

Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: PAD1355

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 142.6 MILLION
(US\$200 MILLION EQUIVALENT)

TO THE

REPUBLIC OF KENYA

FOR A

NATIONAL AGRICULTURAL AND RURAL INCLUSIVE GROWTH PROJECT

August 2, 2016

Agriculture Global Practice
Africa Region

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS
(Exchange Rate Effective May 31, 2016)

Currency Unit = Kenya Shilling (KSh)

KSh 101.29 = US\$1

US\$1.40 = SDR 1

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

ADP	Annual Development Plan
ASAL	Arid and Semi-Arid Land
ASDS	Agricultural Sector Development Strategy
ASDSP	Agriculture Sector Development Support Program
AWP&B	Annual Work Plan and Budget
BCR	Benefit-cost ratio
CA	Conservation agriculture
CAADP	Comprehensive Africa Agriculture Development Programme
CAFFS	Conservation Agriculture Farmer Field School
CAP	Community Action Plan
CBK	Central Bank of Kenya
CBO	Community-based organization
CBP	Capacity-Building Plan
CDD	Community-Driven Development
CDDC	Community-Driven Development Committee
CDP	Community Development Plan
CESDM&VCD	Contracted Extension Service Delivery Model & Value Chain Development
CIDP	County Integrated Development Plan
CIG	Common Interest Group
CoG	Council of Governors
CNA	Capacity Needs Assessment
CPC	County Project Coordinator
CPCU	County Project Coordination Unit
CPS	Country Partnership Strategy
CPSC	County Project Steering Committee
CQS	Consultants' Qualifications Selection
CSA	Climate-smart agriculture
CSO	Civil society organization
CTD	County Technical Department
DA	Designated Account
DC	Direct Contracting
DL	Disbursement Letter
DP	Development Partner
EFT	Electronic Fund Transfer
EA	Environmental Assessment
EAAPP	East African Agricultural Productivity Program

EACC	Ethics and Anti-Corruption Commission
EDP	Enterprise Development Plan
EFA	Economic and Financial Analysis
EMP	Environmental Management Plan
EPS	Economic Planning Secretary
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EX-ACT	Ex-Ante Carbon-Balance Tool (of the United Nations)
F&C	Fraud and corruption
FAO	Food and Agriculture Organization (of the United Nations)
FFS	Farmer Field School
FM	Financial Management
FNSP	Food and Nutrition Security Policy
FNSS	Food and Nutrition Security Strategy
GAC	Governance and Anti-Corruption
GDP	Gross domestic product
GHG	Greenhouse gas
GoK	Government of Kenya
GRS	Grievance Redress Service
ha	Hectare
HR	Human resources
IAD	Internal Audit Department
ICB	International Competitive Bidding
ICR	Implementation Completion Report
ICT	Information and communications technology
IDA	International Development Association
IEC	Information, Education, and Communication
IFC	International Finance Corporation
IFMIS	Integrated Financial Management Information System
IFR	Interim Financial Report
INDC	Intended Nationally Determined Contribution
INT	Integrity Vice Presidency
IPF	Investment Project Financing
IRR	Internal rate of return
IS	Implementation support
IWUA	Irrigation Water Users' Association
KALRO	Kenya Agricultural and Livestock Research Organization
KAPAP	Kenya Agricultural Productivity and Agribusiness Project
KAPSLMP	Kenya Agricultural and Sustainable Land Management Project
KEBS	Kenya Bureau of Standards
KENAO	Kenya National Audit Office
KEPHIS	Kenya Plant Health Inspectorate Services
KNBS	Kenya National Bureau of Statistics
KSh	Kenya shilling
LLI	Leadership, Learning, and Innovation
M&E	Monitoring and evaluation
MIS	Management Information System
MoALF	Ministry of Agriculture, Livestock and Fisheries
MoDP	Ministry of Devolution and Planning

MoH	Ministry of Health
MOPE	Market-Oriented Producer Enterprise
MoU	Memorandum of Understanding
MoWI	Ministry of Water and Irrigation
MtCO ₂ -eq	Million metric tons carbon dioxide equivalent
MTR	Mid-term review
NAMA	Nationally Appropriate Mitigation Action
NARIGP	National Agricultural and Rural Inclusive Growth Project
NCB	National Competitive Bidding
NCBF	National Capacity Building Framework
NCCAP	National Climate Change Action Plan
NCCRS	National Climate Change Response Strategy
NGO	Non-governmental organization
NEMA	National Environment Management Authority
NIB	National Irrigation Board
NICC	Nutrition Interagency Coordinating Committee
NIP	National Irrigation Policy
NPC	National Project Coordinator
NPCU	National Project Coordination Unit
NPSC	National Project Steering Committee
NPV	Net present value
NRM	Natural resource management
NT	National Treasury
NTAC	National Technical Advisory Committee
OAG	Office of the Auditor General
O&M	Operation and maintenance
OP	Operational Policy
PA	Project Account
PDO	Project Development Objective
P-for-R	Program-for -Results
PFM	Public Financial Management
PICD	Participatory Integrated Community Development
PIM	Project Implementation Manual
PO	Producer Organization
PPADA	Public Procurement and Asset Disposal Act
PPP	Public-private partnership
PS	Principal Secretary
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
RRP	Rural Roads Project
SACCO	Savings and Credit Cooperative
SAI	Supreme Audit Institution
SAIC	Social Accountability and Integrity Committee
SCC	Social Cost of Carbon
SCM	Supply Chain Management
SDPS	State Department of Planning and Statistics
SLM	Sustainable land management
SOE	Statement of Expenditure
SORT	Systematic Operations Risk-Rating Tool
SUN	Scaling-Up Nutrition

SP	Service Provider
SSS	Single Source Selection
TA	Technical Assistance
TCB	Tissue-culture banana
TIMP	Technologies, innovations, and management practices
ToR	Terms of Reference
TTL	Task Team Leader
VC	Value chain
VMG	Vulnerable and marginalized group
VMGF	Vulnerable and Marginalized Group Framework
VMGP	Vulnerable and Marginalized Group Plan
WKCDD&FMP	Western Kenya Community-Driven Development and Flood Mitigation Project
WRUA	Water Resource Users' Association

Regional Vice President:	Makhtar Diop
Country Director:	Diarietou Gaye
Senior Global Practice Director:	Juergen Voegele
Practice Manager:	Dina Umali-Deininger
Task Team Leader /Co-TTL:	Ladisy K. Chengula / Christopher Finch

KENYA
National Agricultural and Rural Inclusive Growth Project (P153349)

TABLE OF CONTENTS

	Page
I. STRATEGIC CONTEXT	1
A. Country Context.....	1
B. Sectoral and Institutional Context.....	2
C. Higher-Level Objectives to which the Project Contributes	6
II. PROJECT DEVELOPMENT OBJECTIVES	7
A. PDO.....	7
B. Project Beneficiaries	7
C. PDO-Level Results Indicators	8
III. PROJECT DESCRIPTION	8
A. Project Components	8
B. Project Financing	14
C. Lessons Learned and Reflected in the Project Design.....	15
IV. IMPLEMENTATION	18
A. Institutional and Implementation Arrangements	18
B. Results Monitoring and Evaluation	19
C. Sustainability.....	20
V. KEY RISKS	20
A. Overall Risk Rating and Explanation of Key Risks.....	20
VI. APPRAISAL SUMMARY	21
A. Economic and Financial Analysis.....	21
B. Technical.....	23
C. Financial Management.....	23
D. Procurement	26
E. Safeguards (including Social and Environmental Safeguards).....	27
F. World Bank Grievance Redress	28
Annex 1: Results Framework and Monitoring	30
Annex 2: Detailed Project Description.....	39
Annex 3: Implementation Arrangements	58

Annex 4: Implementation Support Plan	85
Annex 5: Economic and Financial Analysis	89
Annex 6: Mainstreaming Nutrition in the National Agricultural and Rural Inclusive Growth Project (NARIGP)	101
Annex 7: Gender Mainstreaming and Inclusion of Youth and Vulnerable Groups	106
Annex 8: Sustainable Land and Water Management	115
Annex 9: Greenhouse Gas Accounting Analysis	117
Annex 10: Overview of Small-Scale Irrigation in Kenya	124
Annex 11: ICT-based Agricultural Information Platform for M&E and Impact Evaluation.....	133
Annex 12: MAP	137

PAD DATA SHEET

Kenya

National Agricultural and Rural Inclusive Growth Project (P153349)

PROJECT APPRAISAL DOCUMENT

AFRICA

Agriculture Global Practice

Report No.: PAD1355

Basic Information			
Project ID P153349	EA Category B - Partial Assessment	Team Leader(s) Ladisy Komba Chengula, Christopher Finch	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints []		
	Financial Intermediaries []		
	Series of Projects []		
Project Implementation Start Date 23-Aug-2016	Project Implementation End Date 31-Aug-2021		
Expected Effectiveness Date 23-Nov-2016	Expected Closing Date 30-Nov-2021		
Joint IFC: No			
Practice Manager/Manager Dina Umali-Deininger	Senior Global Practice Director Juergen Voegele	Country Director Diarietou Gaye	Regional Vice President Makhtar Diop
Borrower: The National Treasury			
Responsible Agency: Ministry of Devolution and Planning			
Contact: Telephone No.:	Mr. Saitoti Torome +254-(0)20-225-2299	Title: Email:	Principal Secretary psplanning@devolutionplanning.go.ke
Project Financing Data(in US\$ Million)			
<input type="checkbox"/> Loan	<input type="checkbox"/> IDA Grant	<input type="checkbox"/> Guarantee	
<input checked="" type="checkbox"/> Credit	<input type="checkbox"/> Grant	<input type="checkbox"/> Other	
Total Project Cost:	219.00	Total Bank Financing:	200.00
Financing Gap:	0.00		
Financing Source			Amount
BORROWER/RECIPIENT			19.00
International Development Association (IDA)			200.00
Total			219.00

Expected Disbursements (in US\$ Million)									
Fiscal Year	2017	2018	2019	2020	2021				
Annual	10.00	40.00	90.00	50.00	10.00				
Cumulative	10.00	50.00	140.00	190.00	200.00				
Institutional Data									
Practice Area (Lead)									
Agriculture									
Contributing Practice Areas									
Social, Urban, Rural and Resilience Global Practice									
Cross Cutting Topics									
[X] Climate Change									
[] Fragile, Conflict & Violence									
[X] Gender									
[X] Jobs									
[] Public-private Partnership									
Sectors / Climate Change									
Sector (Maximum 5 and total % must equal 100)									
Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %					
Agriculture, fishing, and forestry	General agriculture, fishing and forestry sector	60	70	40					
Public administration, law, and justice	Subnational government administration	20	30	10					
Industry and trade	Agro-industry, marketing, and trade	10	50	10					
Public administration, law, and justice	Public administration- Other social services	10	30	10					
Total		100							
<input type="checkbox"/> I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.									
Themes									
Theme (Maximum 5 and total % must equal 100)									
Major theme	Theme	%							
Rural development	Rural services and infrastructure	40							
Social dev/gender/inclusion	Social inclusion	30							
Financial and private sector development	Micro, small and medium enterprise support	30							
Total		100							

Proposed Development Objective(s)		
The proposed development objectives are to increase agricultural productivity and profitability of targeted rural communities in selected Counties, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response.		
Components		
Component Name	Cost (US\$ Millions)	
Supporting Community-Driven Development	80.00	
Strengthening Producer Organizations and Value Chain Development	50.00	
Supporting County Community-Led Development	72.00	
Project Coordination and Management	17.00	
Systematic Operations Risk-Rating Tool (SORT)		
Risk Category	Rating	
1. Political and Governance	Substantial	
2. Macroeconomic	Moderate	
3. Sector Strategies and Policies	Moderate	
4. Technical Design of Project or Program	Moderate	
5. Institutional Capacity for Implementation and Sustainability	Substantial	
6. Fiduciary	High	
7. Environment and Social	Moderate	
8. Stakeholders	Moderate	
9. Other		
OVERALL	Substantial	
Compliance		
Policy		
Does the project depart from the CAS in content or in other significant respects?	Yes []	No [X]
Does the project require any waivers of Bank policies?	Yes []	No [X]
Have these been approved by Bank management?	Yes []	No []
Is approval for any policy waiver sought from the Board?	Yes []	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No []
Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04	X	
Forests OP/BP 4.36		X
Pest Management OP 4.09	X	
Physical Cultural Resources OP/BP 4.11		X

Indigenous Peoples OP/BP 4.10		X	
Involuntary Resettlement OP/BP 4.12		X	
Safety of Dams OP/BP 4.37			X
Projects on International Waterways OP/BP 7.50			X
Projects in Disputed Areas OP/BP 7.60			X
Legal Covenants			
Name	Recurrent	Due Date	Frequency
National Project Steering Committee, Schedule 2, Section I, A, 1 (a)		October 31, 2016	
Description of Covenant			
The Recipient shall establish, by no later than October 31, 2016, a National Project Steering Committee (“NPSC”), to be co-chaired by the Cabinet Secretary of the Recipient’s Ministry of Devolution and Planning (the “Implementing Agency”) and the chair of the Recipient’s Council of Governors, and comprising Permanent Secretaries from the relevant line ministries, and representatives of the private sector and civil society.			
Name	Recurrent	Due Date	Frequency
National Project Coordinating Unit Schedule 2, Section I, A.,1 (b)		October 31, 2016	
Description of Covenant			
The Recipient shall, by no later than October 31, 2016, establish, and maintain thereafter, a National Project Coordinating Unit (“NPCU”), comprising at the minimum a national Project coordinator, Project accountant, procurement officer, monitoring and evaluation officer, internal auditor, human resource and administration officer, education and communication officer/public relation officer, contracts officer, information communication technology officer, environmental and social safeguards compliance officer, and three (3) component coordinators.			
Name	Recurrent	Due Date	Frequency
National Technical Advisory Committee Schedule 2, Section I, A, 1 (c)		October 31, 2016	
Description of Covenant			
The Recipient shall, by no later than October 31, 2016, establish a National Technical Advisory Committee (“NTAC”), to be co-chaired by the Principal Secretary of the State Department of Planning and Statistics within the Recipient’s Ministry of Devolution and Planning and the chair of the Council of Governors’ Agriculture or Finance Committee, and comprising directors of relevant line ministry departments, directors general of the relevant government agencies, chief executive officer of the Inter-Governmental Relations Technical Committee, and representatives of the private sector.			
Name	Recurrent	Due Date	Frequency
County Project Steering Committee Schedule 2, Section I, A, 2 (a)		No later than one month after the signing of the Participation Agreement	
Description of Covenant			
The Recipient shall establish and maintain in each Eligible County a County Project Steering Committee (“CPSC”), by no later than one month after the signing of the Participation Agreement with said Eligible County, chaired by the County Secretary, comprising chief officers of the relevant county ministries, a County director of environment from the National Environment Management Authority (“NEMA”), and			

representatives from the private sector, civil society and VMGs, and the County commissioner if needed, to provide, with the assistance of the CPCU, implementation oversight in the respective Counties, including approving project annual work plans and budgets and community-led Sub-project proposals and ensure their incorporation in the integrated community development processes.

Name	Recurrent	Due Date	Frequency
County Project Coordination Unit Schedule 2, Section I, A, 2 (b)		No later than one month after the signing of the Participation Agreement	

Description of Covenant
The Recipient shall establish and maintain in each Eligible County a County Project Coordination Unit (“CPCU”) responsible for day-to-day implementation of Parts A, B, C and D (ii) of the Project, by no later than one month after the signing of the Participation Agreement with said Eligible County.

Name	Recurrent	Due Date	Frequency
Eligible County Government (“CG”) Schedule 2, Section I, C, 4		December 18, 2018	

Description of Covenant
If by December 31, 2018, any Eligible CG has not entered into a participation agreement with the Recipient, the Recipient may select an additional county to participate in the Project, using the criteria set forth in Section V of Schedule 2 to the legal Agreement and in the PIM.

Name	Recurrent	Due Date	Frequency
Operations manual Schedule 2, Section I, G, 1, (a)		May 23, 2017	

Description of Covenant
Six (6) months from the Effective Date of the Project, the Recipient shall prepare and furnish to the Association for its review and approval, an operations manual which shall set forth detailed implementation arrangements for the Contingency Emergency Response.

Name	Recurrent	Due Date	Frequency
Project accountant for the NPCU and assistant accountant for each of the CPCUs, Schedule 2, Section V, 2		December 31, 2016	

Description of Covenant
The Recipient shall, by no later than December 31, 2016, designate a Project accountant for the NPCU and assistant accountants for each of the CPCUs under terms of reference satisfactory to the Association and with qualifications satisfactory to the Association.

Name	Recurrent	Due Date	Frequency
Management Information System Database Schedule 2, Section V, 3		June 30, 2017	

Description of Covenant
The Recipient shall establish, by no later than June 30, 2017, a management information system database with global positioning system coordinates for tracking micro-projects, satisfactory to the Association.

Name	Recurrent	Due Date	Frequency	
Project Internal Auditors Schedule 2, Section V, 4		December 31, 2016		
Description of Covenant The Recipient shall, no later than December 31, 2016, designate project internal auditors at NPCU and each CPCU under terms of reference satisfactory to the Association and with qualifications satisfactory to the Association.				
Name	Recurrent	Due Date	Frequency	
Independent Fiduciary Monitoring and Certification System Schedule 2, Section V, 5 (a)		June 30, 2017		
Description of Covenant The Recipient shall ensure that the Recipient's Office of the Auditor General ("OAG") sets up and implements an independent fiduciary monitoring and certification system at the national, county and community level, acceptable to the Association, by not later than June 30, 2017. The certification methodology, which will be subject to approval of the Association, will provide assurance on the proper use of Project funds and resources, and compliance with the Association's financial management, disbursement and procurement policies and procedures.				
Conditions				
Source of Fund	Name	Type		
IDA	Adoption of the Project Implementation Manual Article IV,4.01	Effectiveness		
Description of Condition. The Recipient has adopted the Project Implementation Manual in form and substance satisfactory to the Association.				
Source of Fund	Name	Type		
IDA	Withdrawal of the Proceeds of the Financing Schedule 2, Section IVB, 1(b)	Disbursement		
Description of Condition. No withdrawal shall be made for payments under Categories (1), (2), (3) and (5) to any Eligible County unless and until the Eligible County has entered into a Participation Agreement with the Recipient.				
Source of Fund	Name	Type		
IDA	Withdrawal Conditions; Withdrawal Period Schedule 2, Section IVB, 2(a) to 2(d)	Disbursement		
Description of Condition. No withdrawal shall be made under Category 6 for Emergency Expenditures under Part D.3 of the Project, unless and until the Association is satisfied, and notified the Recipient of its satisfaction, that all of the conditions 2(a) to 2(d) have been met in respect of said activities.				
Team Composition				
Bank Staff				
Name	Role	Title	Specialization	Unit
Ladisy Komba Chengula	Team Leader (ADM Responsible)	Lead Agriculture Economist	Agriculture Economist	GFADR
Christopher Finch	Team Leader	Senior Social	Social	GSURR

		Development Specialist	Development	
Joel Buku Munyori	Procurement Specialist	Senior Procurement Specialist	Procurement	GGODR
Henry Amena Amuguni	Financial Management Specialist	Senior Financial Management Specialist	Financial Management	GGODR
Christiaan Johannes Nieuwoudt	Team Member	Finance Officer	Finance	WFALA
Kishor Uprety	Team Member	Senior Counsel	Lawyer	LEGAM
Anna Lisa Schmidt	Team Member	Consultant	Consultant	GSU07
Christine Heumesser	Team Member	Junior Professional Officer	Junior Professional	GFADR
Enos E. Esikuri	Team Member	Senior Environmental Specialist	Environment	GENDR
Gibwa A. Kajubi	Safeguards Specialist	Senior Social Development Specialist	Social Development	GSURR
Hope Nanshemeza	Team Member	Team Assistant	Team Assistant	AFCE2
Irene Nambuye Musebe	Team Member	Agriculture Economist	Agriculture Economist	GFADR
Jeehye Kim	Team Member	Agricultural Specialist	Agriculture Specialist	GFADR
Kaori Oshima	Team Member	Social Development Specialist	Social Development	GSURR
Lilian Wambui Kahindo	Team Member	Social Development Specialist	Social Development	GSURR
Marie-Claudine Fundi	Team Member	Language Program Assistant	Program Assistant	GFADR
Meena M. Munshi	Team Member	Integrated LLI Engagement Leader	LLI Engagement	LLICC
Monica Gathoni Okwirry	Team Member	Program Assistant	Program Assistant	AFCE2
Pauline McPherson	Team Member	Senior Operations Officer	Operations	GFADR
Peter Isabirye	Team Member	Senior Operations Officer	Operations	AFCE2
Sophie Nelly Rabuku	Team Member	Team Assistant	Team Assistant	AFCE2
Svetlana Khvostova	Safeguards Specialist	Natural Resources Management Specialist	Natural Resources Management	GENDR
Valens Mwumvaneza	Team Member	Senior Rural	Rural Development	GFADR

		Development Specialist			
Extended Team					
Name	Title	Office Phone	Location		
Jaap van der Pol	Agronomist		FAO, Rome		
Muli Musinga	Value Chains Specialist		FAO, Rome		
Phil Riddell	Irrigation and Rural Infrastructure Specialist		FAO, Rome		
Tomoko Kato	Nutrition Specialist		FAO, Rome		
Yesuf Abdella	Irrigation and Rural Infrastructure Engineer		FAO, Nairobi		
Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Republic of Kenya	21 County Governments	Samburu, Turkana, Makueni, Meru, Kitui, Embu, Kilifi, Kwale, Narok, Kirinyaga, Kiambu, Nakuru, Bungoma, Trans Nzoia, Nandi, Murang'a, Kisii, Vihiga, Nyamira, Migori, and Homa Bay			
Consultants (Will be disclosed in the Monthly Operational Summary)					
Consultants Required? Yes.					

