performance of the governments was hindered by both general ASP-P1 design limitations they all faced and by a host of country-specific constraints that challenged implementation in a particular national context. The general design limitations included the timeframe for project implementation and the original objectives to be attained. Even though all six governments announced their commitment to the objectives of the ASP-P1 from the outset, few of them demonstrated that commitment by undertaking the necessary project actions in a timely manner, and none of them was able to achieve those original project objectives within the short, four-year timeframe allocated for project implementation. In the end, the only governments that succeeded in achieving any project outcomes were those whose projects had undergone design adjustments in a level 1 Board restructuring in June 2011 (Ethiopia, South Africa, Tanzania, and Tunisia), a restructuring that included more achievable project objectives and an extension of the time for project implementation (in some cases, several extensions).

6.18 Among the country-specific constraints the governments faced were a lack of high-level oversight and political support, inadequate managerial/technical capacity and

insufficient financial resources for project implementation, and disruptive changes in personnel and institutional roles and responsibilities. In the end, the governments of Mali, South Africa, Tanzania, and Tunisia made progress in achieving project outcomes (in Mali, until the coup d'état). Ethiopia suffered poor project management but partially achieved project outcomes, while Morocco underwent major institutional changes during implementation and made little progress in achieving project outcomes.

6.19 Government performance is rated **moderately unsatisfactory**.

IMPLEMENTING AGENCY PERFORMANCE

6.20 Like that of the governments, the performance of the particular implementing agencies in those governments varied markedly. As can be expected, various institutional constraints impeded implementing agency performance. These included delays resulting from weak institutional capacity, lack of and/or high turnover of qualified staff, difficulties with procurement capacity, and the like.

6.21 To take concrete examples from the countries the IEG mission visited, in Morocco, project implementation occurred during a major institutional reorganization of the Ministry of Agriculture, Rural Development and Marine Fisheries, which diverted attention from the ASP-P1 project for some time. Performance was further weakened because the national project coordinator was not dedicated full-time to project management and had routine agency responsibilities to carry out. In South Africa, changes in project leadership within the Department of Environmental Affairs weakened project management at a critical time before project close. After completing collection and disposal of pesticide stocks in Limpopo Province, one of the three targeted provinces, project management failed to request an additional extension of the closing date (even though they had substantial project funds remaining), which might have allowed the department to collect and dispose of inventoried pesticides in the other two provinces targeted. In contrast, in Tanzania, the National Environment Council benefited from strong project leadership and a dedicated staff throughout the life of the project. In all three countries, compliance with Bank procurement requirements represented a major constraint.

6.22 In the end, the implementing agencies in Tanzania and Tunisia substantially achieved project outcomes. In Mali, progress was interrupted by internal conflict, while Ethiopia and South Africa had project management problems and difficulty achieving project outcomes. Finally, Morocco failed to make progress in achieving project outcomes.

6.23 Implementing agency performance is rated **moderately unsatisfactory**. This leads to an overall borrower performance rating of **moderately unsatisfactory**.

Monitoring and Evaluation

6.24 **Design.** The ASP-P1's PAD included the design for a complex system for program-level M&E of ASP-P1 outcomes/results, including key indicators and a project M&E framework with specified institutional arrangements for monitoring responsibilities. This

was included in the ASP-P1's Operational Manual. However, there were discrepancies between the ASP-P1's development objectives and the results framework/monitoring indicators. The formulation of a number of the indicators was vague (for example, "training program is implemented," "no further accumulation of new obsolete pesticide stocks"), which made them a challenge to monitor. And the indicators did not cover all expected outcomes, which left some outcomes unmonitored. This made it difficult to assess program results effectively.

6.25 Moreover, no country-specific M&E systems were developed during project preparation, so there were no country-level results frameworks at the time of project launch. This left the countries with only output indicators linked to the project components to monitor (such as completion of inventory and database, CESA, and the like). Better indicators were adopted during the restructuring of the projects in four of the countries, including: (i) quantity of obsolete pesticides and associated waste disposed of and/or safeguarded, (ii) quantity of contaminated soil disposed of and/or safeguarded, and (iii) strategy for dealing with future stocks of pesticides and associated waste adopted by steering committee.

6.26 **Implementation.** The ASP-P1 lacked systematic monitoring and reporting at the program level throughout implementation, largely due to the failure to establish the PCU, which was expected to coordinate the independent M&E of the program. To compensate for this, the implementation committee attempted to monitor implementation of activities during its regular meetings, and the Bank produced annual consolidated technical and financial reports, which were disseminated to all partners and donors. However, these reports did not include systematic monitoring of implementation progress against the PDO and intermediate outcome indicators; thus, overall progress (including the technical assistance offered by the technical support unit (FAO) and cross-cutting activities implemented by the cross-cutting activities management entity (PAN-UK, WWF) were difficult to assess.