I. STRATEGIC CONTEXT

A. Country Context

1. **Although poverty rates in Kenya seem to have fallen, formidable challenges to reducing poverty remain, particularly in rural areas.** Poverty reduction has been driven by solid growth across most sectors of the economy, together with some improvements in social safety nets targeting the poor. It has also been driven by continuing migration to urban areas—especially metropolitan Nairobi—that offer better job prospects (albeit largely in the informal sector), as well as easier access to health and education services. Kenya’s poverty rate fell from 47 percent in 2005/06 to about 39 percent based on best estimates in 2012/13.¹ But improvements in income are not shared evenly among people or across regions, and inequality appears to be rising.²

2. **Revised poverty estimates indicate that nearly 4 in 10 Kenyans continue to live in extreme poverty.** Poverty levels are highest in the Arid and Semi-Arid Lands (ASALs). In the remote, arid, sparsely populated northeastern parts of the country (Turkana, Mandera, and Wajir), poverty rates are above 80 percent. In ASALs, agro-climatic shocks impact vulnerable livelihoods that depend on livestock and low-productivity agricultural activities; and people’s assets, including their educational opportunities and attainments, are very limited. The populations in the western and coastal parts of the country benefit from better natural resource endowments, but the poor remain especially prone to contracting insect- and water-borne diseases, and agricultural potential is limited by the effects of flood-induced land degradation in some rural areas.

3. **The scale of consumption poverty in Kenya is staggering, and it is concentrated in rural areas.** The last national household budget survey (2005) indicated that nearly half of all Kenyans (nearly 17 million people) were poor. The vast majority of the poor lived in rural areas and were more likely to depend on income and consumption from crops and livestock as a source of livelihood. To successfully tackle poverty, the difficulties of low-income rural communities must be addressed, as well as the distinct problems of urban poverty, also found in secondary cities.

4. **Vulnerable groups in rural areas bear the highest incidence of poverty, depending on how well they have been prepositioned to face shocks.** Social exclusion creates vulnerability, particularly among women and youth. Lack of stable income, secure shelter, access to information and communication technologies (ICT), and knowledge and education as well as isolation from markets and job scarcity act as drivers of the social exclusion and lack of prosperity that rural families experience. In agriculture, women comprise more than 70 percent of the labor force, yet they hold less than 5 percent of agricultural land titles. In terms of non-agricultural employment, only 29 percent of those earning a formal wage are women, and young females are twice as likely to be unemployed as adults’ females.³

5. **In August 2010, Kenya adopted a new Constitution framed to provide a more equitable, prosperous, and inclusive future for its citizens.** The Constitution is designed to address disparities and historical patterns of marginalization by creating a two-tiered system of national and county government. Under this system, the national government is devolving responsibility for multiple functions to 47 elected county governments, and it is providing a

¹Country Partnership Strategy (CPS) for the Republic of Kenya, FY2014-2018; May 8, 2014.

²Estimations are hampered by the lack of a recent household budget survey; the last one was conducted in 2005/2006.

³CPS FY2014-2018.

minimum of 15 percent of national revenues to counties to carry them out. Multiple functions were transferred to counties in the first six months of their existence (August 2013), including the main ones for agriculture.

6. **The Constitution and the Government of Kenya's (GoK's) ambitious devolution process bring new opportunities as well as challenges for increasing agricultural productivity, employment opportunities, and food security, as well as for enhancing efforts to reduce poverty and improve governance.** Counties now play the primary on-the-ground role in delivering agricultural services previously managed by the national government, which retains a policy-making and research role. So far, the results of devolution have been mixed: some counties deliver their mandated services, while others struggle. This situation is not unexpected, given the speed and scale of devolution in Kenya compared to decentralization processes in many other countries. There is a major need, and window of opportunity, to support counties in putting institutional structures, mechanisms, and human resources into place to achieve their mandates. Many counties are looking for mechanisms, such as community-led development programs, that can help to mobilize their citizens and deliver quality advisory services.

B. Sectoral and Institutional Context

7. **Agriculture is a major driver of the Kenyan economy and the dominant source of employment for roughly half of the Kenyan people.** In 2013, the sector contributed almost 27 percent to the national gross domestic product (GDP).⁴ The crops, livestock, and fisheries subsectors contribute approximately 78 percent, 20 percent, and 2 percent to agricultural GDP, respectively (GoK 2013). Agriculture generates most of Kenya's food requirements, nearly two-thirds (65 percent) of merchandise exports, and roughly 60 percent of foreign exchange earnings. But with almost 91 percent of its agricultural exports in raw or semi-processed form, the country foregoes significant income by not adding value to its produce. The agricultural sector employs over four-fifths of Kenya's rural work force and accounts for more than one-fifth of formal employment. The sector therefore plays a key role in poverty reduction.

8. **In Kenya, about 83 percent of land area is in the ASALs, which are mainly pastoral areas; only 17 percent of the land (where 80 percent of the population lives) is classified as having medium to high agricultural potential.** Kenya's farms are small and for the most part are getting smaller, which is a major concern. Small farmers face an uncertain and potentially untenable future, involving major dislocations, the steady migration of young people to urban areas, and increasingly frequent and severe poverty-related food crises. About 87 percent of farmers operate less than 2 hectares; 67 percent operate less than 1 hectare. But the 20 percent of farmers with the smallest holdings generate 57 percent of their income from farming activities. Thus for farmers with small holdings agricultural intensification and diversification are necessary for sustaining growth. Agriculture is also an increasingly female domain, as greater numbers of women are managing farms on their own; and the sector is needed to provide livelihoods for a burgeoning youth population.

9. **Overall, the performance of Kenyan agriculture has been highly volatile, with growth rates dipping into negative territory in nine years between 1980 and 2012.** The agricultural growth rate averaged 3.4 percent between 1995 and 2003. After decades of

⁴ The contribution of agriculture to GDP showed an upward trend from 27.8 percent to 29.3 percent in 2013, with a decline (to 27.3 percent) in 2014 (World Bank 2014; Trade Economics 2014). The decline in 2014 resulted from poor long and short rains.

lackluster performance, agriculture began to revive in 2005. Annual growth rates for agriculture between 2005 and 2012 averaged 4.27 percent.⁵ The greatest production growth over this period was seen in fresh fruits and vegetables and, to a lesser extent, maize and dairy. Most other commodities, including tea, coffee, livestock, sugar, and oilseeds, experienced sluggish growth, yet they hold much potential. But recent years have witnessed increased volatility in agricultural growth rates, with debilitating impacts on rural household incomes and employment, urban and rural food security, poverty reduction, and the country's overall economic growth. Growth in real gross value-added in agriculture decelerated in 2013 to 2.9 percent from a revised growth of 4.2 percent in 2012. The lowest agricultural GDP growth rate and value-added agricultural GDP were noted in 2008, when Kenya experienced post-election violence following the country's 2007 general elections.

10. Kenya's structural food deficit, high food prices, poor food distribution systems (even in times of plenty), high level of exposure to the effects of climate change, and emerging social and demographic patterns contribute to food insecurity and poor nutritional outcomes. More than 40 percent of Kenyans lack sufficient food on a daily basis. At the same time, more than 60 percent of households are net buyers of maize (the national staple). At any given time, at least 10 million Kenyans are estimated to suffer from chronic food insecurity and poor nutrition. When natural disaster strikes, the number of people in need of food aid almost doubles. Children in rural areas and from poorer households are more likely to be malnourished. Thirty-five percent of children under five will have permanent physical and mental limitations because of stunting.⁶

11. Kenya's strong reliance on a rainfed maize production system to meet its food needs and the growing consolidation of production toward maize (and dry beans) have rendered the country increasingly vulnerable to supply disruptions and food shortages. As yields have declined, productivity gains have come largely by expanding agriculture into marginal areas that receive lower and more variable rainfall. This trend, coupled with Kenya's increasingly erratic rainfall, has made maize production more susceptible to drought stress and year-on-year yield variability in rainfall, with significant implications for national food security.⁷ The result has been a growing structural deficit in maize/food production, currently filled by rising imports, which heightens the country's exposure to globally driven commodity price shocks. Emergency food aid and other *ex-post* responses have helped fuel growing dependency and declining resilience, particularly among the poorest Kenyans, and especially those in the ASALs.

12. Livestock production plays an important socioeconomic role in many areas across Kenya. In the ASALs, it accounts for as much as nine-tenths of employment and family income. But extensive livestock systems and pastoralist households in Kenya's northern rangelands are particularly vulnerable to the effects of drought. Estimated losses to livestock populations from droughts that have occurred within the most recent decade amount to more than US\$1.08 billion. Ancillary losses related to production assets and future income, and the costs of *ex-post* response measures are likely several times that figure. The increased incidence of droughts across the ASALs in recent years means that affected communities have less time to recover and rebuild their assets. This limited recovery has weakened households' traditional coping mechanisms and handicapped their resilience to future shocks.

⁵ If the anomalous years of 2008 and 2009 are excluded, but 2.40 percent if they are included.

⁶ KNBS (2010), "Kenya Demographic and Health Survey 2008-09," p. 141.

⁷ La Rovere et al. (2014) estimate that nearly one-fifth (19.5 percent) of Kenya's maize production takes place in areas with high rainfall variability, rated with a probability of a failed season (PFS) of between 40-100 percent. Another one-quarter (26.1 percent) of production is grown in areas with a PFS of 20-40 percent.

13. **Climate change is increasing production risks, with serious implications for agriculture, the natural resource base, food security, livelihoods, and the stability of the wider economy.** Kenya is highly vulnerable to the impacts of climate change. The Center for Global Development ranks Kenya 13th out of 233 countries for “direct risks” arising from “extreme weather” and 71st of 233 for “overall vulnerability” to climate change (after adjusting for coping ability).⁸ Climate projections for Kenya indicate that rising temperatures will significantly affect the availability of water and the quality of soils, worsening the effects of more frequent and severe drought. The impact of climate change on agriculture can be direct; for example, changes in rainfall patterns and temperatures in a given area can change the growing season and the spectrum of agricultural activities that can be sustained there, placing great pressure on producers to adapt. The indirect impacts of climate change can manifest as more volatile input and output prices that influence food demand, nutrition, and household wellbeing.

14. **To transform the agricultural sector and build resilience to climate change risks, Kenya needs to focus on increasing productivity and commercialization.** To do so, Kenya needs to address the main constraints to increasing agricultural production, productivity, and value addition, which are: (i) low use of agricultural inputs; (ii) frequent droughts and climate variability; (iii) natural resource degradation (particularly soil and water) as a result of nutrient mining and soil erosion; (iv) low levels of private investment in primary production (subsistence and commercial-oriented agriculture) and in value addition; and (v) poor rural infrastructure, such as small-scale irrigation, roads, marketing, and storage.

15. **The use of agricultural inputs in Kenya is low, even by standards in other developing countries.** The high cost of fertilizer and other inputs - is a major concern for smallholder producers, as well as poor consumers. High input costs drive up production costs and ultimately increase food prices. They also slow down smallholder farmers’ adoption of new technologies and innovations. Kenya’s input systems seem to work well for commercially oriented large farmers. But part of the marketing problem is the private sector’s limited interest in servicing lots of very small farmers, who pose high risks and transaction costs. Organizing these farmers into groups such as marketing cooperatives might enable them to overcome some of their disadvantages. In areas where fertilizer use is suboptimal, targeted policy mechanisms for subsidizing inputs to help poor subsistence-oriented farmers grow more food for themselves may be appropriate if they do not undermine farmers’ incentives to use commercial fertilizer and if they raise household income.

16. **Extreme weather events, largely droughts and to a lesser extent floods, have been the principal source of volatility in the performance of agriculture in Kenya.** The frequency and intensity of severe weather events has increased, and this trend will be further amplified in the future as temperatures rise due to climate change. Drought is a near-constant presence in Kenya, arriving with varying levels of severity. From 1981 to 2011, Kenya suffered from drought once every three years on average. Over the same period, widespread drought occurred in 13 of the 31 years, with three years (1983, 1984, and 2005) of extreme drought. Frequent drought resulted in precipitous crop losses, livestock deaths, spikes in food prices, and increased food insecurity and undernutrition for the poor; led to rural population displacement (temporary migration); and adversely affected rural incomes, employment, and

⁸ Kenya’s average annual temperatures increased by 1°C between 1960 and 2003, and drought occurred once in every three years. During the 2005-06 drought, the failure of the short rains between October and December affected 3.5 million people. The economic costs of droughts affect the whole economy. The previous 1998-2000 drought event was estimated to have economic costs of US\$2.8 billion from the loss of crops and livestock, forest fires, damage to fisheries, reduced hydro-power generation, reduced industrial production, and reduced water supply.

livelihoods. Drought also impacted the government's fiscal balance (as resources were diverted for food relief and poverty reduction) and affected overall growth in agricultural and national GDP. Building agriculture's resilience to climate change, particularly drought risks, by investing in irrigation and water resource management would help Kenya adapt to or mitigate the impacts of extreme weather.

17. Management of natural resources, particularly soil and water, is critical to improving agricultural productivity and the well-being of rural communities. Kenya's growth prospects and main economic activities, especially agriculture, hydro-power generation, and water supply, are strongly linked to the country's environment and natural resource base. Catchment areas in Kenya have undergone extensive environmental degradation, particularly due to poor farming practices and deforestation, which have resulted in the loss of soil nutrients and fertility and the siltation of rivers, reservoirs, and irrigation canals, which in turn exacerbates flooding and vulnerability. Pressures on land and natural resources across the ASALs, where 60 percent of livestock production is based, are increasing. Livestock productivity is also rapidly declining, but this trend could be reversed, and livestock production could become more sustainable and stable, through investments in sustainable land management (SLM) practices.

18. Low levels of private investment in primary production (in subsistence and commercial-oriented agriculture) and value addition, coupled with poor rural infrastructure such as small-scale irrigation, roads, marketing, and storage, are binding constraints to the sector's growth. Inland areas are largely arid, and two-thirds of the country receives less than 500 mm of rainfall per year. Despite this, Kenyan agriculture is mainly rainfed (98 percent), and thus very vulnerable to increasing temperatures, droughts, and floods, which reduce agricultural productivity. Kenya also experiences extreme weather variability, which can result in more intensive rainfall over a shorter season and greater risk of soil erosion.

19. The proposed National Agricultural and Rural Inclusive Growth Project (NARIGP) aims at helping GoK to address the main constraints summarized above by increasing agricultural production and productivity using community participatory and value chain approaches. Kenya has significant experience in supporting community-led agricultural and rural development, and citizen-centered governance, which has been gained from implementing the Western Kenya Community-Driven Development and Flood Mitigation Project (WKCDD&FMP) and the Kenya Agricultural Productivity and Agribusiness Project (KAPAP). The Western Kenya project demonstrated new approaches for mobilizing communities, and KAPAP demonstrated new approaches for organizing smallholder farmers to participate in agricultural value chains. For its part, NARIGP is integrating and scaling up the Participatory Integrated Community Development (PICD)⁹ and Contracted Extension Service Delivery Model & Value Chain Development (CESDM&VCD) approaches developed and successfully implemented under WKCDD&FMP and KAPAP,¹⁰ respectively. Specifically, under NARIGP PICD will help build community-level institutions by mobilizing smallholder farmers into self-selected common interest groups (CIGs) along their priority value chains (VCs), while the CESDM&VCD approach will provide technical, business, and financial advisory services,

⁹ The PICD approach combines different participatory methodologies for starting and sustaining "community conversations" that enable community groups to reflect on their development needs, prioritize those needs, draw up community action plans (CAPs), and design, implement, and monitor their own projects.

¹⁰ WKCDD&FMP (P074106), financed through an IDA Credit of US\$86 million, became effective in August 2007 and was closed in March 2016. KAPAP (P109683), financed through an IDA Credit of US\$82 million (restructured to US\$65 million), was approved in 2009 and closed in September 2015.

and will link CIGs to producer organizations (POs) for value addition and access to markets and rural finance or credit. Experience thus far suggests that unlike top-down approaches, effective community-level planning and execution encourage innovative development solutions that reflect local priorities. Research also indicates that membership in farmers' organizations/groups is positively associated with increased market participation and that increasing social capital among the poor can be of great value in enhancing households' access to markets.

C. Higher-Level Objectives to which the Project Contributes

20. **The proposed NARIGP will contribute to GoK's Vision 2030 development strategy, launched in 2008.** Vision 2030 reiterates the importance of transforming smallholder subsistence agriculture into an innovative, commercially oriented, and modern sector. It identifies the major challenges as low productivity, underutilized land, inefficient markets, and limited value addition. The agricultural sector's response to Vision 2030 was to develop the Agricultural Sector Development Strategy 2010–2020 (ASDS), completed in 2010. The overall target for the ASDS was to attain average agricultural sector growth of 7 percent annually between 2010 and 2015. In line with Vision 2030, the ASDS seeks to address two critical challenges: (i) increasing the productivity, commercialization, and competitiveness of agricultural commodities; and (ii) developing and managing key factors of production, such as land, water, and rural finance.

21. **Kenya signed a Comprehensive Africa Agriculture Development Programme (CAADP)¹¹ Compact in July 2010 that serves as a framework for targeting transformative agricultural GDP growth through priority investments.** In June 2014, the Malabo Summit and Declaration served as a reconfirmation by African Heads of State and Government to: (i) the CAADP agenda of increasing productivity and investment in agriculture and (ii) expand both the scope and ambition of the CAADP agenda with specific targets on trade issues, resilience, inclusive growth, accountability, and elimination of hunger.

22. **NARIGP is closely aligned with the World Bank Group Kenya Country Partnership Strategy (CPS) FY 2014-2018 and its twin goals of eliminating extreme poverty by 2030 and boosting shared prosperity.** The CPS is firmly anchored in the framework of the government's Vision 2030, which aims for a globally competitive and prosperous nation with a high quality of life for its citizens. Vision 2030 is operationalized by its second Medium-Term Plan (MTP 2) 2013-2017. NARIGP responds to the CPS's Domain 2 "*Protection and Potential – Human Resources Development for Shared Prosperity*," as it will provide support to improving agricultural performance and safety net to the rural poor and vulnerable and marginalized groups (VMGs) using a community-led approach. NARIGP will also assist in achieving two high-level objectives of operationalizing the devolution framework for local decision-making and smooth delivery of decentralized services under Domain 3 "*Consistency and Equity – Delivering a Devolution Dividend*." There is also a link to Domain 1 "*Competitiveness and Sustainability – Growth to Eradicate Poverty*" by improving the productivity of the agricultural sector, creating an enabling environment for public-private partnerships (PPPs) in agribusiness, developing VCs, and promoting innovative rural financial markets.

23. **NARIGP will be coordinated with other World Bank operations.** These operations include : (i) the Kenya Devolution Support Project (KDSP), which seeks to support a subset of the wider GoK National Capacity Building Framework (NCBF) program

¹¹ CAADP is an African-owned initiative under which African countries are encouraged to improve the quality of their agricultural planning and policy making so as to provide the basis for scaled-up investment in the sector.

using a Program-for-Results (P-for-R) instrument; (ii) the proposed Kenya Climate Smart Agriculture Project (KCSAP), which aims at achieving the triple wins of climate-smart agriculture (CSA); (iii) the proposed Kenya Rural Roads Project (KRRP), which seeks to improve rural connectivity to the main road network and hence increase access to markets; (iv) the Kenya Youth Employment Project (KYEP), geared toward enhancing youth skills to improve employability and increasing access to youth-targeted temporary employment programs; (v) the Regional Pastoral Livelihood Resilience Project (RPLRP); and (vi) the proposed Northeastern Development Initiative Project (NDIP).

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

24. The project will contribute to GoK’s high-level objective, which aims at transforming smallholder subsistence agriculture into an innovative, commercially oriented, and modern sector by: (i) increasing the productivity, commercialization, and competitiveness of selected agricultural commodities; and (ii) developing and managing key factors of production, particularly land, water, and rural finance.

25. **NARIGP’s project development objective (PDO) is “to increase agricultural productivity and profitability of targeted rural communities in selected Counties, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response.”**

26. **To achieve the PDO it will be necessary to adopt CSA production practices that maximize the triple wins:** (i) *increased productivity* (e.g., using more inputs, innovations, and improved practices); (ii) *enhanced resilience* (e.g., through efficient use and better management of soil and water resources); and (iii) *reduced greenhouse gas (GHG) emissions* (e.g., better management of manure and crop residues and the promotion of agroforestry). Through the increased adoption of new technologies and improved practices and by federating into POs and other forms of rural institutions like SACCOs (Savings and Credit Cooperatives), rural smallholder farmers will be able to increase their productivity, incomes, and profitability.

B. Project Beneficiaries

27. **The primary beneficiaries of the project will be targeted rural smallholder farmers, including VMGs¹² and other stakeholders, organized in CIGs, of which 70 percent are expected to federate into POs along VCs, and selected county governments.** It is envisaged that NARIGP will be implemented in 21 selected counties with a total of 140 subcounties. Each subcounty will have at least three (maximum of five) participating wards. Within these subcounties, the project will cover about 420 out of the existing 696 wards, which is equivalent to 60 percent coverage. It is estimated that each CIG/VMG will have up to 30 registered farmers who pay membership and annual fees, as detailed in the Project Implementation Manual (PIM).

28. Under Component 1, the project will support CIGs/VMGs through four investment windows: micro-projects on sustainable land management (SLM) and VCs (60 percent); VMGs (10 percent); livelihood (25 percent); and nutrition (5 percent). The CIGs/VMGs on SLM/VC and VMG are expected to federate into POs, which will receive further support from the project under Component 2. Each PO will have up to 100 registered CIGs/VMGs,

¹² VMGs that meet the Bank’s criteria for “marginalization” and the GoK’s criteria of “marginalized” and “minority” communities will include youth, indigenous people, elderly women and men, widows/orphans, the differently-abled, recovering substance abusers, and people living with HIV/AIDS.

which pay membership and annual fees (as detailed in the PIM), trained on SLM/VC and covering at least two wards. Thus on average, there will be four POs (400 CIGs/VMGs) per county. Adding the CIGs/VMGs on livelihood and nutrition (a total of 30 percent) translates to an average of 571 CIGs/VMGs with 17,143 direct beneficiaries¹³ per county or a total of 360,000 in the targeted project area.

29. **The selection of targeted counties was guided by the following underlying principles:** (i) regional balance, to ensure equitable sharing of project benefits across the country; (ii) clustering, to reduce the operation and maintenance (O&M) costs of project implementation; (iii) security, to guarantee an enabling operating environment for supervision and monitoring of project activities; and (iv) data and facts, to ensure that selection is based on available socioeconomic data (such as production potential, population density, poverty rates, undernutrition levels, and vulnerabilities). Based on these guiding principles, the following agreed criteria were used to select counties to be supported by NARIGP: (i) agricultural, livestock, and fisheries potential; (ii) poverty indices, including poverty incidence and poverty rates, as well as the number of VMGs; (iii) vulnerability to climate change risks/fragile ecosystems; (iv) human development indicators, such as undernutrition and food insecurity; and (v) presence of similar projects supported by other development partners (DPs) in a county. Consequently, 21 counties were selected by GoK to participate in the project. These are presented in three agro-ecological clusters in Table 1.

Table 1: List of Selected Counties for NARIGP

Agro-geographical Area	Counties
Arid areas	Samburu, Turkana
Semi-arid areas	Makueni, Meru, Kitui, Embu, Kilifi, Kwale, Narok
Medium to high rainfall areas	Kirinyaga, Kiambu, Murang'a, Nakuru, Bungoma, Trans Nzoia, Nandi, Vihiga, Kisii, Nyamira, Migori, Homa Bay

C. PDO-Level Results Indicators

30. **Progress toward achieving the PDO will be measured by the following PDO-level results indicators:** (i) Yield increase in the selected priority agricultural value chains supported by the project (Percentage); (ii) Producer organizations supported by the project reporting an increase in profitability (Percentage); (iii) Direct beneficiaries who have adopted improved agricultural technologies, innovations, and management practices (TIMPs) promoted by the project (Number), of which female (Percentage); and (vi) Direct project beneficiaries (Number), of which female (Percentage).

III. PROJECT DESCRIPTION

A. Project Components

31. **A key premise of NARIGP is the importance of linking rural smallholder farmers' CIGs and VMGs organized along selected priority VCs to markets.** Thus the technical Components 1-3 of NARIGP are interlinked. *Component 1* entails: (i) mobilizing smallholder farmers into CIGs and VMGs; (ii) building their capacities to plan, implement, manage, and monitor community-level micro-projects along their priority VCs; and (iii) providing primary production TIMPs (such as inputs, animal husbandry, and agronomic practices) and advisory services to improve productivity. *Component 2* focuses on: (i) federating CIGs and VMGs capacitated under Component 1 to join existing POs (or form

¹³ Direct beneficiary is the equivalent of a farming household of roughly five to eight members.

new ones in cases where none exist) along priority VCs; (ii) providing technical (value addition), business (planning and management), financial (access to credit/finance), and organizational (leadership and governance) advisory services; and (iii) linking them to markets and value addition opportunities. *Component 3* provides: (i) technical advisory services (e.g., public extension services) facilitated by counties; (ii) an enabling environment for the private sector and PPPs to operate; and (iii) multi-community (e.g., catchment or landscape-wide and larger rural infrastructure) investments based on priorities identified under Components 1 and 2.¹⁴ *Component 4* supports national and county-level project coordination and management activities, including establishment of monitoring and evaluation (M&E) and management information (MIS) systems, an ICT-based Agricultural Information Platform, and fiduciary (financial management and procurement), human resources, communication and citizen engagement, and environmental and social safeguards compliance. In addition, a contingency emergency response facility was built under this component to respond to a natural disaster affecting the sector.

Key Design Principles

32. **The project's design was informed by a number of principles.** These include: a community-driven development (CDD) approach; a VC approach; nutrition-informed; gender, youth, and VMG inclusion; a CSA focus; use of ICT; and a phased implementation approach. As far as possible, these principles will be mainstreamed in all project components.

33. **CDD approach.** NARIGP will build on the country's rich experience in promoting CDD approaches through programs such as WKCDD&FMP, KAPAP, Kenya Agricultural Productivity and Sustainable Land Management Project (KAPSLMP), and the Kenya component of the East African Agricultural Productivity Project (EAAPP). The CDD approach will underpin the project's participatory interventions across all components to increase agricultural productivity and profitability, improve livelihoods, and reduce vulnerabilities of participating rural communities.

34. **VC approach.** The focus will be on developing priority, promising agricultural and livestock commodities in the respective counties through interventions covering production, value addition, and linkages to markets. NARIGP will thus aim at supporting priority crops and livestock products that: (i) have the best potential for raising productivity; (ii) can be produced on a competitive basis; (iii) face strong and growing demand; (iv) can be diversified and their production intensified; and (v) can leverage significant value addition and employment along VCs and increase the incomes and employment of large numbers of people living in rural areas. This approach will look at supply chains, delivery channels, and enabling environment issues to identify and address bottlenecks and leverage points in VCs.

35. **Nutrition-informed.** The focus will be on addressing chronic undernutrition (stunting), a serious national development concern. NARIGP will thus mainstream interventions aimed at improving nutritional status of targeted rural communities and households, particularly women (pregnant and lactating), children under two, and primary school children in underprivileged communities. Specifically, it will aim at improving the diets of target beneficiaries by diversifying both food production (by promoting VCs for nutrient-dense products, such as fruits, vegetables, and small livestock) and consumption (by supporting household- and school-based nutrition-sensitive interventions). See Annex 6 for further details on mainstreaming nutrition.

¹⁴ Refer to Annex 8.

36. ***Gender, youth, and VMG inclusion. Increasing social capital among Kenya’s poor is at the core of this operation.*** Thus NARIGP will include targeted interventions aimed at enhancing economic and social inclusion of VMGs, such as unemployed youth, the elderly, recovering substance abusers, widows/orphans, and differently-abled people. The project mainstreams gender-informed approaches in its design, implementation, and monitoring by factoring in different needs, constraints, and opportunities of women, men, girls, and boys in all components. See Annex 7 for more details.

37. ***CSA focus. SLM is a critical link in sustainably improving livelihoods and reducing vulnerabilities of many rural communities in Kenya.*** Due to Kenya’s demonstrable vulnerability to climate change and variability, SLM is not only critical for increasing agricultural productivity and promoting food security but for enhancing community resilience to climate change shocks. The project will support targeted communities to assess and identify ways of addressing poor soil and water management issues by incorporating SLM practices in their Community Development Plans (CDPs). See Annex 8 for further details.

38. ***Use of ICT. Participatory communication and active sharing of knowledge are processes by which beneficiaries in this project can become true agents of change.*** NARIGP will build on best practices of using ICT platforms in other programs, such as WKCDD&FMP and KAPAP, with a focus on strengthening capacity and empowering CIGs and VMGs. Existing ICT platforms will be leveraged and incorporated to assist: (i) participatory processes; (ii) interpersonal and interactive communication; (iii) transactions; and (iv) project management, and to improve the effectiveness of project implementation.

39. ***Phased implementation approach. This approach would include using readiness indicators to identify participating counties to be covered by the project each year.*** These indicators include: (i) previous experience in implementing CDD micro-projects or having undergone the PICD process and developed CDPs and micro-project proposals; (ii) integration of NARIGP county interventions and community micro-projects in County Integrated Development Plans (CIDPs); (iii) willingness to co-finance the proposed county-level interventions; and (iv) established project implementation arrangements, including county project steering and technical committees, as well as functional county project coordination units. It is envisaged that NARIGP will be fully operational in at least 5 counties by end of year 1. The remaining counties will join as their capacities are strengthened to meet the above criteria, reaching 15 by year 2 and all 21 by year 3.

40. Components and investments to be supported by the proposed project are summarized below and presented in more detail in Annex 2.

Component 1: Supporting Community-Driven Development (US\$80 million, of which IDA US\$75 million)

41. The overall objective of this component is to strengthen: (i) community-level institutions’ ability to identify and implement investments that improve their agricultural productivity, food security, and nutritional status and (ii) linkages to selected VCs and POs.

Subcomponent 1.1: Strengthening Community-Level Institutions (IDA US\$12 million)

42. The project will finance activities aimed at building the capacity of community-level institutions, such as Community-Driven Development Committees (CDDCs), CIGs, and VMGs, to plan, implement, manage, and monitor agricultural and rural livelihood development interventions. Specifically, the project will finance costs related to: (i) facilitation of community institutions, including community mobilization and awareness

creation of the PICD process, through which priority interventions will be identified; (ii) development of and training on standardized training modules for PICD, VC development, fiduciary management (i.e., community financial and procurement management, and social audits), and environmental and social safeguards monitoring (i.e., use of checklists in micro-project identification and implementation); (iii) payments to competitively selected advisory service provider (SP) consortia (i.e., to provide technical and extension advisory services, micro-project planning and implementation support, and local value addition, and to link CIGs/VMGs to POs); and (iv) facilitation of County Technical Departments (CTDs)¹⁵ to provide oversight and quality assurance at the sectoral level.

Subcomponent 1.2: Supporting Community Investments (US\$68 million, of which IDA US\$63 million)

43. This subcomponent will finance physical investments in the form of community micro-projects identified in the PICD process that increase agricultural productivity, improve livelihoods, reduce vulnerability and include a strong nutrition focus. Micro-project investments will fall under four windows: (i) SLM interventions and VC development; (ii) market-oriented alternative livelihood interventions; (iii) targeted support to VMGs; and (iv) nutrition mainstreaming through three pathways: consumption (e.g., nutrient-dense crops and livestock products), income (e.g., home-based value addition, storage, and preservation); and women's empowerment (e.g., on- and off-farm activities, labor-saving technologies, and savings and credit schemes). Priority will be placed on micro-projects that have: (i) the potential to increase agricultural productivity and incomes, value addition, and links to markets via POs, and for livelihoods to SACCOs; and (ii) sustain the natural resource base and returns to targeted communities, rather than simply providing inputs.

44. The County Project Steering Committee (CPSC) will be responsible for approving the investment proposals submitted by CIGs and VMGs through a competitive process, based on the recommendations of the County Project Coordination Unit (CPCU). The mechanism for implementing micro-projects, including procedures for disbursing matching grants, will be detailed in the Community Grants Manual (CGM) and the PIM.

Component 2: Strengthening Producer Organizations and Value Chain Development (US\$50 million, of which IDA US\$45 million)

45. The objective of this component is to build POs' capacity to support member CIGs and VMGs to develop selected priority VCs in targeted rural communities. Under Component 2, CIGs and VMGs formed under Component 1 and facilitated to federate into POs will be strengthened to become viable and profitable, and attractive not only to existing and additional members, but also to business partners in input, output, and service markets. POs will integrate member CIGs and VMGs into input and service markets to: (i) further improve production and (ii) take advantage of market opportunities available along the selected VCs determined to be of high priority in the development of the respective counties. Targeted investments will also be made toward value addition and improved harvest and post-harvest management of produce to reduce the high post-production losses, which range from 30 to 50 percent depending on the VC. Targeted POs will comprise inter-community cooperatives, farmers' associations, or other forms of market-oriented farmers' organizations (including companies), primarily formed by federated CIGs and VMGs supported under Component 1.

¹⁵ For example, agriculture, livestock, fisheries, environment and natural resources, cooperatives, and youth and women's affairs, among others.

Each CIG and VMG joining a PO will pay membership and annual fees, as detailed in the PIM.

Subcomponent 2.1: Capacity Building of Producer Organizations (IDA US\$7 million)

46. The objective of this subcomponent is to build the capacity of business-oriented POs formed by federated CIGs and VMGs organized under Component 1 so that they become profitable. Through their POs, CIG and VMG members can: have a stronger say in the VCs in which they participate; access improved farm inputs, technologies, and agricultural services (including rural finance and extension); and negotiate prices in input and output markets. Project support to POs will be structured around two pillars: (i) organization and capacity building and (ii) financing for enterprise development tailored to the needs of POs and their subscribing member CIGs and VMGs. At the start of the project, each selected PO will be supported to prepare a five-year Enterprise Development Plan (EDP) that will be the main instrument for guiding project investments at the PO level.

Subcomponent 2.2: Value Chain Development (US\$43 million, of which IDA US\$38 million)

47. The objective of this subcomponent is to upgrade competitive VCs for integration and economic empowerment of targeted smallholder farmers (organized into CIGs and VMGs) through their respective POs. Project support will be used to finance activities related to: (i) selection, mapping, and organization of competitive nutrition-sensitive VCs for smallholder development and (ii) VC upgrading through a matching grant mechanism targeted at addressing key investment gaps, including: strengthening of input supply systems (e.g., foundation seed production by research institutions, commercial seed production by the private sector, and community-based seed multiplication); development of farm mechanization technologies for CSA practices; value addition and processing; and post-harvest management technologies and facilities (e.g., drying, storage, and warehousing receipt system).

48. As in subcomponent 1.2, CPSC will be responsible for approving the investment proposals submitted by POs through a competitive process, based on the recommendations of CPCU. Details on implementing VC activities, including the procedures for accessing matching grants, are provided in the PIM.

Component 3: Supporting County Community-Led Development (US\$72 million, of which IDA US\$65 million)

49. The objective of this component is to strengthen the capacity of county governments to support community-led development initiatives identified under Components 1 and 2. This support includes: provision of technical advisory services (e.g., public extension services); supervision of SPs; creation of an enabling environment for the private sector and PPPs to operate; and financing of inter-community (e.g., catchment or landscape-wide and larger rural infrastructure) investments based on priorities, as well as employment programs related to O&M of these investments. This component will also enable county governments to establish mechanisms for effective citizen engagement through consultations, sensitizations, capacity building, and partnerships.

Subcomponent 3.1: Capacity Building of Counties (IDA US\$10 million)

50. This subcomponent will finance the capacity building of participating counties in the area of community-led development of agricultural and alternative livelihoods. The objective

is to enable them to support activities under Components 1 and 2. The project will ensure that activities under this subcomponent are coordinated and harmonized with those financed by the NCBF. In particular, this subcomponent will finance activities related to: (i) stakeholder engagement through sensitization and awareness creation to become familiar with project objectives and “philosophy”; (ii) county-level Capacity Needs Assessments (CNAs) and Capacity-Building Plans (CBPs); (iii) training and capacity building, including the development of relevant standard training manuals and Information, Education, and Communication (IEC) materials; technical assistance (TA); and logistical support and facilitation of CTD staff.

Subcomponent 3.2: County Investment and Employment Programs (US\$62 million, of which IDA US\$55 million)

51. This subcomponent will finance investments in key agricultural and rural development infrastructure that span multiple targeted communities, as well as landscape-wide environmental and natural resource management (NRM) investments. It will also finance short-term employment during the off-season, particularly for VMGs and unemployed/out-of-school youth. Employment opportunities will largely be created under public works using a cash-for-work approach managed by county governments. Typical investments would include: construction of rural roads, small multipurpose dams, earth pans, small-scale community-managed irrigation systems, and market and storage facilities (under PPP arrangements); restoration of degraded catchments and water courses; and rehabilitation of similar existing infrastructure. Co-financing and the presence of a satisfactory O&M plan, including arrangements for cost recovery or sharing (e.g., through collection of user fees/charges and membership dues), will be prerequisites for counties to access project funds.

Component 4: Project Coordination and Management (US\$17 million, of which IDA US\$15 million)

52. This component will finance activities related to national and county-level project coordination, including planning, fiduciary (financial management and procurement) and human resource (HR) management, safeguards compliance and monitoring, development of the MIS and ICT, regular M&E, impact evaluation, and communication and citizen engagement. In addition, in the event of a national disaster affecting the agricultural sector, the project through this component would respond via a built-in contingency emergency response facility.

Subcomponent 4.1: Project Coordination (US\$12 million, of which IDA US\$10 million)

53. This subcomponent will finance the costs of national and county-level project coordination units (NPCU and CPCUs), including salaries of the contract staff, and O&M costs, such as office space rental, fuel and spare parts of vehicles, office equipment, audits, furniture, and tools, among others. It will also finance the costs of project supervision and oversight provided by the National Project Steering Committee (NPSC) and CPSCs, and any other project administration costs.

Subcomponent 4.2: Monitoring & Evaluation and ICT (IDA US\$5 million)

54. This subcomponent will finance activities related to routine M&E functions (e.g., data collection, analysis, and reporting) and development of an ICT-based Agricultural Information Platform for sharing information (e.g., technical or extension and business advisory services, market data, agro-weather, and others); it will also facilitate networking across all components. It will finance baseline, mid-point, and end-of-project impact

evaluations. The Platform is intended to provide the project and other stakeholders with the ability to: (i) capture real-time georeferenced data from ongoing project activities using mobile phones connected to network servers; (ii) geospatially aggregate uploaded data and information received from the community, county, and national levels, including agricultural statistics; and (iii) capture FM and procurement reports (e.g., eligible beneficiaries, disbursements, statement of expenditures, and contracts awarded and their values) from all participating counties on a monthly basis using standard formats. See Annex 11 for further details.

Subcomponent 4.3: Contingency Emergency Response (IDA US\$0 million)

55. This zero budget subcomponent will finance the immediate response activities following natural disasters impacting the agricultural sector. The contingency emergency response financing would be triggered: (i) through a formal declaration of a national emergency by the authorized agency of GoK and (ii) upon a formal request from the National Treasury (NT) on behalf of GoK. In such cases, funds from project components would be reallocated to finance immediate response activities in the agricultural sector as needed. Procedures for implementing the contingency emergency response will be detailed in the Immediate Response Mechanism Operations Manual (IRM-OM) to be prepared and adopted by GoK within six months of project effectiveness.

B. Project Financing

56. The total project cost is estimated at US\$219 million,¹⁶ of which the International Development Association (IDA) will finance US\$200 million under an Investment Project Financing (IPF) instrument. The estimated project cost takes into account GoK counterpart funds (US\$2 million equivalent), county governments' co-financing (US\$7 million equivalent), and beneficiary contributions (US\$10 million equivalent) amounting to US\$19 million equivalent. Table 2 summarizes the estimated project costs and Bank/IDA financing.

¹⁶ According to the COSTAB, these total costs include contingencies.

Table 2: Estimated Project Cost and Financing

Project Components	Project Cost (US\$ million)	IDA Financing (US\$ million)	Financing (%)
Component 1: Supporting Community-Driven Development ¹⁷	80.0	75.0	94%
Component 2: Strengthening Producer Organizations and Value Chain Development	50.0	45.0	90%
Component 3: Supporting County Community-Led Development	72.0	65.0	90%
Component 4: Project Coordination and Management	17.0	15.0	88%
Total Project Costs	219.0	200.0	91%

57. A Project Preparation Advance (PPA) for US\$2.0 million became effective on September 8, 2015 with a refinancing date of July 31, 2016. Given that the new Board Date for NARIGP is August 23, 2016, the GoK has formally requested the Bank/IDA to extend the refinancing date to November 23, 2016.

C. Lessons Learned and Reflected in the Project Design

58. In designing the project components, the Bank and GoK teams drew on a range of lessons from other national and global projects and initiatives.

(i) National experience

59. Through a number of investment operations in the agricultural sector, the Bank has supported community-led development projects and institutional platforms that have benefitted marginalized rural populations in Kenya. In addition, it has provided support to strengthen the knowledge base and the government's capacity for developing the agricultural sector. These experiences and knowledge can be used to promote more inclusive agricultural growth as proposed under NARIGP. Key lessons learned from Bank-financed CDD-type operations in Kenya and their influence on the design of NARIGP are summarized below.

60. **WKCD&FMP:** Under this project, the PICD proved to be a very powerful tool for CDD projects. Experience shows that it takes time to complete the PICD process and that there are no shortcuts. Implementation experience also shows that micro-projects, particularly those that are individually managed or managed by women or VMGs, tend to perform better than group enterprises. Project beneficiaries tend to invest income generated from micro-projects into other income-generating activities with higher returns. The grievance redress system for handling complaints has been very effective in resolving conflict. The Social Accountability and Integrity Committee (SAIC) enhanced transparency among the community groups. Finally, innovative ways of attracting young people to engage in activities related to agricultural production need further exploration.

¹⁷ The CIGs participating in SLM/VC micro-projects (i.e., 70 percent of beneficiaries) will be required to contribute at least 10 percent of the total costs. The CIGs participating in the alternative livelihood micro-projects would be required to contribute at least 30 percent of the estimated costs, 5 percent of which must be in cash and the rest in-kind. The VMG and nutrition micro-projects will receive 100 percent IDA financing.

61. To a large extent, NARIGP's design incorporates these lessons. The PICD process will take place for six to nine months to allow communities to participate fully in selecting priority SLM/VCS and alternative livelihood interventions and in planning micro-projects. This ample participation will enhance ownership and sustainability of the interventions supported by the project. NARIGP will support interventions targeted for VMGs, including women- and youth-only groups, and will encourage women to invest their proceeds in the higher-income-generating or alternative livelihood micro-projects, such as off-farm and value addition activities. NARIGP's design incorporates the complaint-handling and grievance redress mechanisms, as well as social audits, for greater transparency in micro-project selection, implementation, and equitable sharing of benefits. The safety net program under NARIGP aims at creating jobs and employment opportunities for youth, particularly during the off-season.