6.27 At the country level, the PMUs operated without an M&E system in place until the mid-term review. The technical support unit provided the PMUs with an M&E tool in 2009, but the PMUs said it was introduced too late and they considered it too complex to be used efficiently. The IEG mission reviewed the *Environmental Management Toolkit for Obsolete Pesticides* (FAO 2009, 2011) and the *Country Guidelines* (from the FAO Pesticide Disposal Series, FAO 2014a) that the FAO produced for and provided to the participating countries in the ASP-P1. The mission found these documents to be clearly written and easily accessible for PMU practitioners dealing with obsolete pesticides. But the mission did not find an M&E tool in these documents, and thus could not determine if that tool was too complex to be employed by the PMUs. It was not until 2011 that a results framework was introduced in the four countries subjected to restructuring, which strengthened the M&E of the projects.

6.28 **Utilization.** The lack of a systematic M&E program at either the program or the country level precluded the utilization of M&E results for either meaningful measurement of implementation progress or modification of project activities to enhance achievement of project outcomes. The lack of effective M&E systems to track progress in achieving

the ASP-P1's objectives represents the most significant failure in implementation of the ASP-P1 program and its country projects.

6.29 Overall, project M&E is rated **negligible**.

7. Lessons

7.1 The ASP-P1 offers a number of lessons that may be instructive for similar environmental cleanup projects, as well as for broader environmental management operations. These include the following.

7.2 Lessons for environmental operations:

- **Investments in highly technical environmental cleanup operations often face significant unknowns with respect to the nature and extent of the pollution problem and the available options for remedial actions. They can require a rigorous preparation process to fully determine the scope of the operation.** Shortcomings in preparation of the ASP-P1, which took more than four years, did not lead to an adequate determination of the scope and budget of the operation's interventions. Preparation of the ASP-P1 failed to fully determine the scope of the obsolete pesticide problem, and thus grossly underestimated both the amount of obsolete pesticides and associated wastes and the funds necessary to deal with them properly.
- **In environmental operations involving pollution cleanup, the design needs to ensure a careful balance between immediate remedial actions to address threats to human health and the environment and longer-term preventive measures to ensure that similar pollution problems do not recur. Project design should account for the fact that prevention is a long-term process and is likely to extend well beyond the timeframe of the remediation activities.** Pollution cleanup activities dominated the project design and budget in the ASP-1 relative to important activities to prevent future environmental pollution. Certainly, the ASP-P1 activities aimed at eliminating the existing pesticide stocks and associated waste were important, but in order to break the cycle of re-accumulation and future risks, it would also be necessary to take appropriate measures, such as controlling imports and limiting the purchase/acquisition of pesticides from abroad to meeting specified needs, to prevent future accumulations and their environmental risks. In the end, as noted in the text, total project financing in most of the ASP-P1 countries was not sufficient to address both cleanup and prevention adequately.
- **In complex environmental cleanup operations, it may be more effective to employ existing environmentally sound technologies outside the country than to create new capacity for this purpose in-country.** In the ASP-P1, the governments of the four countries that disposed of their pesticide stocks decided to dispose of them in high-technology incinerators abroad rather than install such capacity for a limited waste stream in-country.

7.3 Lessons for project design:

- **A horizontal APL may not add efficiencies in preparation or synergies in implementation if country circumstances are significantly different and if there is little opportunity for intercountry cooperation and coordination.** In its original conception, the APL should have provided the six countries in the initial phase of the ASP-P1 with greater efficiencies in project preparation and opportunities for increased cross-country cooperation in implementation, as well as prospects for follow-on investments in a subsequent phase. In the ASP-P1, however, the uniform approach to project preparation, with its standard template for project design, complicated rather than facilitated efficient project preparation. And the desired synergies among the countries in project implementation were never realized because of significant differences in country context. In the end, the subsequent phase was never realized because of the poor performance in the initial phase of the ASP-P1.
- **Complex international partnership arrangements, such as those in the ASP-P1, can result in conflicts in defining roles and responsibilities, challenges in effective coordination, and confusion in project interventions.** The partnership arrangements designed for the ASP-P1 ended up imposing a burden on project implementation rather than delivering the synergies and benefits originally intended. Within the Bank itself, the cross-regional design of the ASP-P1 created significant challenges for Bank supervision, monitoring, and evaluation.
- **During project design, calculating the benefits of reducing pollution risks to human health and the environment can pose a challenge, but should be undertaken to support cost-benefit and efficiency calculations.** There were no financial or economic analyses performed for the ASP-P1 at appraisal, although there are simple methods and tools for approaching the valuation of economic and environmental benefits for environmental projects. The DALY tool developed by WHO is one example of an approach that can be used to measure reduced overall disease burden, as expressed in the number of years lost due to ill-health, disability, or early death.

7.4 Lessons for institutional capacity:

- **In terms of institutional capacity for project management, the drivers of success may not be readily identifiable in the implementing agency, but they should be nurtured and sustained to promote successful project implementation.** The three countries the IEG mission visited had roughly similar levels of institutional capacity for implementing the project, but while Tanzania had a project champion and dedicated staff that drove project success, Morocco and South Africa never found similar leadership.
- **Programs run risks if they are designed relying on coordination and management functions executed by institutions that do not have sufficient capacity to perform these functions.** In the ASP-P1, the PCU was designed to

perform overall program coordination and management functions from its position within the institutional structure of NEPAD, but in the end, NEPAD did not have adequate capacity to carry out these functions.