62. **KAPAP:** Lessons drawn from the recent Implementation Completion and Results (ICR) report prepared by GoK are that the quality of SPs tended to be variable, as: (i) there was no standard approach/methodology to the provision of technical, business, and financial advisory services to CIGs and POs; (ii) no quality control and assurance mechanisms were used to evaluate SPs' performance; and (iii) SPs' technical capacity/skills mix was inadequate to respond to the wide range of VC and PO demands. Other lessons learned included the benefits of using local lead farmers in providing extension services to enhance peer-to-peer learning, and of using ICT and mass media to reach beyond target groups.

63. Under NARIGP, standard training modules for each of the priority VCs, business and financial advisory services for POs, fiduciary (i.e., community financial and procurement) management, and environmental and social safeguards (use of checklists to avoid doing harm), among others, will be developed. Staff of the selected SPs will undergo mandatory training on these standard modules prior to using them to build the capacity of CIGs/VMGs and POs in Components 1 and 2, respectively. CTDs' capacity will be enhanced through training and facilitation of O&M to enable them to provide oversight and quality assurance of contracted SPs. The terms of reference (ToRs) for SPs will include the requirement that they form consortia comprising a skills mix ranging from production (along priority VCs) to value addition (particularly through POs) and marketing, including business and financial advisory services. NARIGP will adopt the use of farmer field schools (FFSS) and lead farmers for disseminating TIMPs.

64. Kenya has remarkable examples of projects using various ICT platforms to collect data from the field as part of M&E functions and to obtain feedback from beneficiaries. NARIGP will take full advantage of Kenya's high mobile phone density (83 percent of the population is estimated to have mobile phone access) and existing successful platforms to design an ICT-based Agricultural Information Platform (e.g., for collecting and disseminating information, technologies, and agro-weather and market information, and for county networking and learning) that is scalable and viable in the long term.

(ii) Global experience

65. A unique strength offered by the World Bank is its rich regional and global knowledge, experience, and networks, which complement GoK's design and implementation of multi-sectoral, community-led, and market-driven approaches. Some of the lessons from that wide regional and global experience are reflected in NARIGP's design and summarized below.

66. ***Producer Organizations and Market Linkages:*** The key lesson¹⁸ for NARIGP is that significant investment in POs and their business plans and facilitating POs to build linkages with markets enables significant increases in agricultural productivity and income. These investments should include access to extension services, financial services, and technology and markets. In addition, the design of NARIGP draws on lessons from the Rural Productive Partnerships projects financed by the World Bank and successfully implemented in Latin America. The approach creates favorable conditions and incentives for buyers and smallholders to establish mutually beneficial relationships by ensuring that farmers consistently produce a particular quality and reliable supply of a good or commodity. Thus small and marginal farmers are able to overcome market barriers and gain stability by receiving consistent and higher prices for their goods, while buyers receive a consistent supply of goods of a particular quality.

67. ***Buy-in from Subnational Governments:*** Brazil and Mexico¹⁹ have an intensive focus on buy-in from all levels of government and departments related to their projects. Extensive measures were taken to define the roles and responsibilities of national and subnational governments very clearly, which not only helped in reducing task redundancy, but also brought down administrative costs. That team-building exercise also led to the creation of a clear VC system whereby each department knew its duties, expected outputs, and respective budgetary allocations. This demarcation was instrumental in decreasing conflicts between national and county governments, as well as their departments. A similar approach will be used in NARIGP to ensure buy-in from county governments.

68. ***Use of ICT.*** The role of ICT in producing and disseminating knowledge has expanded exponentially. ICT offers innovative opportunities to agricultural VCs by enabling a variety of stakeholders to interact and influence agricultural development processes. In countries like Brazil and Mexico, ICT is leveraged to reach farming communities in ways they had never been reached before. In tasks ranging from supporting knowledge campaigns to monitoring compliance, tracking beneficiaries, making payments, and incorporating user feedback, ICT is being integrated into a central system to process data and disburse payments with minimal human intervention. NARIGP has incorporated ICT into its design.

69. ***Open Data Initiatives:*** To ensure the maximum impact and sustainability of the ICT and data collection systems implemented by the project, non-personal (or non-confidential) data will be published online as “Open Data.” Global experience shows that making data available in this way entails very low additional costs and enables it to be used by other actors in business and civil society in additional, innovative ways for economic benefit, job creation, transparency, government efficiency, and increased citizen engagement in public service standards and improvement.

¹⁸ The project has drawn lessons from the experience of the Irrigated Agriculture Modernization and Water-Bodies Restoration and Management (IAMWARM) project in Tamil Nadu and the Madhya Pradesh Rural Livelihoods Project (MPRLP) financed by the Bank in India.

¹⁹ Oportunidades/Progresá (Mexico) is designed to target poverty by providing conditional cash transfers to families in exchange for regular school attendance, health clinic visits, and nutritional support; Bolsa Família (Brazil) provides conditional cash transfers to fight and reduce poverty by giving preference to female-headed households through so-called Citizen Cards, which operate like a debit card and are issued by the Caixa Econômica Federal, a government-owned savings bank.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

70. **NARIGP's implementation will involve a three-tiered institutional arrangement (national, county, and community).** Under the **first tier** at the national level, the NT will represent GoK, for which the Ministry of Devolution and Planning (MoDP) will be the main implementing agency. Within MoDP, the project will be anchored in the State Department of Planning and Statistics (SDPS). The **second tier** will be at the county level, with county governments as the executing agencies of the project. The **third tier** will be at the community level, where beneficiaries will implement their community-led interventions. The three-tiered institutional arrangement aims to: (i) lessen the approval layers for faster decision making and efficient project implementation and (ii) utilize the constitutionally mandated governance structures at the national and county levels, to the extent possible. To enhance linkages and ownership of the project, participating county governments will be fully involved in the decision-making process at the national level, as they will be represented in NPSC and the National Technical Advisory Committee (NTAC) by the Chair of the Council of Governors (CoGs) and their Chief Executive Officers, respectively. In addition, county governments through CPSCs will be responsible for decision making/approval of micro-projects and for providing oversight at the county and community levels. A summary of the institutional arrangements is provided below. The detailed roles and responsibilities of the national, county, and community institutions will be provided in the PIM.

71. **National level.** Overall project oversight and policy guidance will be provided by NPSC, which will be co-chaired by the Cabinet Secretary (CS), MoDP and the Chair of the CoGs secretariat; NPSC will comprise PSs from the relevant state departments of line ministries, and representatives of the private sector and civil society. NPCU, to be headed by the National Project Coordinator (NPC), will be established under the SDPS and will be responsible for managing day-to-day project implementation. Other key staff of NPCU will include three Component Coordinators, Financial Specialist and Procurement Specialist, an M&E Officer, a Contracts Manager, and an Environmental and Social Safeguards Officer. The NPCU staff will be seconded to the project on a full-time basis by the national government. Recruitment of NPCU staff from the market will be done only where internal capacity is inadequate and with approval from the Directorate of Public Service Management in the Ministry of Public Service, Youth and Gender Affairs. NTAC, comprising (among others) directors of relevant line ministry departments, directors general of the relevant government agencies, Chief Executive Officers (CEOs) of the CoGs, and representatives of the private sector, will be co-chaired by the PS, SDPS, MoDP and Chair of CoG Agriculture or Finance Committee. The CEO of the Intergovernmental Relations Technical Committee (IGRTC) will also be a member of NTAC. NTAC will be responsible for providing technical support for overall project implementation. The composition of members of NTAC attending each meeting will depend on the agenda or technical advice sought by NPCU. NPC will serve as the secretary to both NPSC and NTAC.

72. **County level.** Depending on each county's governance structure, CPSC will be chaired by the County Secretary, who will be responsible for providing implementation oversight in the respective counties. That oversight includes (i) approving county annual work plans and budgets (AWP&Bs), community-led micro-project proposals, and investment proposals submitted by POs and (ii) ensuring that they are incorporated in the CIDP. CPSC will comprise chief officers of the relevant county ministries (e.g., Agriculture, Livestock and Fisheries; Water and Irrigation; Trade and Cooperatives; Environment and Natural Resources; Works, Mechanization, and so on); county director of environment (National

Environment Management Authority/NEMA); Finance and Planning departments; and representatives from the private sector (e.g., County Chamber of Commerce), county representative of farmers/POs, civil society, and VMGs. The County Commissioner may be co-opted in the CPSC, as needed. Similarly, the actual composition of CPSC members attending each meeting will depend on the agenda or technical advice sought by CPCU. The CPC will serve as the secretary to CPSC. CPCU, which will be embedded into the respective county government structures, will comprise the Country Project Coordinator (CPC), County Component Technical Leaders (three), and County M&E, Finance, and Procurement Assistants. The CPCU staff will be seconded to the project on a full-time basis by the county governments. Recruitment of CPCU staff from the market will be done only where internal capacity is inadequate and with approval from NTAC, following the recommendation by the County Public Service Boards.

73. **Community level.** CDDCs with elected leaders (chair, secretary, treasurer, and board members) will represent beneficiaries in the targeted communities. CDDCs will be responsible for working with SPs in mobilizing communities into CIGs and VMGs through the PICD process. They will also be responsible for identifying vulnerable and marginalized members of the community through participatory targeting approaches. CDDCs will facilitate the preparation of prioritized CDPs, and the resulting community micro-projects (e.g., SLM and VC, alternative livelihoods, VMG targeted and nutrition interventions), as well as their implementation, community participatory monitoring, and reporting. The details on the institutional arrangements for implementing the project are presented in Annex 3.

B. Results Monitoring and Evaluation

74. **NARIGP will be underpinned by a solid monitoring, learning, and evaluation system that will feed into decision support systems, business analytics, and rigorous studies.** The web-based M&E and MIS will be set up for data collection and information sharing at the national, county, and community levels. Their primary objective will be to enforce the culture of results-based project M&E and provide the foundation for an evidence-based decision-making process. These systems will be designed for data collection and provide concurrent feedback to key stakeholders about progress toward achieving the project's key results (see Annex 1 for more details about the Results Framework). An M&E Officer and M&E Assistants at the national and county levels, respectively, will be responsible for data collection, compilation, and reporting. The project will strengthen overall M&E capacity by investing in an ICT-based Agricultural Information Platform and training at all levels. County governments through the established CTDs will play a key role in quality assurance of M&E data collected in their respective technical areas, as will be detailed in the PIM.

75. At the community level, NARIGP will adopt a participatory M&E approach, whereby non-committee members of CIGs/VMGs (a man and a woman) will be elected to monitor the micro-project activities. NARIGP will build on the experience of WKCDD&FMP, which successfully implemented a web-based and geotagged M&E system and MIS that include real-time monitoring images and data for each micro-project across all participating subcounties.

76. As much as possible, data collected will be disaggregated, analyzed, and reported by gender and VMG. An independent, rigorous, quantitative/randomized evaluation of impact will be carried out under the project, starting with a baseline and followed by mid-term and end-of-project surveys. The objective of an impact evaluation will be to assess the transformational impact and inclusiveness of project interventions. The quantitative impact

evaluation will be accompanied by qualitative studies as well as other specific analytical works as needed.

C. Sustainability

77. **The project will assist counties and communities to strengthen their technical and business skills and organizational capacities to plan, implement, and manage interventions to diversify their benefit flows.** Global and national experience shows that the poor, once they are facilitated to organize into POs and to access markets, take up higher value-adding activities. Further, they capitalize on other inclusive growth opportunities in the rural economy to generate additional cash flows that enable them to seek advisory services and forge linkages to the private sector. To sustain the gains, NARIGP will build on existing community institutional platforms in participating counties, such as irrigation water users' associations (IWUAs), for the O&M of their schemes by using collected user fees or irrigation service charges.

78. Measures will also be taken to enhance sustainability of key investments and county and community institutions supported under this project. First, NARIGP will place strong emphasis on delivering capacity-building support to agricultural and alternative livelihood investments at the community level, which in turn will be aggregated at the PO and SACCO level. These strengthened farmer networks (i.e., POs and SACCOs) will create economies of scale and enhance the collective bargaining power of their members (CIGs/VMGs). As a result, CIG/VMG members will be able to buy inputs at more reasonable prices due to volume discounts and will more easily access output markets. Such networks will also be able to access credit through micro-finance institutions and commercial banks, so that investments are sustained beyond the life of the project. The CIGs/VMGs' savings and SACCOs would be another source of finance for sustaining their interventions. The benefits that accrue to communities and beneficiaries will create an incentive to maintain investments through user charges/fees. Second, capacity building at the county and community levels will create social capital for the rural poor in the form of community-based institutions (i.e., CIGs/VMGs, POs, and SACCOs). The project will link the newly formed community-based institutions with county governments, as well as the private sector, so that they become an integrated part of future CIDPs. Third, for county-level interventions, NARIGP will require participating counties to be responsible for O&M of investments supported by the project. O&M costs will be financed from county governments' budgets and/or cost recovery or sharing with communities through user fees/charges levied on productive infrastructure, such as irrigation schemes, dipping facilities, and watering points. It is also expected that counties will sustain youth employment and skills development programs beyond the life of the project by tapping into ongoing safety nets and national youth employment projects and programs.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

79. **The overall risk to achieving the PDO is *Substantial*.** Fiduciary risk is assessed to be "*High*," while "political and governance," and "institutional capacity for implementation and sustainability" risks are "*Substantial*." The remaining risks—macroeconomic, technical design of project, environmental and social safeguards, and stakeholders—are rated "*Moderate*." Table 3 summarizes the SORT (Systematic Operations Risk-Rating Tool) analysis of key risks and Annex 3 discusses them in detail.

Table 3: Summary of SORT Analysis

Risk Category	Rating (High, Substantial, Moderate, Low)
1. Political and Governance	S
2. Macroeconomic	M
3. Sector Strategies and Policies	M
4. Technical Design of Project	M
5. Institutional Capacity for Implementation and Sustainability	S
6. Fiduciary	H
7. Environment and Social	M
8. Stakeholders	M
9. Other	
OVERALL	S

80. **Fiduciary.** Based on the recent in-depth review conducted for WKCDD&FMP, a CDD-type operation implemented by MoDP, both the FM and procurement risks are High. To mitigate this risk, a detailed action plan was developed to improve fiduciary compliance.

81. **Political risk.** This is rated High because Kenya will hold the next general elections in August 2017. The political campaign period is likely to begin towards the end of 2016, around the time NARIGP becomes effective. There is a significant risk that NARIGP can be used as an election tool and that key policy decisions and strategic directions relating to project implementation could change after the elections. Further, the current challenges of devolution and tensions between the national and county governments relating to devolved sectors, which include agriculture, could also be exacerbated in the wake of political transition. To mitigate this risk, the project design ensures that county governments are represented at the national-level project implementation arrangements.

82. **Institutional capacity for implementation and sustainability.** This risk is rated Substantial because of the limited capacity of the relatively new county governments to deliver agricultural services, including public advisory services, animal health, and disease surveillance and control/veterinary services. To mitigate this risk, NARIGP will undertake a Capacity Needs Assessment (CNA) to identify staffing levels and skills gaps at the county level. The staffing gap will be filled either through secondment from MoALF to counties or recruitment from the market, while the skills gap will be addressed by training and capacity-building activities.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

83. The economic and financial analysis (EFA) for NARIGP is based on similar CDD-type projects in the agricultural sector in Kenya and follows World Bank guidelines. The financial analysis uses “indicative enterprise models” or “farm budgets” to assess the financial and economic viability of eight selected VCs: tissue-culture banana (TCB), mangoes, tomatoes, intercropped maize and beans, intercropped sorghum and green grams, milk production, honey, and local poultry. The Agricultural Sector Development Support Program (ASDSP) identified these VCs as some of the top priority VCs in the 21 participating counties. The financial analysis compares the “with project” to the “without

project” scenario. The results show that NARIGP-supported activities would bring positive net present values (NPVs) for each enterprise. The NPVs range from US\$577 for intercropped maize and beans to US\$12,142 for TCB production. Benefit-cost ratios (BCRs) range from 1.3 for intercropped sorghum and green grams to 13.1 for TCB.

84. The economic analysis aggregates the incremental benefits of the above crop and livestock VCs and the incremental benefits related to potential reductions in GHG emissions, while factoring in the project’s investment cost of US\$219 million and a recurrent cost of approximately US\$14.3 million. The resulting NPV calculated over a span of 20 years and using a discount rate of 5 percent²⁰ is US\$827 million; the internal rate of return (IRR) is 21.8 percent. In contrast, aggregating the financial analysis results in an NPV of US\$707 million and an IRR of 20.9 percent. Sensitivity analyses performed for the economic analysis demonstrate that the project is capable of absorbing substantial negative impacts (e.g., a decline in incremental net benefits, a decline in technology adoption rates, and an increase in investment costs) and still generating an IRR of at least 14 percent, which is above the opportunity cost of capital and thus supports the investment decision.

85. The above benefits may be underestimated because the analysis captures only 70 percent of beneficiaries (i.e., a total of 176,400)—those who participate in SLM and VC interventions and adopt improved TIMPs. If the remaining 30 percent of beneficiaries (those participating in alternative livelihoods and value addition micro-projects, as well as those benefiting from off-season employment) and intangible benefits related to community empowerment, improvements in nutritional status, and other environmental benefits are quantified and added to the economic analysis, the resulting NPV and IRR will be even higher.

86. The rationale for public financing is that traditional private financing of the agricultural sector has always been problematic due to perceptions of heightened risk, low profitability, high dis-aggregation of farmers, and losses due to quality and waste. NARIGP fundamentally addresses these traditional challenges by providing matching grants to resource poor smallholder farmers to enable them to invest into their farms; and play a more active role in established supply chains. This medium-term finance is vital to enable farmers to make longer-term investments into their farms. The development impact of the project is that farmers who adopt TIMPs increase their productivity and become more profitable; and those who join POs and SACCOs increase their bargaining power for inputs and output prices, attain greater economies of scale, and present a better risk profile. Private investments in SLM interventions also generates “public goods” with positive externalities, including reduced soil erosion (which benefits downstream water users) and GHG emissions.

87. The value added of the World Bank’s support is its leadership in supporting preparation and implementation of agricultural projects, which has also been acknowledged by GoK, and reflected in its request for NARIGP support. The Bank is able to draw on its vast global knowledge, including significant experiences on agricultural development projects, landscape-wide, and CDD approaches to customize them to fit the unique context of Kenya to achieve desired outcomes. The Bank is also able to mobilize resources within the World Bank Group (i.e., the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA)), as well as partner with other donors.

²⁰ See “Technical Note on Discounting Costs and Benefits in Economic Analysis of World Bank Projects” (World Bank 2015).

B. Technical

88. **Greenhouse Gas Accounting.** Since July 2014, the World Bank has required all investment financing projects to account for net carbon balance. The Bank uses the Ex-Ante Carbon-Balance Tool (EX-ACT), developed by FAO in 2010, to undertake this analysis.

89. The agricultural sector is the largest source of GHG emissions in Kenya, contributing about 58.6 percent to total GHG emissions. The sector is also a key driver of deforestation and land degradation, which account for an additional 17 percent of GHG emissions. In July 2015, Kenya declared its Intended Nationally Determined Contribution (INDC) to global mitigation efforts: it seeks to abate its total GHG emissions by 30 percent relative to the “business as usual” scenario of 143 MtCO₂-eq per year.

90. The main challenge in estimating NARIGP’s net carbon balance is that as a CDD-type operation, detailed information on the area (in hectares and other land characteristics) where various SLM interventions will be implemented is not known *ex-ante*. Therefore, this analysis is based on three scenarios of potential SLM interventions at the county and household levels. Two scenarios are used for two wards each in Kilifi and Nakuru Counties, assuming 1,700 ha are brought under SLM interventions, together with 1,680 head of livestock. A third scenario is a landscape-wide intervention in Kitui County where SLM practices are implemented on 25,000 ha—specifically, agroforestry on 50 percent of the area and improved crop and pasture management on the other 50 percent.

91. The net carbon balance results clearly show the tremendous potential for reducing GHG emissions by -2,380,387 tCO₂-eq over 20 years on a relatively small target area of about 26,700 ha, which is an average reduction of - 4.5 tCO₂-eq/ha/year. Regarding the mitigation potential of specific activities that can support Kenya in achieving its INDC, this net carbon balance analysis finds that agroforestry has the largest mitigation potential, with nearly -8 tCO₂-eq/ha/year. The second-largest mitigation potential comes from reducing and avoiding land degradation, which has a potential of about -3 tCO₂-eq/ha/year. Two activities—livestock and fertilizer production—increase GHG emissions (livestock by 0.2 tCO₂-eq/head/year and fertilizer production by 0.2 tCO₂-eq/ha/year). While improved agronomic practices, nutrient management, and no tillage have a comparably small mitigation potential of -0.3 tCO₂-eq/ha/year, these practices can enhance climate resilience and bring adaptation benefits at the household level.

C. Financial Management

92. **Financial Management (FM) assessment.**²¹ This assessment was undertaken at MoDP and 18 out of 47 counties in August 2015. Its objective was to determine whether the FM arrangements in place satisfy the World Bank’s Operation Policy/Bank Procedures (OP/BP) 10.00. The FM arrangements are meant to ensure that: (i) financial resources reach the executing agencies and ultimate project beneficiaries in the shortest time possible; (ii) resources are used to finance the intended activities with efficiency and economy; (iii) resources are properly accounted for and project results and outcomes are achieved; and (iv) acceptable auditing arrangements are in place. MODP will have overall FM responsibility for the NARIGP and will ensure compliance with the financial requirements.

93. **The FM assessment at MoDP revealed the following strengths:** (i) MoDP has adequate experience and capacity in dealing with Bank-financed projects; (ii) MoDP has adequate budgeting arrangements; and (iii) MoDP has already developed an FM manual for

²¹ The FM assessment was carried out in accordance with the Financial Management Manual issued by the Financial Management Sector Board on March 1, 2010.