- **Complex regional programs with multiple country projects can impose significant demands on Bank capacity and require focused and sustained supervision by Bank staff.** The lack of sustained commitment to the ASP-P1 at the program level and rapid turnover of task team leaders managing supervision of country projects contributed to the highly mixed project outcomes and resulted in widely disparate treatment of the various participating countries.

References

- AGENDA. 2013. “NGO’s Contribution to Sustainability of ASP in Tanzania.” AGENDA, Dar es Salaam.
- CropLife International. 2007. “Persistent Organic Pollutants and Pesticides.” Brussels.
- . 2012. “CropLife Case Study, Africa Stockpiles Programme.” Brussels.
- Ethiopia. 2010. “Proclamation No. 674/2010: A Proclamation to Provide for the Registration and Control of Pesticides.” Ministry of Agriculture and Development, Addis Ababa.
- FAO (Food and Agriculture Organization of the United Nations). 2002. *International Code of Conduct on Distribution and Use of Pesticides*. Rome: FAO.
- . 2009a. *FAO Pesticide Disposal Series, Environmental Management Tool Kit for Obsolete Pesticides, Volume 1: A. Environmental Risk Assessment, B. Prioritization of Stores, C. Regional Prioritization and Risk Tracking*. Rome: FAO.
- . 2009b. *FAO Pesticide Disposal Series, Environmental Management Tool Kit for Obsolete Pesticides, Volume 2: D. Selection of Collection Centers, E. Management of Collection Centers, F. Transport Planning*. Rome: FAO.
- . 2011a. *FAO Pesticide Disposal Series, Environmental Management Tool Kit for Obsolete Pesticides, Volume 3: G. Safeguarding Strategy, H. Disposal Strategy, I. Environmental Assessment Report and Environmental Management Plans*. Rome: FAO.
- . 2011b. *FAO Pesticide Disposal Series, Environmental Management Tool Kit for Obsolete Pesticides, Volume 4: J. Zoning of Workplaces, K. Risk Assessment, L. Standard Operating Procedures, M. Selection and Use of Equipment, N. Health, Safety, and Environment Plan*. Rome: FAO.
- . 2014a. *FAO Pesticide Disposal Series No. 11: Country Guidelines*. Rome: FAO.
- . 2014b. *Terminal Evaluation of the Technical Support Unit to the Africa Stockpiles Programme*. GCP /INT/979/GFF. Terminal Evaluation Report, FAO Office of Evaluation. Rome: FAO.
- GEF (Global Environment Facility). 2005. “Global Environment Facility Trust Fund Grant Agreement, Africa Stockpiles Programme, Tunisia.” GEF, Washington, DC.
- . 2006. “Global Environment Facility Trust Fund Grant Agreement, Africa Stockpiles Programme, South Africa.” GEF, Washington, DC.
- IEG (Independent Evaluation Group, World Bank Group). 2014. “ICR Review, Africa Stockpiles Program.” IEG, Washington, DC.
- Mali. 2013. « Rapport d’Achèvement (2006-2012) ». Programme Africain relatif aux Stocks de Pesticides obsolètes (PASP). Ministère de l’Environnement et de l’Assainissement, Bamako.
- Morocco. 2009. « Gestion des produits chimiques – Contexte international et national ». Département de l’environnement, Dr. Amal Lemsioui, Rabat.
- . 2015a. « Décret relatif à la gestion des déchets dangereux (20 janvier 2015) ». Gouvernement du Maroc, Rabat.
- . 2015b. « Gestion de cycle de vie des pesticides au Maroc: Activités passées et en cours ». Office National de Sécurité Sanitaire des Produits Alimentaires, Rabat.
- . 2015c. « Élimination des pesticides obsolètes et mise en œuvre du programme de gestion intégrée des ravageurs et des pesticides au Maroc ». Rapport de l’atelier de lancement du Projet GCP/MOR/041/GEF, Rabat.

- . 2016. « Élimination des pesticides obsolètes et mise en œuvre du programme de gestion intégrée des ravageurs et des pesticides au Maroc ». Fonds pour l'Environnement Mondial (FEM/GEF). Rabat.
- PAN Africa. 2008. "Eliminating Obsolete Pesticide Stockpiles in Africa." Dr. Alassane Sarr. PAN Africa, Dakar.
- Sarr, Alassane, and Mourtada Thiam. 2011. "Self-Monitoring for Self-Protection." *Pesticides News* 92: 10–11.
- South Africa. 2006. "Overview of Limpopo Pilot Project." Joubert Environmental and Development Services, Department of Environmental Affairs, Pretoria.
- . 2007a. "Limpopo Province Pilot Inventory and Safeguarding Project—Lessons Learnt." Dr. Kevin Helps, Technical Support Unit, for Department of Environmental Affairs, Pretoria.
- . 2007b. "Report on Safeguarding and Inventory of the African Stockpiles Project in the Limpopo Province." Dr. Gerhard Verdoorn, for Department of Environmental Affairs, Pretoria.
- . 2008a. "Report on Methodology for Local Disposal of Non-hazardous Component (Limpopo and Wagtail Stocks)." Department of Environmental Affairs, Pretoria.
- . 2008b. "Study Tour to Australia Report." Department of Environmental Affairs, Pretoria.
- . 2009a. "Agreement between CropLife International and Veolia Environmental Services (UK) for Disposal of Obsolete Chemicals in South Africa."
- . 2009b. "Memorandum of Agreement between the Department of Environmental Affairs and CropLife International for Disposal of Pesticides."
- . 2006–09. "Africa Stockpiles Programme, Project Management Unit, Progress Reports 1-8, 2006–2009." Department of Environmental Affairs, Pretoria.
2011. "Environmental Management Plan" for collection, storage, transportation and disposal of obsolete pesticides in Limpopo Province, Department of Environmental Affairs, Pretoria.
2011. Industry Integrated Waste Management Plan, Association of Veterinary and Crops Associations of South Africa, Pretoria.
- Tanzania. 2005. "National Implementation Plan (NIP) for the Stockholm Convention on Persistent Organic Pollutants (POPs)." Report GF/URT/02/006, Vice President's Office, Division of Environment, Dar es Salaam.
- . 2008. "Africa Stockpiles Program—Communication Strategy for Tanzania," Cross-Cutting Activities Management Entity, Dar es Salaam.
- . 2011a. "Comments on the CESA and EMP." Tropical Pesticides Research Institute, Arusha.
- . 2011b. "Country Environmental and Social Assessment (CESA) and Environmental Management Plan (EMP) for Safeguarding and Disposal of Obsolete Pesticides in Tanzania." National Environment Management Council, Dar es Salaam.
- . 2011c. "Empty Pesticide Containers and Contaminated Equipment Management in the United Republic of Tanzania: Field Survey." National Environment Management Council, Dar es Salaam.
- . 2011d. "POPs, Pesticides and DDT-Contaminated Sites." Tropical Pesticides Research Institute, Arusha.
- . 2013a. "NGOs Contribution to Sustainability of ASP in Tanzania." ASP (T) Network, Agenda.

- . 2013b. “Roadmap to Sustainable Pesticide Management in Tanzania.” National Environment Management Council, Dar es Salaam.
- . 2014. “Concept Note for Hazardous Waste Management Project.” National Environment Management Council, Dar es Salaam.
- UNEP (United Nations Environment Program). 2001. *Stockholm Convention on Persistent Organic Pollutants*. file:///C:/Users/Caroline/Downloads/UNEP-POPS-COP-CONVTEXT-2009.En.pdf
- World Bank. 2001. *Making Sustainable Commitments: An Environmental Strategy for the World Bank*. Washington, DC: World Bank.
- . 2004. *The First Africa Stockpiles Program, Project 1: Environmental and Social Assessment Synthesis Report*. Report No. E916. Washington, DC: World Bank.
- . 2006. *Project Appraisal Document, Africa Stockpile Programme—Project 1, Mali, Morocco and Tanzania*. Report No. 36273-AFR, 4 vols. World Bank, Washington, DC.
- . 2010. “Independent Evaluation of Design and Initial Implementation of Africa Stockpiles Programme: Evaluation Report.” Prepared by COWI for the World Bank. World Bank/ASPIC, May 2010.
- . 2012. *How Environment Sustains Development—2011 World Bank Group Environment Strategy: Toward a Green, Clean, and Resilient World for All*. Washington, DC: World Bank.
- . 2013. *Ethiopia, Mali, Morocco, South Africa, Tanzania, Tunisia—First Africa Stockpile Program Project*. Implementation Completion and Results Report, Report No. ICR2682. Washington, DC: World Bank.
- WWF (World Wildlife Fund), 2009. “Africa Stockpiles Programme.” Angela Mwandia, WWF Regional Office for Africa.
http://wwf.panda.org/who_we_are/wwf_offices/tanzania/index.cfm?uProjectID=9F0783

Appendix A: Basic Data Sheet

AFRICA STOCKPILES PROGRAM-PROJECT 1 ((P092437, P075776, P105711, P103189)

Key Project Data

	Appraisal estimate (US\$ millions)	Actual or current estimate (US\$ millions)	Actual as percentage of appraisal estimate
Total project costs	60.00	-	-
Grant amount (GEF)	25.00	19.6	78
World Bank	21.7	16.3	75
FAO	3.3	3.3	100
Cofinancing	35.00	16.1	-
Development Grant Facility	2.7	2.7	100
Multi-donor trust fund	7.1	4.2	59
Bilateral financing	9.0	-	-
African Development Bank	10.0	0	0
Cancellation (GEF grant)		5.4	21

Cumulative Estimated and Actual Disbursements

	FY06	FY07	FY08	FY9	FY10	FY11	FY12	FY13
Appraisal estimate (US\$ million)	-	-	-	-	-	-	-	-
Actual (US\$ million)	1.07	1.17	3.03	4.59	2.66	7.32	5.37	16.32
Actual as percentage of appraisal	-	-	-	-	-	-	-	-
Date of final disbursement:								06/30/13

Note: An aggregated disbursement profile is not available. Disbursement data shown are from Implementation Status and Results Reports.