NARIGP that was reviewed and cleared by the Bank. The manual provides comprehensive accounting and financial procedures for proper management of project funds, including robust social accountability mechanisms for handling complaints, public disclosure, and reporting. At the same time, the FM assessment revealed the following weaknesses at the county level: (i) weak Public Financial Management (PFM) processes, especially related to inadequate use of the Integrated Financial Management Information System (IFMIS); (ii) weak internal controls, which led to material audit qualifications by KENAO—now the Office of the Auditor General (OAG)—for FY2014 and FY15 audit reports in all 47 counties; (iii) inadequate capacity for accounting and internal auditing at county treasuries; and (iii) delays in setting up of oversight audit committees in line with the PFM law.

94. **The Bank also carried out an in-depth FM review of WKCDD&FMP (which was implemented by MoDP) in September-October 2015.** The FM review, which covered the NPCU and six high-risk subcounties, identified some material fiduciary weaknesses, such as: (i) breakdown of internal control systems; (ii) procurement-related irregularities; (iii) malpractices in community grants; (iv) anomalies in operating costs, including unsupported/insufficiently supported expenditures; (v) weak management oversight and ineffective M&E systems; and (vi) manipulative HR practices.

95. **The overall residual risk of FM arrangements is therefore “High.”** MoDP will be required to implement the agreed mitigation measures listed below to address the fiduciary weaknesses identified during the FM assessment and in-depth review of WKCDD&FMP to satisfy the Bank’s minimum requirements under OP/BP10.0. These measures include the FM arrangements that are capable of providing, with reasonable assurance, accurate and timely information on the financial status of the project required by the Bank/IDA.

96. **Mitigation measures built into the project design.** Subsequent to the FM review findings, NARIGP’s design was updated to take into account the emerging risks observed from the WKCDD&FMP. Among the risk mitigation measures put in place under NARIGP are: (i) use of independent project monitoring and certification; (ii) establishment of an MIS database with built-in fiduciary standards; (iii) use of GPS mapping for micro-projects; (iv) enhanced fiduciary controls incorporated in the PIM, including eligibility and red flags, with high-level clearance for the PIM; (v) comprehensive HR procedures incorporated in the PIM, with provisions for regular staff rotation and defined sanctions for those who breach fiduciary procedures; (vi) enhanced handling of complaints, including reporting mechanisms to the Bank; (vii) enhanced controls over payment and disbursement procedures at county level; (viii) enhanced social accountability mechanisms, including public reporting and use of community volunteers and civil society organizations (CSOs) in social audits and disclosure of project information; (ix) enhanced corruption prevention and reporting mechanisms and coordination with the Ethics and Anti-Corruption Commission (EACC); (x) regular community awareness and capacity building on fiduciary and social accountability measures; (xi) designation of qualified internal auditors for the project; (xii) addressing of capacity issues of the OAG²² through fiduciary support in the following three areas: (a) need-based fiduciary training of OAG staff, (b) payment of project incremental audit cost, and (c) outsourcing to private audit firms (where necessary);²³ (xiii) removal from the project of staff who have been implicated in breaches of fiduciary procedures; and (xix) expansion of the

²² The scope of KENAO’s audit involved risk-based, on-site review of funds disbursed to spending units outside the PCU based in Nairobi, but KENAO had limited capacity to audit all CPCUs and CDD-type activities at the community level. The fiducial empowerment will provide capacity interventions for the OAG.

²³ OAG will be responsible for hiring the firms on the basis of ToRs cleared by the World Bank and the selected audit firms to be cleared by the World Bank.

Bank's FM reviews to include randomized, on-site spot checks and detailed transaction reviews at NPCU, CPCUs, and the community level. See Annex 3 for detailed FM arrangements, risk assessment, and the proposed mitigation measures.

97. **Institutional arrangements for financial management.** MoDP will have the overall responsibility for planning, budgeting, and accounting for project funds and results—outputs and outcomes. MoDP will ensure that NARIGP is in compliance with all financial requirements and covenants.

98. **Dated Covenants.** The NARIGP dated covenants include: (i) designation of a project accountant for NPCU and assistant accountants for each CPCU on the basis of ToRs and qualifications of the selected employees, satisfactory to the World Bank, by December 31, 2016; (ii) establishment of an MIS database with GPS coordinates for tracking micro-projects, satisfactory to the World Bank, by June 30, 2017; and (iii) OAG, as the Supreme Audit Institution (SAI), will set up and implement an independent fiduciary monitoring and certification system at the national, county and community levels, satisfactory to the World Bank, through engagement of acceptable private audit firms and with the participation of non-state actors, including CSOs and non-governmental organizations (NGOs), by June 30, 2017.

99. **Budgeting.** The project budget will be based on AWP&Bs submitted by the CPCUs to the NPSC for approval and inclusion in the MoDP budget. The project AWP&Bs will be consolidated from the national level activity plans compiled by the NPCU and county-level plans received from the 21 NPCUs. This approach is in line with GoK's financial regulations and procedures.

100. **Disbursement and flow of funds.** The disbursements from IDA will be on a reimbursement method or based on Statement of Expenditures (SoEs). The flow of funds arrangements will consist of: (i) two (2) DAs denominated in US dollars (DA-1 for county-level activities and DA-2 for national-level activities) to be opened by the NT at the Central Bank of Kenya (CBK) or in financial institution acceptable to IDA, and managed by the NT; (ii) a PA in Kenyan shillings to be opened by the NT at the CBK or financial institution acceptable to IDA and managed by MoDP, from which the project's payments will be made; (iii) for counties, MoDP will trigger transfer of funds from DA-1 through the respective County Revenue Fund (CRF) accounts opened at the CBK or financial institutions acceptable to IDA and managed by the individual county governments, to the County Special Project Account; and (iv) the beneficiary/community group bank accounts will be opened in commercial banks acceptable to the Bank and managed by community/group elected leaders.

101. **Triggers for the initial deposit/transfer from DA-1 to CRF accounts will include** the signing of the participation agreement, and approved county AWP&B. Subsequent transfers will be based on submitting the SoEs. For communities/groups, eligibility criteria will include having in place a community development plan/business plan of POs and an approved micro-project. Once communities/groups have met the eligibility criteria, funds will be disbursed by county governments from their County Special Project Accounts to the community/group accounts. The CRF accounts will be replenished from DA-1, and the PA from DA-2.

102. **Reporting.** Interim Financial Reports (IFRs) will be submitted by NPCU to the Bank within 45 days after the end of the quarter. To facilitate this process, each county will prepare and submit quarterly IFRs to NPCU within 30 days after the end of the quarter for consolidation by NPCU and submission to the Bank within the stipulated timelines.

103. **External auditing.** The annual financial statements will be prepared on the basis of International Public Sector Accounting Standards as prescribed by the Public Sector Accounting Standards Body of Kenya from time to time. OAG will conduct on-site audits at NPCU and all 21 CPCUs as part of the end-of-year annual statutory audit.

D. Procurement

104. **Procurement for the proposed project will be carried out in accordance with World Bank guidelines, specifically:** “Guidelines: Procurement of Goods, Works and non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers,” dated January 2011, and revised July 2014 (referred to here as the “Procurement Guidelines”); and “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers,” dated January 2011, and revised July 2014 (referred to here as the “Consultant Guidelines”); and provisions stipulated in the Financing Agreement. The project will also follow “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants,” dated October 15, 2006, and revised January 2011. Further, as the project has a CDD component, the project’s procurement arrangements for community-based procurement will be in line with the “Guidance Note for Design and Management of Procurement Responsibilities in Community-Driven Development Projects,” dated March 15, 2012. On the basis of these Bank Guidelines, NARIGP prepared a comprehensive and detailed procurement procedures manual for use at all levels of project implementation.

105. **A procurement capacity assessment of MoDP and several selected county governments was conducted in 2014 and 2015 as part of the Bank’s fiduciary capacity review.** As part of the pre-appraisal mission of September 2015, the Bank conducted a procurement capacity assessment based on the preliminary implementation arrangements. The assessment revealed that the implementing and executing agencies proposed (i.e., MoDP and selected county governments) did not have the requisite capacity to implement the project.

106. **Further, a fiduciary review was conducted in WKCDD&FMP, which was implemented by MoDP from October to November 2015.** The review found a number of procurement irregularities, most of them being perpetrated by project staff and county government officials. The communities were not involved in any of the irregularities noticed. The key procurement risks identified in the procurement review of WKCDD&FMP are summarized in Table 4.

107. **The procurement risk is rated “High”** due to: the geographical spread and devolution challenges; capacity gaps identified in county governments’ procurement systems; lessons learned from WKCDD&FMP’s fiduciary review; and the multiplicity, size, value, scattered nature, and remoteness of some of the locations for CDD activities.

108. **Based on the procurement capacity assessment, the following risk mitigation measures were agreed with the Borrower:** (i) increase ownership of procurement at the community level by CIGs and VMGs; (ii) simplify the community procurement manual and ensure that project staff or county officials do not get involved; (iii) conduct any procurement beyond the community level at the national or county levels following Bank Procurement Guidelines; (iv) require mandatory training on World Bank procurement procedures for all procurement officers at the national and county levels before the project starts; (v) enhance staff capacity at the national level through internal transfers and/or open market recruitment; (vi) promote internal transfers of sector specialists from technical departments to counties’ procurement units to strengthen their capacity to manage contracts; (vii) establish and

maintain a structured and effective filing and records management system; (viii) engage an agency to carry out a capacity assessment of beneficiary community groups, assist in their capacity building, and monitor and report on procurement performance; (ix) hire a firm to conduct an Annual Procurement Post Review (APPR) as per ToRs agreed with the Bank; (x) use the project website to proactively disclose the procurement information; and (xi) hire “Third Party” Quality Assurance/Quality Control (QA/QC) consultants to provide independent assurance of the quality of civil works funded by the project.

Table 4: Procurement Risks Identified in Fiduciary Review of WKCDD&FMP

Category	Key Risks Identified
Civil Works	<ul style="list-style-type: none"> (i) Procurement irregularities (e.g., order splitting, insider trading, conflict of interest, favoritism, collusion) (ii) Overpayment of contractors (iii) Noncompliance with procurement procedures and rules (iv) Conflict of interest and collusive practices involving procurement staff and other civil servants (v) Poor workmanship and under/non-supply of items paid for (vi) Poor contract management
Goods and Equipment	<ul style="list-style-type: none"> (i) Procurement irregularities (e.g., order splitting, insider trading, conflict of interest, favoritism, collusion) (ii) Payment advances in contracts where it is not permitted, payments for good not received or received in fewer quantities or of poor quality (iii) Overpricing

109. The detailed procurement capacity assessment, key risks and mitigation measures, procurement arrangements and prior review thresholds, an initial procurement plan, and the Bank supervision and support plan are provided in Annex 3.

E. Safeguards (including Social and Environmental Safeguards)

110. **Overall, the project is assigned environmental Category B – partial assessment.** This environmental category is appropriate because although NARIGP’s interventions are likely to have negative environmental and social impacts, those impacts are expected to be small in scale, site-specific, and largely reversible. Based on the screening of the proposed project investments in rural infrastructure (e.g., for irrigation, local markets, water conservation, etc.) and agricultural VCs (e.g., storage facilities, local-level value addition, limited use of agro-chemicals, etc.), the project triggers five World Bank environmental and social safeguard policies: (i) Environmental Assessment (OP/BP 4.01); (ii) Natural Habitats (OP/BP 4.04); (iii) Pest Management (OP 4.09); (iv) Indigenous Peoples (OP/BP 4.10); and (v) Involuntary Resettlement (OP/BP 4.12). A summary of Bank safeguards triggered by NARIGP is provided in Table 5.

111. **Given that the nature of the proposed interventions and the design and location of specific micro-projects are not known *ex-ante*,** the project adopted a framework approach to managing safeguards. Consequently, the following framework documents were prepared: (i) an Environmental and Social Management Framework (ESMF) for Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), and Pest Management (OP 4.09); (ii) a Vulnerable and Marginalized Group Framework (VGMF) for Indigenous Peoples (OP/BP 4.10); and (iii) a Resettlement Policy Framework (RPF) for Involuntary Resettlement (OP/BP 4.12). These frameworks provide a mechanism for: (i) identifying and assessing potential adverse environmental and social impacts, based on the types of activities envisioned, and (ii) proposing screening methods and processes of

assessing and designing appropriate mitigation measures for the identified investments. The screening will utilize the Environmental and Social Screening Form/checklist, and an Environmental and Social Project Report will outline simple environmental mitigation measures (a simplified Environmental Management Plan/EMP) for micro-projects not requiring a full ESIA (Environmental and Social Impact Assessment) report.

Table 5: Operational Safeguards Triggered by the Project

Environmental and Social Safeguards Triggered	YES	NO
OP/BP 4.01 Environmental Assessment	X	
OP/BP 4.04 Natural Habitats	X	
OP/BP 4.36 Forests		X
OP 4.09 Pest Management	X	
OP/BP 4.11 Physical Cultural Resources		X
OP/BP 4.10 Indigenous Peoples	X	
OP/BP 4.12 Involuntary Resettlement	X	
OP/BP 4.37 Safety of Dams		X
OP 7.50 Projects in International Waters		X
OP 7.60 Projects in Disputed Areas		X

112. **Whenever applicable**, particularly for the relatively larger county-level infrastructure and landscape-wide investments, Environmental Assessments (EAs)/EMPs, Resettlement Action Plans (RAPs), and Vulnerable and Marginalized Group Plans (VMGPs) will be developed for individual micro-projects during project implementation.

113. **The preparation of the ESMF, VMGF, and RPF was informed by lessons learned from implementing WKCDD&FMP (with a focus on alternative livelihoods) and KAPAP (aimed at VC development).** During the preparation of those frameworks, a series of consultations were held in 13 out of the 21 selected counties. The final stakeholders' consultation and public disclosure workshop was held on January 12, 2016. Further details on the consultation process and feedback received are provided in Annex 3. The ESMF, RPF, and VMGF were disclosed at the World Bank InfoShop on February 11, 2016 and the MoDP website²⁴ on February 12, 2016.

F. World Bank Grievance Redress

114. Communities and individuals who believe that they are adversely affected by a World Bank-supported project may submit complaints to existing project-level grievance redress mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project-affected communities and individuals may submit their complaint to the Bank's independent Inspection Panel, which determines whether harm occurred, or could occur, as a result of the Bank's noncompliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention and Bank management has been given an opportunity to respond. For information on how to submit complaints to

²⁴ The safeguards documents for the NARIGP can be downloaded from the links below:
<http://www.devolutionplanning.go.ke/Publications/ENVIRONMENTAL%20AND%20SOCIAL%20MANAGEMENT%20FRAMEWORK.pdf>
<http://www.devolutionplanning.go.ke/Publications/RESETTLEMENT%20POLICY%20FRAMEWORK.pdf>
<http://www.devolutionplanning.go.ke/Publications/INTEGRATED%20PEST%20MANAGEMENT%20FRAMEWORK%200.pdf>
<http://www.devolutionplanning.go.ke/Publications/VULNERABLE%20AND%20MARGINALIZED%20GROUPS%20FRAMEWORK.pdf>

the Bank's corporate GRS, please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Country: Kenya

Project Name: National Agricultural and Rural Inclusive Growth Project (P153349)

Results Framework

Project Development Objectives											
PDO Statement: The proposed development objective is to increase agricultural productivity and profitability of targeted rural communities in selected Counties, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response.											
These results are at		Project Level									
Project Development Objective (Outcome) Indicators											
Indicator Name	Baseline	Cumulative Target Values						Frequency	Data Source/ Methodology	Responsibility	Definition of indicator
		YR1	YR2	YR3	YR4	YR5	End Target				
Direct project beneficiaries ²⁵ (Number),	0.00	18,000	142,900	257,100	360,000	360,000	360,000	Annual	MIS/ Project M&E System	NPCUs/ M&E Officer	The number of direct project beneficiaries is disaggregated by intervention window: SLM/VC: 60% VMG: 10% Livelihoods: 25% Nutrition: 5%
of which female (Percentage) (Core Sector Indicator)	0.00	30%	35%	40%	50%	50%	50%				
Direct beneficiaries ²⁶ who have adopted improved agricultural technologies, innovations, and management practices (TIMPs) promoted by the project (Number),	0.00	0.00	6,000	42,000	128,000	176,400	176,400	Annual	MIS/ Project M&E	NPCUs/ M&E Officer	In year 4, 70% of beneficiaries who have received training on TIMPs have adopted the improved

²⁵ Direct beneficiaries is the equivalent of a farming household of roughly five to eight members.

²⁶ Direct beneficiaries are individual members of CIGs and VMGs receiving matching grants from the project to invest in their priority value chains.

of which female (Percentage)	0.00	0.00	30%	35%	40%	50%	50%		System		technologies.
Yield increase in the selected priority agricultural value chains supported by the project (Percentage)	TBD by baseline survey by June 2017	0%	10%	20%	25%	30%	30%	Annual	MIS/ Project M&E System	NPCUs/ M&E Officer	
Producer Organizations (POs) supported by the project reporting increase in profitability (Percentage)	0.00	0.00	10%	30%	50%	70%	70%	Annual	MIS/ Project M&E System	NPCUs/ M&E Officer	
Cumulative Target Values											
Intermediate (Output) Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	End Target	Frequency	Data Source/ Methodology	Responsibility	Definition of indicator
Component 1: Supporting Community-Driven Development											
Micro-projects implemented (Number), disaggregated by windows (SLM and VC, VMG, Livelihood, and Nutrition) (Number)	0.00 0.00	0.00 0.00	2,857 SLM/VC: 1,714 VMGs: 286 LH: 714 N: 143	8,571 SLM/VC: 5,143 VMGs: 857 LH: 2143 N: 428	12,000 SLM/VC: 7,200 VMGs: 1,200 LH: 3,000 N: 600	12,000 SLM/VC: 7,200 VMGs: 1,200 LH: 3,000 N: 600	12,000 SLM/VC: 7,200 VMGs: 1,200 LH: 3,000 N: 600	Annual	County project reports	CPCU	Micro-projects approved and supported by project.
Client-days of training provided on TIMPs (Core Sector Indicator)	0.00	0.00	300,000	540,000	1,260,000	1,260,000	1,260,000	Quarterly	Training reports	SP, CDDC, and CPCU	CIG/VMG members receive practical training for at least 5 days (40 hours) in TIMPs in the course of implementation of their micro-

of which female (Percentage)	0.00		35%	40%	50%	50%	50%				projects on SLM and VCs.
Land area where sustainable land management (SLM) practices have been adopted as a result of the project (Hectares)	0.00	0.00	2,429	17,000	51,820	71,400	71,400	Annual	CDDC and CPCU reports	CDDC and CPCU	Area with at least one SLM practice adopted, i.e., on 1 ha per beneficiary who has adopted TIMPs.
Component 2: Strengthening Producer Organizations and Value Chain Development											
CIGs and VMGs that are members of supported POs (Number)	0.00	420	1,700	6,000	8,400	8,400	8,400	Annual	Project M&E/ PO membership registers	NPCU/M&E Officer	Summation of all CIGs and VMGs that have paid membership fees to supported POs.
Increase in average annual sales turnover of targeted POs (Percentage)	0.00	0.00	5%	10%	15%	20%	20%	Annual	Project M&E/ PO accounts	M&E Officer	Percentage annual increase in total sales of all supported POs.
Public-Private Partnerships (PPPs) established by POs (Number)	0.00	0.00	0.00	5	15	21	21	Annual	Project M&E	NPCU/M&E Officer	Number of PO investments which have contribution (in cash or kind) from public (government, donor, NGO), members and private sector (individuals or companies who are not members).
POs with bankable Enterprise Development Plans (EDPs) (Number)	0.00	0.00	20	60	84	84	84	Annual	Project M&E	NPCU/M&E Officer	Number of POs with an EDP vetted by CPCU and approved by CPSC for

												funding/support under the project.
Component 3: Supporting County Community-Led Development												
Participating counties including county-level project investments and community micro-projects into their Annual County Development Plans (Percentage)	0.00	0.00	15%	40%	70%	70%	70%	Annually	Annual Progress Report/MIS (based on a review of Annual County Development Plans)	NPCU M&E Officer with CPCU M&E Officers	Capturing the integration of project activities into county development planning.	
Agricultural and rural development infrastructure and natural resource management (NRM) investments implemented under the project at the county level (Number),	0.00	0.00	5	20	40	45	45	Annually	Annual Progress Report/MIS	NPCU M&E Officer with CPCU M&E Officers	Capturing infrastructure and NRM investments through the project at the county level.	
disaggregated by agricultural and rural development infrastructure (Number) and NRM investments (Number)	0.00	0.00	3.00	15.00	32.00	35.00	35.00					
	0.00	0.00	2.00	5.00	8.00	10.00	10.00					
Labor days completed by beneficiaries of employment programs supported by the project (Number),	0.00	0.00	333,333	1,333,320	2,666,640	3,000,000	3,000,000	Quarterly	Quarterly Progress Reports/MIS	NPCU M&E Officer with CPCU M&E Officers	The subcomponent allocation allows for 3 million labor days at the rural wage rate of 300 KSh/day. These are distributed across the 45 envisaged county-level investments.	
of which labor days completed by female beneficiaries (Percentage)	0.00	0.00	30%	35%	40%	50%	50%					
Component 4: Project Coordination and Management												
Satisfactory quarterly project financial and monitoring reports submitted on time (Percentage) (disaggregated by report)	0.00	50%	60%	75%	100%	100%	100%	Quarterly		NPCU M&E Officer with CPCU M&E		

										Officers	
Grievances registered related to delivery of project benefits that are actually addressed (Percentage) (Core Sector Indicator)	0.00	30%	50%	60%	80%	100%	100%	Annual	Grievance Redress Service	NPCU M&E Officer with CPCU M&E Officers	
Increase in project stakeholders accessing information through ICT platforms (Percentage) (disaggregated by platform)	0.00	10%	30%	35%	40%	35%	35%	Annual	ICT platforms	Service provider with access to ICT platforms	