Project Dates

	<i>Original</i>	<i>Actual</i>
Initiating memorandum	-	07/17/02
Negotiations	-	-
Board approval	-	09/08/05
Effectiveness	09/30/05	11/21/05
Closing date	06/30/11	05/31/13

Staff Time and Cost

It was not possible to determine staff time and costs associated with program preparation and supervision because of multiple coding for the program in the system (see World Bank 2013)

Other Project Data

Follow-on operations			
Operation	Credit number	Amount (US\$ million)	Board date
Mali Obsolete Pesticides Disposal and Prevention Project	P146247	US\$ 5.14 m.	July 24, 2013
Morocco Alternatives to DDT in the Middle East and North Africa (WHO and UNEP)			
Morocco Disposal of Obsolete Pesticides including POPs and Implementation of Pesticides Management Programme (FAO)			

Task Team Members

Name	Title (at time of appraisal and closure, respectively)
Lending	
Steven Maber	Project team leader (South Africa, Tunisia)
Peter Kristensen	Project team leader (Mali, Morocco, Tanzania, Tunisia, and Ethiopia)
Denis Jordy	Project team leader (Mali, Morocco, Tanzania, and Ethiopia)
Christopher Warner	Task Team Leader
Supervision/ICR	
Dinesh Aryal	Project/ICR team leader
Peter Kristensen	Task team leader
Denis Jordy	Co-task team leader
Dirk Prevoo	Task team leader
Aziz Bouzaher	Co-task team leader
Ellen Tynan	Task team leader
Jane Kibbassa	Co-task team leader
Ann Jeanette Glauber	Co-task team leader
Garry Charlier	Co-task team leader
Gael Gregoire	Co-task team leader

Appendix B: List of Persons Met during Country Missions

South Africa Stakeholders Met by ASP Mission 16-20 May 2016

Institution/organization	Name	Title
Government of South Africa		
Department of Environmental Affairs	Ms. Dee Fischer	Chief Director, Integrated Environmental Management
Department of Agriculture, Forestry and Fisheries	Mr. Jonathan Mudzunga	Registrar of Pesticides
ASP partners		
World Bank	Ms. Thandi Gxaba	Environmental and Social Safeguards Officer
CropLife	Mr. Les Hillowitz	Regional Director East and Southern Africa
Private sector		
EnviroServ	Mr. Neil Brink	Compliance Manager, Holfontein Landfill
EnviroServ	Mr. Britz Reinders	Operations Manager, Solid Waste Management, Holfontein Landfill
Nongovernmental organizations		
Association of Veterinary and Crops Associations of South Africa	Mr. Tom Mabesa	Executive Director

Tanzania Stakeholders Met by ASP Mission 23-27 May 2016

Institution/organization	Name	Title
Government of Tanzania		
Vice President's Office	Mr. Mbarak Abdulwakil	Permanent Secretary
	Mr. Ngosi Mwhava	Deputy Permanent Secretary
	Mr. Julius Ningu	Director of Environment
	Mr. Isaria Mangalili	Principal Agricultural Officer
National Environment Management Council	Eng. Bonaventure Baya	Director General
	Mr. Alfred Msokwa	Senior Environmental Management Officer
	Mr. Arnold Kisiraga	Principal Environmental Management Officer
	Ms. Pendo Kundyia	Senior Environmental Management Officer

Ministry of Agriculture, Livestock and Fisheries	Mr. Gassana Damian	
	Ms. Mariam Nziray	Plant Quarantine and Phytosanitary Officer
	Mr. Ayoub Nchimbi	Red Locust Control Officer
	Ms. Jeniver Kamuhabwa	Plant Protection Officer
Tropical Pesticide Research Institute	Dr. Eliningaya Kweka	Acting Director for Vector Control Unit
	Dr. Elikana Lekei	Registrar of Pesticides
	Mr. Habib Mkalanga	Principal Scientific Officer
ASP Partners		
World Bank	Ms. Jane Kibbassa	Senior Environmental Specialist
Nongovernmental Organizations		
AGENDA	Mr. Silvani Mng 'anya	Principal Program Officer & Executive Secretary
	Ms. Dora Swai	Senior Program Officer
Vikuge Pesticide Storage Site (DDT) at MAFS&C Seed Farm	Mr. Augustino Mwilombe	Village Executive Officer, Vikuge
	Mr. Ayoubu Iddi	Vikuge Village Environment Committee Member

Morocco
Stakeholders Met by ASP Mission
30 May-03 June 2016

Institution/organization	Name	Title
Government of Morocco		
Ministère de l'Agriculture et de la Pêche Maritime		
Office National de Sécurité Sanitaire des Produits Alimentaires	Mr. Abdelkader Zakaria	Directeur des Contrôles et de la Protection des Végétaux
	Mr. Ahmed Jaafari	Ingénieur en Chef, Division des Intrants Chimiques
Ministère délégué chargé de l'Environnement		
Direction de la programmation et des réalisations	Mr. Mustafa Terhzaz	Chef de la Division de la Prévention et de la Lutte contre la Pollution
	Dr. Amal Lemsioui	Chargée de suivi des conventions de Rotterdam et Stockholm, Point Focal pour l'UGP du ASP
Direction du Partenariat, de la communication et de la Coopération	Ms. Nassira Rheyati	Division de la Coopération Internationale, Direction du Partenariat, de la Communication, et de la Coopération (Point Focal du FEM)
Ministère de la Santé		
Direction de l'Epidémiologie et de la Lutte contre les Maladies (DELM)	Mr Rachid Wahabi	Chef de la Division d'Hygiène du Milieu
ASP partners		
FAO	Mr. Michael George Hage	Representative to the Kingdom of Morocco
CropLife Maroc	Mr. Boubker El Ouilani	Directeur Exécutif
Nongovernmental organizations		
Association Ribat AL-Fath pour le Développement Durable (Représentant des autres ONG)	Mr. Bennis Abdelhadi	Représentant de l'Association Ribat AL-Fath

Appendix C: Briefs on Country Missions

South Africa

Pretoria, South Africa (May 15-21, 2016)

The mission included meetings with (i) officials from the relevant government institutions: the Department of Environmental Affairs (DEA) and the Department of Agriculture, Forestry and Fisheries (DAFF); (ii) Africa Stockpiles Program (ASP) partners: the World Bank and CropLife International; (iii) private-sector pesticide handlers involved in the project: EnviroServ; and (iv) the Association of Veterinary and Crop Associations of South Africa (AVCASA), a pesticide industry-based, nongovernmental organization (NGO) that was called in later to assist with implementation of the project. The mission team collected documentation of ASP implementation where available, including DEA progress reports, project agreements, and the like, and reviewed aerial photographs of storage areas. The team visited the Holfontein Hazardous Waste Landfill, where the obsolete pesticides from Limpopo Province were stored for a time before being transported to the port in Durban for shipment by sea to Wales for incineration. While at Holfontein, the team interviewed officials from EnviroServ, the firm contracted to inventory and repackage the pesticides from collection points in Limpopo Province; clean up these collection points; and transport, store, and transfer the pesticides to Durban. Because all collection points in Limpopo had been cleaned up before 2010, and they were spread out across the province, it was not feasible for the team to visit them during the one-week mission.

Project Implementation

The ASP project in South Africa operated for just over six years (April 2006 to June 2012), underwent a significant restructuring in 2011, and received two extensions of its closing date (for a total of 31 months). However, it disbursed only US\$0.71 million of the US\$1.7 million grant allocated by the Global Environment Facility (GEF). From the outset, the project ran into problems with applying the standard ASP country approach to the South African context. The DEA, which housed the project management unit (PMU), and DAFF had some initial institutional constraints that impeded project implementation, but these were minor compared with their challenges in working with the World Bank. Both departments identified Bank procurement procedures, reporting requirements, and turnover of task team leaders as major constraints to project implementation.

The project design also did not recognize the previous public-private collaboration and progress South Africa had made in collecting and disposing of pesticide stocks, especially government-held stocks. DAFF and the DEA had, in effect, created a public-private partnership with industry players in AVCASA to dispose of these stocks. A project design that recognized this partnership would have made more sense. And, given that DAFF already maintains a national register of pesticide data, and because most of the publicly held pesticide stocks had already been collected, and the remaining pesticides were privately held, the DEA did not compile an inventory of publicly held pesticide stocks. The DEA also decided not to perform a Country Environmental and Social Assessment (CESA), relying on South Africa's

existing environmental assessment requirements and preparing an environmental management plan instead. The DEA also decided to run a pilot project to gain experience in Limpopo Province in the north. After this experience, the project would be readjusted and implemented nationwide, through collection centers in the Free State (central) and Western Cape (south) Provinces.

The pilot in Limpopo was successfully executed between 2006 and 2009, and 100 percent of the Limpopo obsolete pesticides were disposed of with funding provided by CropLife. The Limpopo pilot demonstrated that pesticide stocks had been greatly underestimated and that ASP funding would not adequately cover their nationwide collection and disposal. This pilot phase also indicated that the ASP project required a significant restructuring to define more attainable project development objectives (PDOs), which was completed in 2011. As part of this restructuring, the DEA prepared a risk assessment and environmental management plan to ensure the long-term and sustainable safe collection, packaging, transportation, and disposal of pesticides stocks. The project ended before the pilot could be continued in the Western Cape and Free State Provinces, where pesticides were identified but were not collected, safeguarded, or disposed of before the project closed. With changes in Bank task team leaders and changes in personnel at the DEA, the request for a further six-month extension of the closing date to complete project activities in the other two provinces was not delivered before the project closing date. Unfortunately, expectations that had been raised in the two provinces were dashed with project closing.