Table A1.1: Detailed Description of Outcome and Intermediate Indicators

Indicator	Description
PDO level indicator	
Direct project beneficiaries (Number), of which female (Percentage).	This World Bank Core Sector Indicator measures the number of targeted rural smallholder farmers, including women, and other vulnerable and marginalized members of communities, organized in CIGs. The number of direct project beneficiaries is disaggregated by intervention window as proposed under Component 1 as follows: sustainable land management and VCs (SLM/VC) - 60 percent of total beneficiaries; targeted VMGs - 10 percent; livelihood activities - 25 percent; and nutrition mainstreaming - 5 percent.
Direct beneficiaries who have adopted improved agricultural technologies, innovations, and management practices (TIMPs) promoted by the project (Number), of which female (Percentage).	Beneficiaries in CIGs engaging in SLM/VC activities receive advisory services on primary production technologies, innovations, and management practices (TIMPs)—e.g., improved inputs (seed, planting material, and breeds), animal husbandry, and agronomic practices—to improve productivity. The indicator measures an improvement in practices compared to existing or traditional methods. It is expected that by year 4, 70 percent of beneficiaries who have received training on TIMPs will have adopted the improved technologies. The indicator relates to the Core Sector Indicator: “Clients who have adopted an improved agricultural technology promoted by the project (number), disaggregated by men and women.”
Yield increase in the selected priority agricultural value chains supported by the project (Percentage).	The indicator measures changes in crop or livestock yields for commodities identified as priority VCs in targeted counties. It measures yield increase from target beneficiaries who are adopting TIMPs as promoted by the project, thus demonstrating progress toward achieving the PDO - increasing productivity. Typically, yield represents the average amount of produce obtained per unit of crop area, per tree, or livestock unit for a specific time frame, such as a year. The selection of priority VCs will be undertaken at the county and community levels, and the unit of measurement and baseline values, which capture the current situation, will be determined accordingly (e.g., in the course of the baseline survey).
Producer Organizations (POs) supported by the project reporting increase in profitability (Percentage).	This indicator captures the share of new and existing POs that report an increase in profitability as a consequence of project activities. CIGs and VMGs constituted under Component 1 are federated into POs, which are supported under Component 2. POs will be strengthened to become viable and profitable business ventures, and attractive not only to existing and additional members, but also to business partners in input, output, and service markets. The indicator is critical for monitoring progress toward achieving the PDO - increasing profitability.
Intermediate indicators - Component 1: Supporting Community-Driven Development	
Micro-projects implemented (Number), disaggregated by window (SLM and VC, VMG, Livelihood, and Nutrition) (Number).	The CIGs in each intervention window (SLM/VC, VMG, livelihood, and nutrition) are supported to plan, implement, manage, and monitor community-level micro-projects along their priority VCs. The indicator monitors the number of micro-projects that are implemented, and thus have been approved and supported by CPCU. The indicator is disaggregated by the intervention window to capture progress toward the

Indicator	Description
	targets of 60 percent SLM/VC-oriented micro-projects; 10 percent micro-projects by VMGs; 25 percent livelihood micro-projects; and 5 percent micro-project that are mainstreaming nutrition.
Client-days of training provided on TIMPs (Core Sector Indicator), of which female (Percentage).	The project supports advisory services in TIMPs for CIGs that engage in SLM and VC micro-projects. For dissemination of the TIMPs, the project adopts a farmer field school (FFS) and lead farmer approach. Training in TIMPs through FFS takes place at least 5 days (40 hours) per year and will be conducted in the course of implementation of the approved SLM/VC micro-projects. This indicator is aligned to the Core Sector Indicator “Client days of training provided (Number)” but offers a specification on the training subject (i.e., the TIMPs). The indicator measures the number of clients who completed training multiplied by the duration of training expressed in days, and thereof the share of client days of training completed by female beneficiaries.
Land area where sustainable land management (SLM) practices have been adopted as a result of the project (Hectares).	This Core Sector Indicator measures land area where, as a result of the project, SLM practices have been incorporated or improved. This indicator tracks progress toward sustainability at farm scale. Land area refers to the area where at least one SLM practice or improved technology as promoted by the project was adopted by a beneficiary. Adoption refers to a change of practice or change in the use of a technology promoted or introduced by the project. It is assumed that each beneficiary who has adopted the SLM practices or TIMPs adopts at least one practice on one hectare of land. A non-exhaustive list of SLM practices is specified in the Core Sector Indicators manual, and includes agronomic, vegetative, structural, and management measures, such as new seed variety, terracing, forestation, reduced tillage, micro-irrigation, fertilizer placement, livestock feeding schedule, and feeding ingredients, to name a few.
Intermediate indicators – Component 2: Strengthening Producer Organizations and Value Chain Development	
CIGs and VMGs that are members of supported POs (Number).	This indicator sums all CIGs and VMGs that have paid membership fees to supported POs. It is anticipated that each targeted PO has a minimum 10 CIGs/VMGs (300 farmers) as members and has expanded membership at maturity up to 100 CIGs (3,000 farmers) covering many production clusters in the county. The indicator monitors how many CIGs have succeeded to be organized/federated in new and existing POs. It also constitutes a proxy for the attractiveness of POs as viable and profitable business ventures to potential members.
Increase in average annual sales turnover of targeted POs (Percentage).	This indicator measures the percentage average annual increase in total sales of all POs that are supported by the project. Sales turnover constitutes the total amount of goods, products, and services expressed in monetary terms within a given time period. The increase in annual sales turnover indicates a profitable venture.
Public-Private Partnerships (PPPs) established by POs (Number).	This indicator monitors the number of PO investments that are PPPs and have thus contributions (in cash or in-kind) from the public sector (government, donors, and NGOs), members, and/or the private sector (individuals or companies who are not members).

Indicator	Description
POs with bankable Enterprise Development Plans (EDPs) (Number).	Each selected PO is supported to prepare an Enterprise Development Plan (EDP) charting its roadmap to business maturity and quantifying all required inputs and processes. This indicator measures the number of POs with an EDP that has been vetted by CPCU and approved by CPSC for funding/support under the project.
Intermediate indicators – Component 3: Supporting County Community-Led Development	
Participating counties including county-level project investments and community micro-projects into their Annual Development Plans (Percentage).	The County’s Annual Development Plan (ADP) is statutory annual plan that guides the implementation of projects and programs in the financial year as they are stipulated in the County Integrated Development Plan (CIDP). Integrating NARIGP county-level project investments and community micro-projects in the CIDP is among the criteria for readiness for enrolling participating counties. By monitoring the share of counties that included project-related investments and micro-projects into county planning, this indicator captures the readiness of counties to participate and their commitment to the project, including willingness to co-finance the proposed county-level investments.
Agricultural and rural development infrastructure and NRM investments implemented under the project at the county level (Number), disaggregated by agricultural and rural development infrastructure (Number); NRM investments (Number).	Investments in key agricultural and rural development infrastructure as well as NRM that span multiple targeted communities will be financed. This indicator captures the number of investments financed through the project at the county level that have been approved by NTAC and are being implemented by counties.
Labor days completed by beneficiaries of employment programs supported by the project (Number), of which labor days completed by female beneficiaries (Percentage).	The project will finance short-term employment opportunities during the off-season. Employment opportunities (see below) will largely be created under public works supported by the project at county level. The subcomponent budget allocation allows for an equivalent of 3 million labor days when assuming the rural wage rate of 300 KSh/day. These labor days are distributed across the 45 envisaged county-level infrastructure and NRM investments.
Intermediate indicators – Component 4: Project Coordination and Management	
Satisfactory quarterly project financial and monitoring reports submitted on time (Percentage) (disaggregated by report).	This indicator monitors the timely submission of satisfactory management project reports to GoK and the Bank and assesses the quality and effectiveness of project management.
Grievances registered related to delivery of project benefits that are actually addressed (Percentage).	This Core Sector Indicator measures the transparency and accountability mechanisms established by the project so that the target beneficiaries have trust in the processes and are willing to participate, and feel that their grievances are attended to promptly. Thus the project monitoring system should provide information on the number of complaints received against

Indicator	Description
	the number actually resolved by CPCU/NPCU/CPSC and/or elevated to MoDP/NPSC.
Increase in project stakeholders accessing information through ICT platforms (Percentage) (disaggregated by platform).	The indicator measures the increased access to and use of ICT-based Agricultural Information Platforms, which facilitate sharing of technical information and networking by project stakeholders, such as members of CIGs/VMGs and POs, as well as participating counties. Measuring the increase in access aims to capture the attractiveness or usefulness of information placed on the platforms (i.e., whether the platforms provide relevant and interesting content). A growing number of users or higher frequency would imply that these platforms are useful to stakeholders. The indicator is disaggregated by platform, capturing those that are relevant for beneficiaries.

Annex 2: Detailed Project Description

KENYA: National Agricultural and Rural Inclusive Growth Project

1. A key premise of NARIGP is the importance of linking rural smallholder farmers' common interest groups (CIGs) and vulnerable and marginalized groups (VMGs), organized along selected priority value chains (VCs), to markets. Thus, NARIGP's technical components are interlinked. **Component 1** entails: (i) mobilizing smallholder farmers into CIGs and VMGs; (ii) building their capacities to plan, implement, manage, and monitor community-level micro-projects along their priority VCs; and (iii) providing advisory services on primary production TIMPs (technologies, innovations, and management practices)—such as improved inputs, animal husbandry, and agronomic practices—to increase agricultural productivity. **Component 2** focuses on: (i) federating CIGs and VMGs, strengthened under Component 1, to join existing producer organizations (POs) (or form new ones in areas where none exist) along selected VCs; (ii) providing technical (value addition), business (planning and management), financial (access to credit/finance), and organizational (leadership and governance) advisory services; and (iii) linking them to markets and value addition opportunities. **Component 3**: (i) provides technical advisory services (e.g., public extension services) facilitated by counties; (ii) creates an enabling environment for the private sector and public-private partnerships (PPPs) to operate; and (iii) implements multi-community (e.g., catchment or landscape-wide and larger rural infrastructure) investments based on priorities identified under Components 1 and 2. **Component 4** supports national and county-level project coordination and management activities, including the establishment and implementation of systems for M&E and MIS, an ICT-based Agricultural Information Platform, fiduciary human resources (HR) management, communication and citizen engagement, and environmental and social safeguards compliance. An emergency response facility in case of a natural disaster in the agricultural sector is also included under this component.

Component 1: Supporting Community-Driven Development (US\$80 million, of which IDA US\$75 million)

2. The overall objectives of this component are to: (i) strengthen community-level institutions' ability to identify and implement investments that improve their agricultural productivity, food security, and nutritional status and (ii) establish linkages to selected VCs and POs.

Subcomponent 1.1: Strengthening Community-Level Institutions (IDA US\$12 million)

3. The project will finance activities aimed at building the capacity of community-level institutions, such as CDDCs, CIGs, and VMGs, to plan, implement, manage, and monitor agricultural and rural livelihoods development interventions. Specifically, activities to be financed under this subcomponent will include: (i) facilitating community institutions, including community mobilization, and creating awareness of the PICD process through which priority interventions will be identified; (ii) development of and training on standardized training modules for PICD, VC development, fiduciary (i.e., community financial and procurement) management, and environmental and social safeguards (i.e., use of checklists in micro-project identification and implementation); (iii) payments to the competitively selected SP consortia (i.e., to provide technical and extension advisory services, micro-project planning and implementation support, and local value addition, and to link CIGs/VMGs to POs); and (iv) facilitation of CTDs (e.g., agriculture, livestock, fisheries,

environment and natural resources, cooperatives, youth and women's affairs, among others) to provide oversight and quality assurance.

4. ***Facilitation of community institutions.*** NARIGP will build on the country's rich experience in promoting CDD approaches through programs such as WKCDD&FMP, KAPAP, KAPSLMP, and Kenya's component of the EAAPP. The CDD approach will underpin the project's interventions to increase agricultural productivity and profitability, improve livelihoods and nutrition outcomes, and reduce vulnerabilities of participating rural communities. The PICD manual developed for WKCDD&FMP will be updated and customized for use by NARIGP. The target communities will be mobilized to undertake a PICD process to define priority on-farm activities (i.e., SLM and VC interventions) and off-farm activities (including local value addition and other income-generating activities) that enhance rural livelihoods and reduce vulnerability. Community members will form CIGs and VMGs comprising 10–30 farmers who pay membership and annual fees, as detailed in the PIM. Contracted SPs will provide technical and financial support to CIGs and VMGs to plan, implement, manage, and monitor their on-farm and off-farm micro-projects. CIGs and VMGs will be facilitated by SPs to federate into POs under Component 2 to have sufficient volume and economy of scale to better access production technologies, markets, and financial services.

5. ***Development of and training on standardized training modules.*** One of the lessons learned from the implementation of KAPAP is that the quality of SPs varied significantly. This variation occurred because no standardized training modules and approach or methodology were in place to evaluate the technical and advisory services provided. To address this problem, NARIGP will finance the development of standard training modules for the PICD process, VC analysis and development, fiduciary management (community procurement and financial management), environmental and social safeguards monitoring (use of checklists and development of environmental management plans where applicable), and agri-business and financial services, among others. Staff of the selected SPs will undergo mandatory training on these standard modules prior to using them to build the capacity of CIGs/VMGs and POs in Components 1 and 2, respectively. Those successfully completing the training will be accredited by an independent agency. Only accredited SPs will be allowed to compete for advisory services provision in participating counties.

6. ***Payments to service providers.*** Under KAPAP, another pitfall was the inadequate technical capacity and skills mix to enable SPs to respond to a wide range of demands made by CIGs, VMGs, and POs along the VCs. NARIGP will address this issue by developing VC-specific ToRs for SPs that will encompass activities ranging from the PICD process to VC analysis and development. Essentially, this effort will include: linking CIGs and VMGs formed under Component 1 to POs and VC development initiatives under Component 2, and strengthening POs along priority VCs. NARIGP will use an updated and customized Contracted Extension Service Delivery Model & Value Chain Development (CESDM&VCD), developed under KAPAP. The model entails: (i) implementing a pluralistic, participatory, demand-driven, market-oriented, professional, decentralized, and innovative system; (ii) harmonizing sector-wide extension services; (iii) promoting PPPs for competitive demand-driven extension service delivery; and (iv) improving farmers' access to technical and market information through the use of ICT. SPs will be selected through a competitive process and will be encouraged to form consortia to ensure that they have the right skills mix to be able to respond to demands along the VCs—from production to market.

FFS²⁷ and lead farmer approaches will be used by SPs to provide advisory services. The CIGs, VMGs, and POs will be given grants to hire SPs and will pay them on the basis of achieved agreed milestones. In this way, communities will be empowered to demand quality services from SPs. To ensure quality service delivery by SPs, the CIGs, VMGs, and POs will receive training and coaching support in selection of SPs, contract processing and documentation, and monitoring of SP service delivery. Under Component 4, the project will contract with a contract management specialist to provide oversight and monitoring of SPs. The contract management specialist will be responsible for: (i) training county-level trainers to build the contract management capacity of CIGs, VMGs, and POs; (ii) developing VC-specific, performance-based ToRs for SPs; and (iii) compiling a database of SPs accredited to deliver the different services required in the various counties.

7. A U-Report²⁸ type of short message service (SMS) or interactive voice response (IVR) ICT application will be used to receive direct feedback from farmers on services provided. This platform will also be used as a complaint and grievance handling mechanism. The framework for the detailed VC-specific ToRs and sample SP contracts will be provided in the PIM.

8. ***Facilitation of county technical departments.*** Lack of oversight and quality assurance of SPs' activities under the devolved government structure was another challenge faced by KAPAP. This challenge arose from the inadequate technical capacity and lack of O&M budget at the county level. Under NARIGP, CTDs'²⁹ capacity to provide oversight and quality assurance will be strengthened through training, including training on the standard modules discussed above (Paragraph 5). CTDs will also be facilitated through the provision of an O&M budget to provide TA and to supervise and monitor SPs' activities with the support of the contract management specialist described above. NARIGP will also finance the acquisition of transport facilities and office equipment to facilitate the oversight and quality assurance functions.

Subcomponent 1.2: Supporting Community Investments (US\$68 million, of which IDA US\$63 million)

9. This subcomponent will finance physical investments in the form of community micro-projects identified in the PICD process that increase agricultural productivity, improve livelihoods, reduce vulnerability and include a strong nutrition focus. Micro-project investments will fall under four windows: (i) mainstreaming SLM in selected VCs; (ii) market-oriented alternative livelihood interventions; (iii) targeted support to VMGs; and (iv) mainstreaming nutrition. Priority will be placed on micro-projects that have the potential to increase agricultural productivity and incomes, value addition, and links to markets via POs,

²⁷Farmer Field Schools (FFSs) bring together a group of farmers to engage in a process of hands-on, field-based learning over a season/production cycle. This basic learning cycle, a FFS, is a time-bound activity, with a beginning and an end. For crop-based FFSs, activities will cover the cycle from "seed to seed." The emphasis of the basic learning cycle is to strengthen farmers' skills and knowledge for critical analysis and to test and validate new practices to make informed decisions on field management. The new practices are often based on information generated by research, and are science-based. The learning process in the FFS reinforces understanding of complex ecological relations in the field. The basic learning cycle also aims at enhancing group cohesion of participants to better work as a group and to prepare for follow-up action once the FFS finishes. Through group dynamics exercises and discussions, the FFS helps to create a basic understanding of how groups function. The FFS also includes activities that encourage participants in critical analysis and evaluation, and planning for further action once the FFS basic learning cycle is completed.

²⁸ U-Report is a social messaging tool allowing anyone from any community to respond to polls, report issues, and work as positive agents of change on behalf of people in their community.

²⁹ Includes county departments responsible for agriculture, livestock, fisheries, environment and natural resource, water and irrigation, youth and women's affairs, cooperatives, and industrialization.

and that sustain the natural resource base and returns to targeted communities, rather than on micro-projects that simply provide subsidized inputs.

10. To enhance ownership of micro-projects, CIG members will be required to contribute at least 10 percent of the costs of their micro-projects either in cash or in-kind. To increase access to rural finance and enhance the sustainability of project interventions, CIGs will be encouraged to form savings groups that will federate into Savings and Credit Cooperatives (SACCOs). The project could provide matching grants to boost SACCOs' capital of up to 50 percent of members' total savings. These intermediary financial institutions will ultimately be linked to micro-finance institutions and commercial banks.

11. The mechanism for providing grants to CIGs and VMGs to implement micro-projects will be outlined in the PIM and Community Grant Manual (CGM). The CGM will include a list of eligible/non-eligible activities selected on the basis of their potential contribution to project objectives. Eligible activities will be proposed by beneficiaries; will be clearly related to agricultural productivity, marketing and agribusiness, and sustainable management of natural resources; and will be co-financed in cash and in-kind, either under own capital or under micro-credit. The project's grants will cover not only the required technical support services, training, and capacity strengthening activities, but also infrastructure, equipment, and inputs that have a high "public good" element and a high risk level. Micro-projects will be selected on a competitive basis, based on the recommendations of CPCU, and approved by CPSC.

12. *Sustainable land management and value chains.* Extensive environmental degradation in Kenya, mainly due to poor farming practices and deforestation in catchment areas, has resulted in siltation of rivers, reservoirs, and irrigation canals, and the ultimate loss of fertile top soils. At the same time, the way land is utilized increasingly determines the ability of households/communities in any given catchment to withstand climate-induced production risks, such as floods, droughts, and landslides. Therefore, it is imperative to integrate SLM practices in the development of VCs selected by counties and communities alike. This is because SLM practices are critical not only for increasing production along the selected VCs, but also for enhancing resilience to climate change shocks. The project will provide competitive grants of up to US\$5,000 per CIG or VMG to finance SLM interventions aimed at reducing soil erosion, sedimentation, and non-point source pollution, while at the same time enhancing water quality and resilience to climate change. An initial small-scale "micro-catchment" assessment will be developed by SPs with communities. A participatory approach will be used to agree on the key SLM issues facing the community in their catchment and to map the locations. The assessment process could lead to a simple micro-catchment plan or "action plan," where specific soil and water conservation treatments are identified on a map.³⁰ Based on the mapping exercise, SLM micro-projects targeting specific micro-catchments will be prepared. Project support will include soil micro-nutrient analysis for individual farmers, as well as the preparation of soil profiles on transects across the micro-catchment to help farmers make better choices about which crops to produce by looking at subsurface strata, hardpans, and root depth, among other soil characteristics.

13. Upstream in the water catchment areas, SLM micro-projects would include tree planting, agroforestry, terracing, and soil conservation practices. Lower in the water catchment, and in the drier areas, these initiatives would include water harvesting practices (e.g., rainwater pans, earth/check dams, etc.), water conservation practices (e.g., mulch, cover

³⁰ A new approach for community-based micro-catchment action planning uses Google Earth offline and some simple software for drawing on the screen to indicate where interventions are needed (assessment) and what would be done (planning). The use of this technology will be explored by the project team.

crops, organic manure, reforestation, drip irrigation, greenhouse farming, etc.), use of early maturing, more drought-resistant crops/varieties and/or deep rooting crops, and planting of fodder crops and (fruit) trees. Strengthening of capacity would involve training focused on specific SLM practices or more intensive, season-long agro-pastoralist FFSs or Conservation Agriculture Farmer Field Schools (CAFFSs). Since SLM interventions generate positive externalities downstream, participating CIGs and VMGs will be required to contribute only 10 percent of the estimated costs of their micro-projects.