Tanzania

Dar es Salaam, Tanzania (May 22-28, 2016)

The mission included meetings with (i) officials from the relevant government institutions: the Vice President's Office, the National Environment Management Council (NEMC), the Ministry of Agriculture, Livestock and Fisheries, and the Tropical Pesticide Research Institute (TPRI); (ii) ASP partner: the World Bank; (iii) representatives from the local NGO AGENDA, which oversaw formation of the National Stakeholder Advisory Forum to provide inputs to the project's national steering committee; and (iv) local government representatives and community members from one of the obsolete pesticide storage sites. The mission team collected the available documentation on project implementation, including the CESA, biannual project reports, the sustainability roadmap, and the communication strategy. The team visited two sites identified as high priority by the CESA, where obsolete pesticides had been collected or stored before being transported to the port at Dar es Salaam for disposal overseas. The first site was on the grounds of the TPRI (the national institution responsible for pesticide management in Tanzania) in Arusha, which served as the major collection center. Large quantities of pesticides from the northern zone of the country had been collected here in five stores, repackaged, and then transported for disposal in Poland. The second site was on a large Ministry of Agriculture, Livestock and Fisheries seed farm in Vikuge, west of Dar es Salaam, where 250 tons of DDT had been improperly stored prior to the ASP-P1. These wastes were later packaged and transported for disposal under the project. The history of improper storage at the site left highly contaminated soils, which continue to threaten the health and environment of the local community.

Project Implementation

The ASP project in Tanzania operated for almost six-and-a-half years (December 2006 to May 2013), underwent a significant restructuring in June 2011 that defined more attainable PDOs, and received three extensions of its closing date (for a total of 35 months) to allow project completion. It disbursed all of the US\$6.87 million grant allocated by the GEF. Initially, project implementation proceeded slowly for lack of management capacity and procurement expertise in the PMU; procurement delays were further exacerbated by the lengthy Bank review and clearance process. Collaboration with the local NGO network, in contrast, improved project awareness-raising at the community level and promoted community-based monitoring and reporting on project progress. By its final closing date, the project had completed and validated the inventory and the database on pesticide stocks in the country and prepared a comprehensive CESA to guide management and disposal of these stocks. In the end, the project managed to dispose or safeguard 100 percent of the inventoried pesticide stocks and 131 percent of the inventoried heavily contaminated soil, as well as to adopt a strategy, based on the sustainability roadmap, to manage future accumulations. The project also initiated preparation of legislation to support this goal, a Plant Protection Act and a Pesticide Management Act.

The key to Tanzania's ASP success, as described by NEMC, was a solid foundation based on previous pesticide inventories and chemical waste disposal operations in the country financed by the governments of the Netherlands (the Chemical Waste Management Project was a precursor to the ASP) and Germany. The practical experience NEMC gained in these operations provided a solid base for the inventory, collection, and disposal operations of the ASP-P1 project. Furthermore, the ASP-P1 benefited from having a highly effective champion within NEMC, a strong professional team in the PMU that remained committed to the project from beginning to end, and the effective involvement of all relevant stakeholders, including the umbrella organization of the NGOs (AGENDA). This is not to say that Tanzania has addressed all of its obsolete pesticide problems. There remain large amounts of contaminated soils, empty containers, and buried containers to deal with throughout the country. And discussions with the NEMC; the Ministry of Agriculture, Livestock and Fisheries; and AGENDA indicate that implementation of the sustainability roadmap has not proceeded as originally anticipated because of budget constraints.

Morocco

Rabat, Morocco (May 29–June 4, 2016)

The mission included meetings with (i) officials from the relevant government institutions: the Office National de Sécurité Sanitaire des Produits Alimentaires (ONSSA) au Ministère de l'Agriculture et de la Pêche Maritime; the Division de la Prévention et de la Lutte contre la Pollution au Ministère délégué chargé de l'Environnement, the Direction de l'Epidémiologie et de la Lutte contre les Maladies (DELM) au Ministère de la Santé; (ii) ASP partners: FAO and CropLife Maroc; and (iii) the NGO Association Ribat AL-Fath pour le Développement Durable. The mission team collected the available documentation on ASP implementation, including project notes, presentations, and relevant decrees and legislation promoted by the project. Despite the limited timeframe of the mission, the team was able to meet with the key

stakeholders as planned, with the exception of the site visit to the National Center for Locust Control at Agadir.