14. **Market-oriented livelihood interventions.** The project will provide grants of up to US\$2,000 in the form of a revolving fund to CIGs and VMGs to implement alternative livelihood micro-projects, including setting up micro- and nano-enterprises. The objectives of livelihood micro-projects are to raise income and create jobs, particularly during the off-season. Thus the criteria for choosing interventions to improve livelihoods will be based on their potential for reducing rural poverty and generating off-farm income, particularly for the landless and poor families, or those in threatened ecosystems. Livelihood micro-projects would likely include activities such as value addition to livestock and crop products and other locally produced commodities (e.g., honey packaging, fish processing, fruit canning, handicrafts, aquaculture, beekeeping, and formulating animal feed, among others). The benefits of livelihood micro-projects are largely private. Therefore, CIGs and VMGs involved would be required to contribute at least 30 percent of the estimated costs of micro-projects, 5 percent of which must be in cash and the rest in-kind.

15. **Targeted support to VMGs.** The project will finance micro-projects targeting the most vulnerable and marginalized community members, such as women, youth, widows/widowers, orphans, the elderly, the disabled, recovering substance abusers, and people living with HIV/AIDS. The objective is to empower VMG members and elevate their productive capacity and economic status so that they fully participate in VCs and POs. VMG members will be determined through participatory targeting methodologies during the PICD process (Annex 11). Criteria to identify vulnerable and marginalized individuals will include land ownership, asset ownership/perceived value, meals per day, number of dependents, female-/child-headed households, and advanced age, among others. Grants of up to US\$1,000 equivalent will be provided to each VMG depending on the selected and approved micro-project. Unlike the livelihood micro-projects, VMGs will not be required to contribute toward the investment cost of their approved micro-projects, but will be required to finance their O&M costs.

16. **Nutrition mainstreaming.** The project will finance activities aimed at mainstreaming nutrition into VC development. Grants of up to US\$500 equivalent will be provided to women's groups and primary and secondary schools. The nutrition-sensitive interventions will be integrated through: (i) *Consumption pathways*, which introduce traditional nutrient-dense crops (e.g., fruits and vegetables) and livestock raising (e.g., poultry and small ruminants) through home- and school-based gardening ("*Healthy Garden Program*"); (ii) *Income pathways*, which promote value addition through home-based food processing, storage, and preservation to retain nutritional value, increase shelf-life, and enhance food safety to reduce seasonality of food insecurity and post-harvest losses in line with the proposed county-based VCs; and (iii) *Women's empowerment pathways*, which facilitate women's participation in on- and off-farm activities by introducing labor-saving initiatives and rural credit schemes. Nutrition education will be provided to: (i) create awareness and build the institutional capacity and knowledge base of smallholder farmers and (ii) build government agencies' capacity to implement the nutrition agenda. The latter would include nutrition assessment tools and manuals for county- and community-level interventions, and development of individual county dietary guidelines with visual guides (infographics). The

project will track the impact of nutrition-sensitive interventions using specific indicators that measure dietary diversity and food consumption behavioral change.

17. CPSC will be responsible for approving the investment proposals submitted by CIGs and VMGs through a competitive process, based on the recommendations of CPCU. To increase transparency in the selection process, a customized MIS will be used to assist electronic submission, approval, and follow-up of investment proposals.

Component 2: Strengthening Producer Organizations and Value Chain Development (US\$50 million, of which IDA US\$45 million)

18. The objective of this component is to build POs' capacity to support member CIGs and VMGs to develop selected priority VCs in targeted rural communities. Under Component 2, CIGs and VMGs formed under Component 1 and facilitated to federate into POs will be strengthened to become viable and profitable, and attractive not only to existing and additional members, but also to business partners in input, output, and service markets. These POs will integrate member CIGs and VMGs into input and service markets to further improve production and to take advantage of market opportunities available along the selected VCs determined to be of high priority in the development of the respective counties. Targeted investments will also be made toward value addition and improved harvest and post-harvest management of produce to reduce high post-production losses, which range from 30 percent to 50 percent depending on the VC.

19. Targeted POs will comprise inter-community cooperatives, farmers' associations, or other forms of market-oriented farmers' organizations (including companies), primarily formed by federated CIGs and VMGs supported under Component 1. Each CIG and VMG joining a PO will pay membership and annual fees, as detailed in the PIM. For viability, it is anticipated that each targeted PO will have a minimum of 10 CIGs/VMGs (about 300 smallholder farmers) registered in one or two production clusters. At maturity, it is assumed that each PO will expand membership to reach 100 CIGs/VMGs (about 3,000 smallholder farmers) covering many production clusters in the county. Further, it is expected that the project will support up to a maximum of four POs per county (about 400 CIGs/VMGs with membership of 12,000 smallholder farmers). This translates into a total of 252,000 smallholder farmers organized in 8,400 CIGs/VMGs, federated into 84 POs supported in the 21 participating counties.

Subcomponent 2.1: Capacity-Building of Producer Organizations (IDA US\$7 million)

20. The objective of this subcomponent is to build the capacity of business-oriented POs formed by federated CIGs and VMGs organized under Component 1 so that they become profitable. Through their POs, CIG and VMG members can have a stronger say in the VCs in which they participate; access improved farm inputs and technologies and agricultural services (including rural finance and extension); and negotiate prices in input and output markets.

21. A rapid assessment of all existing POs in targeted communities will be conducted to identify and select POs to be strengthened. The assessment will classify POs according to the four levels of Market-Oriented Producer Enterprise (MOPE) generally used in developing POs (MOPE 0–3).³¹ Through a participatory process involving stakeholders at the county and community levels, POs to be supported by the project will be selected based on the following

³¹ At MOPE 1, POs are already formed and involved in collective market activities, but they have low volumes and low profitability (losses). At MOPE 2, the group is operational, formally registered as a business-oriented institution, and has operational structures, accountability systems, and a constitution; it holds regular meetings, maintains records, and has an active bank account and a savings culture; and its members have a collective operational culture. Volumes and organizational capacity, however, still limit the enterprise to marginal profitability. At MOPE 3, the producer group is formally organized as a business entity generating profit and engaged in value addition, it has reliable trade relations and operational enterprise growth/investment plans, and it has established institutional structures for sustainable business operations. At MOPE 0, the farmers' group is poorly constituted, and farmers still engage with the market individually. The World Bank Group has supported at least three methods of scoring the capacity of communities/POs—for example, Scope International Basic scorecards used by IFC, the scoring system used in Vietnam's ICR of its Agricultural Competitiveness Project, and the process originally developed in South Asia (especially Sri Lanka) and subsequently applied in Rwanda—that can be used to prepare a baseline of capacity at the outset of NARIGP.

criteria: (i) relevance to selected priority VCs; (ii) number of CIGs/VMGs members registered; (iii) level of market orientation (MOPE 0–3); (iv) market growth potential; and (v) level of support received from other sources. The aim of that final criterion (support from other sources) is to ensure complementarity and avoid duplication of effort (“double-dipping”). It is anticipated that the project will support up to four POs per county, one for each selected priority VC. Each selected PO will be supported to prepare an Enterprise Development Plan (EDP), charting its roadmap to business maturity and quantifying all required inputs and processes. The EDP will become the main instrument for structuring project support to each targeted PO.

22. Support to POs will be tailored along their validated EDPs and will be organized around two pillars. The first pillar is *organization and capacity building*; the second is *financing for enterprise development*.

23. ***Organization and capacity building***: Capacity-building support will be customized based on the MOPE ranking for each PO. For POs at MOPE 0 and 1, it is envisaged that capacity-building support will focus on organizational development and entrepreneurship through generic training in organizational development, including group dynamics, conflict management, leadership qualities and the election of suitable group officials, developing a constitution, writing minutes, communication, and resource mobilization. Training on methodologies for gender mainstreaming will also be integrated to assist POs in identifying gender issues and formulating strategies for addressing them at the PO and household level.

24. For POs at MOPE 2, the project will aim to strengthen them to reach organizational, management, and financial sustainability and to deliver effective services to their member CIGs and VMGs. Training of PO committee members and management staff in organization, governance, and entrepreneurship skills will include:

- (i) Leadership and governance, which will include writing a constitution and by-laws, the election of board members, and staff recruitment. The objectives and strategy of the PO will be specified in the constitution in line with the commonly agreed vision and EDP, including a specific strategy for linkages with trading partners.
- (ii) Business management training for board members, committee members, and staff on financial management (e.g., bookkeeping, liquidity management, and financial reporting), production of operational reports, and contracting with trading partners (e.g., suppliers and buyers).
- (iii) Participatory design of medium-term (five-year) EDPs, specifying their strategy in line with the economic environment, modalities of implementation, and financial projections with cash flow and income statements, balance sheet, and investment plans.
- (iv) Specific support for negotiating and contracting with identified large volume buyers for collective marketing of farmers’ produce.
- (v) Support for writing proposals (for financing business plans) to gain access to financial services from micro-finance institutions and commercial banks.
- (vi) Regular coaching and ongoing mentoring in areas identified as critical to the profitability of the enterprise.
- (vii) Exchange tours to successful POs that have transformed into profitable enterprises continuing to serve farmers.
- (viii) Technical skills development along the VCs of choice.

25. ***Financing enterprise development***: Capacity building of POs in effective organizational and enterprise skills will be complemented by competitive access to

investment grants of up to a maximum of US\$100,000 per PO for enterprise development. This facility will help POs at MOPE 2 to sustain their progress toward profitable enterprise operations with reliable trading relations until they reach the MOPE 3 level. The grant scheme will be accessible to POs through calls for competitive proposals to be financed on a cost-sharing basis. Grants to POs will be evaluated and approved by CPCU and CPSC, respectively. Eligibility for the matching PO enterprise development grant will revolve around the following considerations:

- The grant scheme will fill a gap in access to finance by POs supported by the project that have not reached a development stage where they can borrow funds from formal financial institutions (e.g., due to lack of track record, business profitability not demonstrated, and/or lack of collateral). To avoid creating dependence on subsidies, POs will be entitled to grants only during the first two years of implementing their EDPs. This support aims at making POs profitable and sustainable and at facilitating their progress toward MOPE 3.
- Only POs in MOPE 2 will be eligible for matching grants.³² The grant scheme will support POs under four windows: (i) primary production, which covers commercial bulk input supplies, land preparation services (e.g., conservation agriculture, mechanization, and tractor services), and forage production and conservation for livestock; (ii) harvest and post-harvest management (e.g., collection and aggregation centers/facilities, threshing and mechanized drying services); (iii) value addition and processing; and (iv) marketing of produce.
- Supported MOPE 2 POs will contribute 10 percent of the total cost of their investment proposals in cash or in-kind.
- The grant proposals of POs should be consistent with the VC development strategy for the production cluster and should not induce counterproductive competition between POs and individual CIGs and VMGs as members.
- Proposals of POs will be evaluated on the number of people benefitting directly and indirectly from the business, women and youth targeted, nutrition sensitivity of the investment, technical viability, projected profitability, job creation potential, and quality of governance and management.
- The matching grant scheme will include minimum performance indicators to be achieved by POs in terms of profitability, technical and financial management, and outreach, which will be specified in the agreement, with the provision that assets funded can be repossessed by the project in case of underachievement.

26. A platform of robust capacity building will be developed for POs, including capacity building on: (i) institutional arrangements (e.g., cooperatives, limited companies, or partnerships); (ii) formulation of sound EDPs; and (iii) use of commercial credit and the responsibilities that it entails.

Subcomponent 2.2: Value Chain Development (US\$43 million, of which IDA US\$38 million)

³² The reason for this stipulation is that MOPE 3 POs are assessed to have the capacity to submit requests for funding to formal financial institutions, so support for MOPE 3 POs will entail only capacity building to package financing proposals. MOPE 1 POs do not have the organizational capacity to viably operate a business, so the key support required by MOPE 1 POs is capacity building to first improve organizational structures and capacity.

27. The objective of this subcomponent is to upgrade competitive VCs for integration and economic empowerment of targeted smallholder farmers (organized into CIGs and VMGs) through their respective POs. Support will be provided for: (i) identification, selection, mapping, and organization of competitive nutrition-sensitive VCs for smallholder development and (ii) targeted investments in VC upgrading through a matching grant mechanism aimed at addressing key constraints, including: (a) strengthening of input supply systems (e.g., production of foundation seed by research institutions, commercial seed production by the private sector, and community-based seed multiplication); (b) developing farm mechanization technologies for CSA practices; (c) adding value through processing; and (d) providing post-harvest management technologies and facilities (e.g., solar drying, storage, and warehousing receipt system). Each step of the VC upgrading initiative will be examined with a nutrition lens to ensure the mainstreaming of nutrition-sensitive interventions, such as: (i) improved processing, storage, and preservation to retain nutritional value, increase shelf-life, and enhance food safety; (ii) reduced seasonality of food availability and post-harvest losses; and (iii) increased convenience of healthy food preparation.

28. Communities in each targeted county will be supported to prioritize and select up to four VCs for development under the project. The selection process will build on work already done in prioritizing key VCs for each county in the country³³ and will include the following criteria: (i) growth potential in both domestic and export markets; (ii) production growth potential within the county; (iii) potential outreach to targeted smallholder farmers; (iv) competitiveness (e.g., yield, gross margin, and value); (v) potential for social inclusion (e.g., women, youth, the elderly, etc.); and (vi) nutrition sensitivity. The preliminary list of potential VCs to be supported in the selected 21 counties includes: (i) livestock subsector—poultry, dairy, red meat, and apiculture; (ii) crop subsector—fruits and vegetables, cereals, pulses, and roots and tubers; and (iii) alternative livelihoods—aquaculture, handicrafts, and brickmaking. To ensure that young people are included, at least one of the four selected VCs in each county will focus on activities deemed attractive to youths (e.g., horticulture, brickmaking, *boda* services,³⁴ etc.).

29. **Identification and selection of value chains:** The identification and selection of priority VCs to be supported under the project will be undertaken at the county and community levels. At the county level, the project will support a review of priority VCs identified under various programs, including ASDSP (2013/14), KAPAP, and other initiatives, to ascertain which of these VCs remain highly relevant to the development of counties, and identify any other VCs that may have become higher priorities. Contracted and competitively selected SPs for each county will undertake a rapid appraisal of the competitiveness of VCs. The results will inform a participatory selection of up to four VCs that will be supported by the project in each county. The objective is to make this process evidence-based, participatory, and county government-driven so that VCs selected fully resonate with county priorities. In this way, prioritized VCs will not only be eligible for support under NARIGP, but also from county governments and other partners. At the community level, CIGs and VMGs supported under Component 1 will make an informed choice to participate in a given VC by selecting from the menu of priority VCs identified at the county level. Any other VCs that may not have been selected as a priority at the county level but have significant potential for market growth, competitiveness, and impact at the community level can also be included.

³³ Carried out under the ASDSP.

³⁴ Motorcycle taxi.

30. ***VC mapping and strategy development:*** For the selected priority VCs, the project will support the updating of key information and undertake a stakeholder-driven review of their development strategies at county level. The updated strategies will identify areas required for upgrading and will become the blueprint for coordinated development of each VC by stakeholders, including the county government, NARIGP, and other development partners (DPs).

31. ***Support to VC stakeholder platforms:*** While a number of counties have already organized stakeholders of priority VCs into platforms or forums, some counties have not yet done so, and in others, although they exist, they are still nascent and generally weak. Building on ongoing initiatives, the project will support further organization and strengthening of VC platforms/forums at the cluster and county levels, linking them to national platforms with the use of ICT. Existing interfaces that have succeeded in integrating smallholder farmers into a higher value chain (e.g., the DrumNet project implemented in central and western Kenya) will be examined to inform the design of ICT platforms in counties.

32. ***VC-upgrading matching grants:*** To address the diverse range of upgrading requirements for selected priority VCs, the project will provide VC-upgrading matching grants up to a maximum of US\$200,000 per grant. These funds will be accessed on a competitive basis by actors at key segments of the VC that are determined to be critical in unlocking growth of the VC as a whole. A key consideration under this instrument will be the building of productive public-private partnerships with producers (4Ps) for value chain upgrading. Through this arrangement, it is anticipated that project resources earmarked for the matching grants window will be leveraged up to three times over. From the list of priority VCs tentatively identified for support, it is envisaged that matching grants will be used in the following areas (among others):

- (i) ***Input supply:*** To enhance the accessibility of improved seeds, breeds, and other farm inputs among targeted POs, matching grants will be available for co-investment in development of a robust, private sector-driven input supply system. In close collaboration with Kenya Agricultural and Livestock Research Organization (KALRO) and the Kenya Plant Health Inspectorate Services (KEPHIS), matching grants will be provided to private firms willing to invest in hybrid seed (and improved livestock breeds) supply systems. For seed, this effort involves the production of breeder and foundation seed by KALRO and commercial seed producers, and community-based seed/breed multiplication in combination with a Quality Declared Seed (QDS) program to break the closed seed systems prevalent in Kenya.
- (ii) ***Technology development:*** One of the key constraints facing most VCs in Kenya is low utilization of mechanized technology in processes ranging from production and cutting through produce assembly, post-harvest handling, and value addition or processing. At the farm level, the particularly acute shortage of farm machinery and equipment for conservation agriculture (CA) greatly hampers the adoption of CSA practices. Matching grants could address this constraint by supporting equipment fabricators and SPs wishing to invest in providing higher-efficiency mechanization services for production and other segments of VCs.
- (iii) ***Post-production and storage facilities:*** To address the significant post-production losses experienced among smallholder farmers, matching grants will be provided to VC players willing to invest in improved harvest and post-production handling practices, which reduce losses and uphold the high food quality standards demanded by niche markets. For grains-related VCs, matching grants will go toward POs adopting appropriate harvesting, grain drying standards, threshing and shelling, and

appropriate storage technologies. Similarly, matching grants will be available to other VCs (e.g., dairy, poultry, and horticulture) with investments tailored to achieving high standards in produce handling from the point of production to storage and marketing to safeguard against post-production losses, enhance shelf-life, and meet food quality standards. Eligible investments will include the construction or refurbishment of produce collection and storage facilities and adoption of warehouse receipt systems.

- (iv) ***Value addition and processing:*** Most smallholder farmers are involved in VCs with a weak processing base, which limits the competitiveness and growth potential of the VC and, in return, yields low earnings. In general the marketing of agricultural products faces challenges and restrictions due to poor packaging, damage during transportation, poor handling, and inadequate quality control, including lack of standardization and certification by the Kenya Bureau of Standards (KEBS). These issues present an excellent opportunity for matching grants to upgrade VCs by spurring value addition and processing. Matching grants will support feasibility studies and provide technical support required by investors that are considering investing in value addition and processing in participating counties.

33. CPSC will be responsible for approving the investment proposals submitted by POs through a competitive process, based on the recommendations of CPCU. Details on implementing VC development activities, including the matching grant process, will be provided in the PIM.

Component 3: Supporting County Community-Led Development (US\$72 million, of which IDA US\$65 million)

34. The objective of this component is to strengthen county governments' capacity to support community-led development initiatives identified under Components 1 and 2. This includes: (i) providing technical advisory services (e.g., public extension and irrigation services); (ii) supervising SPs; (iii) creating an enabling environment for the private sector and PPPs to operate; and (iv) investing in inter-community interventions (e.g., catchment or landscape-wide and larger rural infrastructure) based on priorities identified under Components 1 and 2, as well as employment programs related to them. This component will also support county governments to develop mechanisms for effective citizen engagement through consultations, sensitizations, capacity building, and partnerships.

Subcomponent 3.1: Capacity Building of Counties (IDA US\$10 million)

35. This subcomponent will finance the capacity building of participating counties in the area of community-led development of agricultural and alternative livelihoods. The objective is to enable participating counties to support activities under Components 1 and 2. The project will ensure that capacity building under this subcomponent is coordinated and harmonized with the NCBF and other donors' ongoing initiatives. Proposed activities will be related to: (i) stakeholder engagement through sensitization and awareness creation to become familiar with project objectives and "philosophy"; (ii) preparation of a CNA and CBP for each participating county; and (iii) capacity building through: (a) various short-term training efforts (including the development of relevant standard training manuals and IEC materials) and TA, and (b) facilitation of relevant CTD staff (e.g., providing logistics, tools, and basic equipment).

36. To enable participating counties to support the community-led development of agricultural livelihoods, the project will build county capacity in the following key areas: (i) provision of agricultural extension services, including CSA practices and technologies, and environmental and social safeguards; (ii) integration of CDPs into county planning and

budgeting (i.e., mainstreaming of community-driven activities in county systems); (iii) identification and inclusion of VMGs in county agricultural and related programs; (iv) design, planning, and implementation of VC-related infrastructure and provision of technical support for community-led infrastructure; and (v) provision of support to POs through PPPs.

37. Capacity building in these key areas will target relevant sectoral staff at the county level (e.g., Directors, Technical Officers), such as the Departments of Agriculture, Livestock and Fisheries; Finance and Planning; Cooperatives, Trade and Marketing; Forest Services; Public Works; Water and Irrigation; and Gender and Social Development. Other government agencies—such as NEMA, Water Resource Management Authority, Kenya Forest Service, KALRO, KNBS (Kenya National Bureau of Statistics), KEPHIS, and KEBS—as well as other partners—such as CSOs, community-based organizations (CBOs), NGOs, and faith-based organizations (FBOs) at the county level—will also benefit from the CNA and CBP.

38. The CNA will evaluate the knowledge, skills, and practice of relevant county staff and other stakeholders in the key areas identified above, as well as shortfalls in staffing and facilitation. Inputs from respective county governments, especially through relevant county-level ministries, and feedback from relevant stakeholders will be critical in the assessment process. Based on the CNAs, NPCU in collaboration with CPCUs will lead the development of a CBP for each participating county. The CBP will specify the areas, methods, and participants to which capacity building will be delivered and indicate suitable training providers. If outsourced, the consultants carrying out the CNA will be retained to prepare the CBP in liaison with the target group. The development of standard training modules on the core areas identified above will be led by NPCU. Participation in the CNA and CBP process will be a prerequisite for selected counties to access project funds earmarked for capacity building.