Project Implementation

The ASP project in Morocco operated for less than three-and-a-half years (February 2007 to June 2010), without a restructuring of its PDOs or an extension of the closing date, as was the case in the other two projects. It disbursed only US\$0.29 million of the US\$4.0 million grant allocated by the GEF. After an initial seven-month delay by the World Bank in signing the grant agreement, project implementation was hampered at the outset in 2007–08 by a major institutional restructuring in the implementing agency. This resulted in the creation of the Office National de Sécurité Sanitaire des Produits Alimentaires (ONSSA), but involved a major disruption of normal operations at a critical time after project launch. In addition, the national coordinator appointed to head the PMU divided his time between the ASP-P1 project and his other ONSSA duties. This was compounded by additional constraints involving Bank project support (rapid turnover of task team leaders, none of whom were based in Morocco) and operational procedures (time-consuming procurement requirements, no objection delays). As a result, the project closed without an extension of the original closing date, having completed only the pesticide inventory and database and having strengthened the legal/regulatory framework with relevant legal texts and regulations. The project provided inventory and database management training and had a functioning PMU, but it did complete preparation of a CESA and did not eliminate any of the inventoried pesticide stocks or adopt sufficient measures to prevent future risks. Following closure of the ASP, however, the government managed to eliminate 90 tons of obsolete pesticides in France, with financing for part of this amount (50 tons of DDT) from a SAICM/WHO project (2010–11) and a WHO/GEF project (2013–14). Finally, the government is now implementing a new GEF project for the elimination of obsolete pesticides with the FAO as the implementing agency and financing provided by the GEF, CropLife International, and the government of Morocco.

Appendix D: ASP-P1 Project Costs by Component

Component	Appraisal estimate (US\$ million)	Actual/latest estimate (US\$ million)	Actual as percentage of appraisal estimate
Ethiopia			
1. Disposal of obsolete pesticides	2.142	3.017	141
2. Prevention of accumulation	0.194	0.3	155
3. Capacity building	0,292	0.116	40
4. Project management	0.421	0.675	160
Total:	3.048	4.108	135
Mali			
1. Disposal of obsolete pesticides	5.38	2.37	44
2. Prevention of accumulation	1.77	1.87	105
3. Capacity building	N/A	N/A	N/A
4. Project management	1.18	2.23	188
Total:	8.33	6.47	78
Morocco			
1. Disposal of obsolete pesticides	2.51	N/A	N/A
2. Prevention of accumulation	0.78	N/A	N/A
3. Capacity building	0.27	N/A	N/A
4. Project management	1.85	N/A	N/A
5. Contingencies	0.57	N/A	N/A
Total:	5.98	N/A	N/A
South Africa			
1. Disposal of obsolete pesticides	0.97	N/A	N/A
2. Prevention of accumulation	0.30	N/A	N/A
3. Capacity building	0.23	N/A	N/A
4. Project management	0.30	N/A	N/A
Total:	1.80	0.71	39
Tanzania			
1. Disposal of obsolete pesticides	5.83	5.89	101
2. Prevention of accumulation	0.28	0.46	164
3. Capacity building	0.15	0.19	127
4. Project management	1.22	1.69	138
Total:	7.48	8.23	110
Tunisia			
1. Disposal of obsolete pesticides	3.70	3.96	107
2. Prevention of accumulation	0.26	1.05	404
3. Capacity building	0.16	0.17	106
4. Project management	1.04	0.33	32
Total:	5.16	5.51	107

Appendix E: FAO Environmental Management Toolkit for Obsolete Pesticides

This appendix is taken from the Tanzania Country Environmental and Social Assessment, pp. 72–73.

The **FAO Environmental Management Tool Kit (FAO EMTK) for Obsolete Pesticides** was used for gathering and interpreting information on obsolete pesticide stocks. It was also used to develop a coherent, risk-based strategy for the environmentally sound management of those obsolete pesticides (FAO 2009). The FAO EMTK is composed of two tools. The first aims to gather the essential information for appraising the environmental and public health risks associated with any stock of obsolete pesticides and identifying the stores with the worst conditions in terms of current or potential impacts on public health and/or the environment. The second is used to identify the stores that pose a comparatively high level of risk to the general public and the environment. It aims to provide a methodology for recognizing the most critical stores and prioritizing them based on risk.

The FAO EMTK was used for the following purposes:

- i) Ranking the stores according to the level of risk associated with the pesticides contained in each store, their toxicity and their packaging conditions: The more pesticides contained in a store, the more toxic those pesticides are and/or the worse the condition of the packaging materials in terms of leakage, the higher the associated risk.
- ii) Ranking the stores according to the conditions of each store structure and to the storage conditions inside and the environmental conditions outside the store: The worse the conditions associated with the store structure and the greater the store's relationship with or proximity to critical areas, the higher the risk or potential risk to public health and the environment in case of an accident at the store.
- iii) Characterizing the general situation prevailing in each store by combining the two risk factors above and plotting them on a single graph, divided into four quadrants: This provides a comparative analysis based on the sample population of stores included in the survey. Depending on the position of a store on the graph, the situation prevailing in that store relative to the other stores in the survey can be characterized as lower-priority, problematic or critical. The stores were classified into three categories of high, medium and low risk based on toxicity, quantity, surrounding environmental conditions and the security of the store.