39. While suitable providers of capacity building will ultimately be identified in the CBPs, the project will consider a combined approach of using consultants and academic and research institutions, such as the Kenya School of Government (KSG), the Kenya Institute of Management (KIM), universities, and KALRO, as well as specialized agencies like NEMA and KEPHIS. The project could work entirely with government institutions to develop or customize existing training curricula and materials that could be delivered to participating counties through SPs. The possibility of involving national and county-level government staff in the delivery of capacity-building activities also exists.

40. Sensitization and awareness creation for county staff, political leadership, and the wider county population on the objectives, role, approach, and philosophy of the project will form an important aspect of county capacity building. Sensitization will start even before the CNAs are carried out—during county project launch workshops—and will continue throughout the project. Initial stakeholder consultations and engagement will not only inform the materials, level, and scope of sensitization, but also the framework for the CNAs. This subcomponent will further support the use of existing (and possibly new) mass media programs (e.g., local and vernacular radio, theater groups, and TV shows) to sensitize a broader audience (e.g., beyond participating CIGs, VMGs, and POs) for: (i) community-led agriculture; (ii) existing viable and profitable POs; (iii) good practices on extension services and VC development; (iv) basic nutrition facts (e.g., healthy diet/diversification of food consumption based on locally available food); and (v) good practices for livelihood improvement with nutrition-sensitive activities.

Subcomponent 3.2: County Investments and Employment Programs (US\$62 million, of which IDA US\$55 million)

41. This subcomponent will finance investments in key agricultural and rural development infrastructure, as well as NRM investments that span multiple targeted communities. It will also finance short-term employment during the off-season, particularly for VMGs and unemployed/out-of-school youth (refer to the project's VMGF). The employment opportunities will largely be created under public works using cash-for-work opportunities and facilitated by concerned county governments through participatory targeting approaches.

42. **Multi-community investments:** Typical investments benefitting multiple communities that will be implemented by counties will include: (i) landscape-wide SLM investments, such as water harvesting and storage facilities and rehabilitation of degraded areas (e.g., water catchments, river banks, gullies, areas affected by landslides, and deforested/degraded lands)³⁵ and (ii) VC-related infrastructure investments, such as spot improvements on access and feeder roads, footbridges across rivers, livestock dips and watering points, check dams, and small-scale irrigation and drainage schemes.

43. The project will support catchment assessments and mapping, with a primary focus on hydrology, which is critical in the ASALs. The objective is to outline the general hydrological situation (among other things) and identify where major investments in check dams, irrigation schemes, and forestry/agroforestry need to be targeted. These assessments can also be used to target where roads need to be upgraded, and areas where forest loss is causing erosion. Where links with the national irrigation program exist, they would be mapped as well. The process would use freely available imaging on the web from different satellite platforms, or higher resolution images if necessary. Community micro-catchment plans or action plans would draw on catchment assessments' information. The catchment assessment and mapping will allow communities and technical specialists to have a sense of the "bigger" picture when planning local soil and water interventions to make a better link between upper and lower catchments and upstream and downstream interactions.³⁶

44. With respect to irrigation, any scheme supported under the project will be commercially oriented in terms of concept and organization, and it will be consistent with the principle of inclusive growth. This stipulation suggests the need for six eligibility criteria: (i) demand for the scheme must originate from the community; (ii) the size should be no larger than can be implemented with minimal public assistance and operated entirely by farmers themselves; (iii) the scheme should supply a VC, ideally one that is at least partially owned by farmers and preferably owned entirely by farmers; (iv) farmers should be organized as irrigation water users' associations (IWUAs) and legally registered under the applicable government law; (v) the owners must agree to partial (co-financing with counties) capital³⁷ and assume full responsibility for O&M; and (vi) any financing must be conditional on the preparation of a sound business plan by the owners, which itself may require robust capacity building in groundwater irrigation systems, small storage surface dams, river diversion, sand/subsurface dams, and water harvesting installations. Although gravity systems will be encouraged, a pumped water supply could be justified if backed with strong consideration of its commercial viability and if its future O&M are ensured. The PIM will describe the details on the scale, eligibility, beneficiary targeting, guidelines for scheme identification, design, installation/construction, commissioning, contract management, and O&M.

³⁵ See Annex 8 for details.

³⁶ A small-scale micro-plan is appropriate for implementing participatory watershed management, but unless these wider linkages are understood, it is absolutely possible for interventions in one micro-catchment that are logically planned and executed by a community to have negative impacts on water supply for people downstream or in other micro-catchments.

³⁷ With the assistance of innovative financial support from subcomponent 2.4. It is understood that precedents for this kind of finance already exist in Kenya.

45. Interventions under the flood control infrastructure will include: flood protection works, such as dykes/small canals to protect key flood-prone areas; drainage to remove water from regularly flooded land; and storm water and sewerage systems. They will also include watershed rehabilitation activities intended to enhance *in situ* infiltration and reduce erosive surface run-off. Measures intended to achieve these aims include contour terrace and plowing, combined with the planting of fruit trees, trees for fuelwood, and other financially remunerative trees, some of which represent significant potential for value addition. With respect to roads and bridges, the emphasis would be largely on maintaining and upgrading existing infrastructure, rather than constructing new rural access roads, although it may include construction of new bridges.

46. Identification and prioritization of multi-community investments will be undertaken through community-led processes in Components 1 and 2. Communities will identify SLM and infrastructure investments at both the micro-catchment and landscape/catchment levels. Those at the micro-catchment level will be implemented under Component 1, while those at the landscape/catchment level will be implemented under Component 3. Catchment-wide interventions must be based on addressing specific hotspots within the specific community catchment plans. This bottom-up process will be combined with a top-down process, whereby counties align project investments with the envisaged investments in their CIDP and narrow them down to an ADP. This combined bottom-up/top-down process will be detailed in the PIM.

47. Once competitive county investment proposals are reviewed and recommended by CPSC, they will be vetted by the NPCU and approved by NTAC. The approved proposals will be presented to NPSC by the NPCU for information and records. A single county-level investment could cost up to US\$1.0 million equivalent. The ceiling for each county's rural infrastructure and NRM investment support will be US\$3.5 million equivalent. NTAC will ensure that the approved county-level investment proposals and budgets for county matching funds are incorporated in their respective CIDPs and ADPs. CTDs will oversee the design, planning, and implementation of infrastructure investments. Counties will be responsible for O&M of investments financed under the project through cost recovery (e.g., user charges/fees) or budget processes. In this regard, the budget required for replacement and O&M of activities benefiting individual farmers, such as small-scale irrigators, will be supplied by fees collected from beneficiaries, while county governments will be directly responsible for those benefitting the broader public/communities, such as access roads and bridges. The co-financing and O&M requirements will be stipulated in Memoranda of Understanding (MoUs) between participating counties and MoDP. These requirements will remain key criteria for the allocation of project funds for multi-community investments to counties through a competitive process. Investment decisions (e.g., type of investment, responsibilities, and approved amounts) will be made public. The PIM will provide further details on the competitive selection process for county-level investments, including the criteria to be used and ceilings for specific types of investments. Special considerations and support will be extended to counties determined to have lower capacity.

48. **Employment Programs:** The project will finance short-term employment opportunities during the off-season, particularly for VMGs and unemployed/out-of-school youth. Employment opportunities will be created largely under public works supported by the project using a cash-for-work approach and facilitated by concerned county governments. Counties will use existing participatory targeting approaches to identify VMGs. The aim is to move toward mechanisms that combine data available at the national and county government levels with the participatory approaches (through the PICD process) used under Component 1 (refer to project safeguard documents—VMGF and RPF).

49. Employment opportunities supported by the project will be related to the construction (e.g., irrigation schemes, water pans, livestock dips, and small dams) and rehabilitation (e.g., rural roads, bridges, market places, and office buildings) of county-level infrastructure, as well as SLM investments (e.g., erosion control and terracing) supported by the project. Other opportunities will be linked to youth participation in extension services supported by the project (e.g., support for integrated pest management after receiving training on pest identification and thresholds for using pesticides, artificial insemination, and tick control); in participatory theater groups to disseminate knowledge on undernutrition, malaria, and general hygiene; and in the collection and analysis of community feedback on the performance of TIMPs for agricultural livelihoods. This could be achieved through the provision of start-up kits for extension services (e.g., liquid nitrogen containers and semen straws, and knapsack sprayers and acaricides). The PIM will further detail the budgeting and disbursement arrangements for the identified cash-for-work opportunities, as well as the selection of beneficiaries (including criteria), the type of work to be included in the programs, how to reduce the chances for abuse, and the overall management structures for employment programs.

50. Some counties already have similar cash-for-work programs or organizational support for out-of-school youth. Therefore, coordination at the county level will be critical to ensure that the project effectively builds on existing support systems. Clear graduation arrangements will be established to link safety net beneficiaries with other support as they become more capable and resourceful.

Component 4: Project Coordination and Management (US\$17 million, of which IDA US\$15 million)

51. This component will finance activities related to national and county-level project coordination and management, including annual work planning and budgeting (AWP&B), fiduciary aspects (financial management and procurement), HR management, safeguards compliance monitoring, development and implementation of MIS and ICT-based platforms, M&E and impact evaluation, and communication strategy and citizen engagement. In addition, in the event of a national disaster affecting the agricultural sector, the project would respond through this component via a contingency emergency response facility.

Subcomponent 4.1: Project Coordination (US\$12 million, of which IDA US\$10 million)

52. This subcomponent will finance the costs of the national and county-level project coordination units (NPCU and CPCUs), including salaries of the contract staff, and O&M costs, such as office space rental charges, fuel and spare parts of vehicles, office equipment, furniture, and tools, among others. It will also finance the costs of project supervision and oversight provided by NPSC and CPSC, and any other project administration.

53. NPCU will be responsible, among others, for: developing national AWP&Bs by consolidating county AWP&Bs; seeking approval from NPSC and incorporating AWP&B into MoDP's development budget; reviewing and vetting county investment proposals for NTAC approval; managing project funds, including disbursing, accounting, and preparing IFRs and financial statements for auditing; managing HR, particularly contracted staff; procuring large contracts and managing contracts (e.g., works, goods, and consultants) and project assets (e.g., vehicles, computers and accessories, office equipment and furniture, among others); supporting NPSC and NTAC by providing secretariat function; and handling all implementation support missions of the Bank.

54. Similarly, CPCU will be responsible for preparing county-level AWP&Bs by consolidating the CDPs, seeking approval of CPSC, and submitting to NPCU for

consolidation into NARIGP budgets; reviewing and vetting CIGs', VMGs', and POs' investment proposals for CPSC approval; managing county-level project funds, including paying clients, accounting, and preparing quarterly IFRs; procuring and managing county-level assets; and supporting CPSC by providing secretariat function.

Subcomponent 4.2: Monitoring & Evaluation and ICT (IDA US\$5 million)

55. This subcomponent will finance activities related to routine M&E functions (e.g., data collection, analysis, and reporting); development of an ICT-based Agricultural Information Platform for sharing information (e.g., technical or extension advisory services, business and market-oriented, agro-weather information, stakeholder feedback, grievance and complaints, and others); and facilitation of networking across all components. It will also finance the baseline, mid-point, and end-of-project impact evaluations.

56. An ICT-based Agricultural Information Platform will include the needs of other components and overall project management by serving four main functions: (i) access to information; (ii) multi-directional flow of information; (iii) market linkages; and (iv) M&E. These functions will be designed into three interfaces—e-Portal, e-Commerce, and MIS—managed by the main analytical engine. The Platform is intended to provide NARIGP and other stakeholders with the ability to: (i) capture data and information from the project using mobile phones connected to network servers and (ii) access and upload the data and information collected and geospatially aggregate data at the community, county, and national levels.

57. The Platform will be used as an instrument for knowledge management and help communities and NARIGP to: (i) have better access to information, knowledge, and technical advice to improve farming practices; (ii) provide feedback on the performance of TIMPs promoted by the project; (iii) find and establish marketing linkages with input suppliers and output purchasers; and (iv) generate periodic reports on HR management, fiduciary management, and M&E. A firm will be contracted by the project to design, establish, and operate the Agricultural Information Platform. See Annex 11 for further details.

Subcomponent 4.3: Contingency Emergency Response (IDA US\$0 million)

58. This zero cost subcomponent is meant to finance eligible expenditures related to emergency response costs in case of natural disasters affecting the agricultural sector. This contingency facility can be triggered through formal declaration of a national emergency by the government authority and upon a formal request from GoK through the NT. In such cases, funds from an unallocated category or other project components will be reallocated to finance emergency response expenditures to meet agricultural crises and emergency needs. The emergency response would include mitigation, recovery, and reconstruction following natural disasters, such as severe droughts, floods, disease outbreaks, and landslides, among others.

59. Detailed operational guidelines for implementation of this Contingency Emergency Response satisfactory to the Bank will be prepared within the first six months of project effectiveness.³⁸ Disbursements would be made against a positive list of goods, works, and services required for supporting mitigation, response, recovery, and reconstruction needs. Should it be triggered, all expenditures under this subcomponent will be in accordance with Paragraph 12 of the World Bank OP 10.00 of the Investment Project Financing (IPF). The policy requires all expenditures to be appraised, reviewed, and found acceptable to the Bank before any disbursement is made. Eligible operating costs would include incremental expenses incurred for efforts arising as a result of the natural disaster. This subcomponent will also be used to channel resources from rapid restructuring of the project to finance emergency response expenditures and meet crisis and emergency needs under an Immediate

³⁸ The manual developed for the Kenya-Regional Pastoral Livelihoods Resilience Project (RPLRP) could serve as a basis.

Response Mechanism (IRM). Criteria and thresholds for activating the IRM will be developed and included in the PIM.

Goods, Works, and Services under this subcomponent would be financed based on review of satisfactory supporting documentation presented by the government, including adherence to appropriate procurement practices in an emergency context. All supporting documents for reimbursement of such expenditures will be verified by the internal auditors of GoK and by the NPC, certifying that the expenditures were incurred for the intended purpose and to enable a fast recovery following the damage caused by adverse natural events, before the Application is submitted to the Bank. This verification shall be sent to the Bank together with the Withdrawal Application.

Annex 3: Implementation Arrangements

KENYA: National Agricultural and Rural Inclusive Growth Project

Project Institutional and Implementation Arrangements

1. **Implementation of NARIGP will involve a three-tiered institutional arrangement (national, county, and community).** Under the **first tier** (i.e., at the national level), the National Treasury (NT) will represent the Government of Kenya (GoK), for which the Ministry of Devolution and Planning (MoDP) will be the main implementing agency. Within MoDP, the project will be anchored in the State Department of Planning and Statistics (SDPS). The **second tier** will be at the county level, with county governments as the executing agencies of the project. The **third tier** will be at the community level, where beneficiaries will implement their community-led interventions. The three-tiered institutional arrangement aims to: (i) lessen the approval layers for faster decision making and efficient project implementation; and (ii) utilize the constitutionally mandated governance structures at the national and county levels, to the extent possible. To enhance linkages and ownership of the project, county governments will be fully involved in the decision-making process at the national level, as they will be represented in the National Project Steering Committee (NPSC) and National Technical Advisory Committee (NTAC) by the Chair of Council of Governors (CoGs) and the Chief Executive Officer (CEO) of Council of Governors, respectively. In addition, county governments will be fully responsible for decision making and project oversight at the county and community levels. The detailed roles and responsibilities of national, county, and community institutions will be provided in the Project Implementation Manual (PIM). The project's institutional arrangements are summarized in Figure A3.1.

2. **National level.** Overall project oversight and policy guidance will be provided by NPSC, which will be co-chaired by the Cabinet Secretary (CS), MoDP and the Chair of the CoGs secretariat. NPSC will comprise PSs from the relevant state departments of line ministries (i.e., NT, Water and Irrigation, Environment and Natural Resources, Industrialization and Enterprise Development, Agriculture, Livestock, and Fisheries), representatives of the private sector and civil society (e.g., Kenya Private Sector Alliance (KEPSA) and Kenya National Farmers Federation (KENAFF), the World Bank (*ex officio*), and members of the agricultural and rural development donors group.

3. NTAC will be co-chaired by the PS, SDPS, MoDP and Chair of County Agriculture Committee or Finance Committee, and it will comprise the CEO of the Intergovernmental Relations Technical Committee (IGRTC); Director of the Water Resources Management Authority; CEOs of the Gender and Equity Commission, CoGs, and KENAFF; Directors General of National Environment Management Authority (NEMA) and Kenya Agricultural and Livestock Research Organization (KALRO); Directors of Public Health, Kenya Forest Service, Kenya Meteorological Services, and Kenya Marine Fisheries Research Institute; General Manager of the National Irrigation Board; Commissioner of Cooperatives; private sector representatives from Seed Traders Association of Kenya, Kenya Association of Manufacturers, Women in Agribusiness, Kenya Bankers Association, Association of Micro Finance Institutions, and Financial Sector Deepening Trust; and Directors of State Departments of Crop Resources and Marketing, Livestock Production, Veterinary Services, Aquaculture Technology Development, Fisheries Marketing and Development, Environment and Natural Resource Management, Land Reclamation and Storage, Water Resources, Gender and Youth, ASALs, Special Programmes, Devolution, Public Works, and Primary Education. NTAC will be responsible for providing technical support to the overall project

implementation. The number of members of NTAC attending each meeting will depend on the agenda or technical advice sought by NPCU.

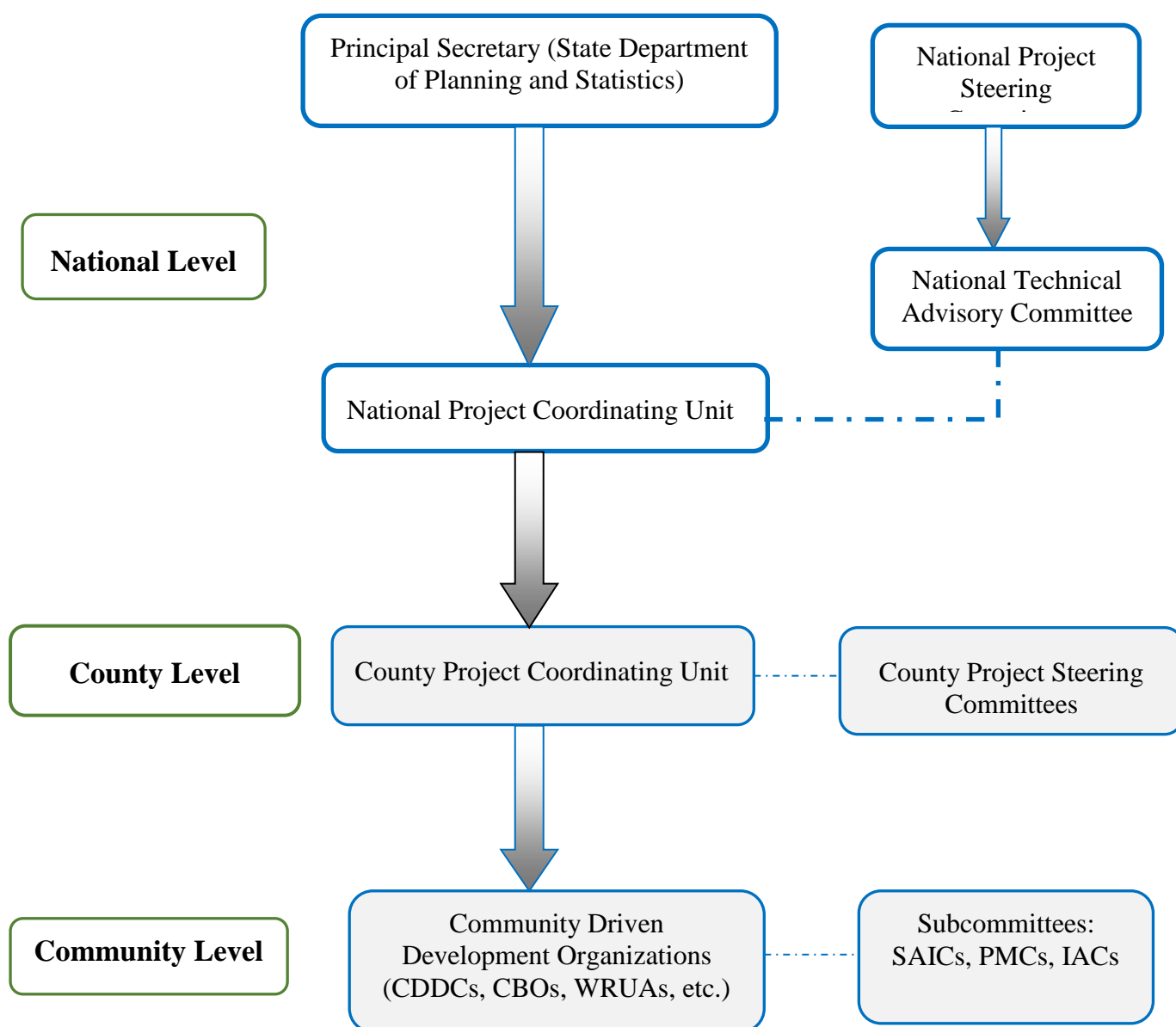
4. NPCU, to be headed by the National Project Coordinator (NPC), will be established under the SDPS and will be responsible for managing day-to-day project implementation. NPCU will comprise the NPC, Component Coordinators (Components 1-3), M&E Coordinator, Finance/Project Accountant Officer, Procurement Officer, Internal Auditor, Human Resource and Administration Officer, Education and Communication Officer/Public Relations Officer, ICT Officer, and Environmental and Social Safeguards Compliance Officer. The NPCU staff will be seconded to the project on a full-time basis by the national government. Recruitment of NPCU staff from the market will be done only where internal capacity is inadequate; and with approval from the Directorate of Public Service Management in the Ministry of Public Service, Youth and Gender Affairs. The NPC will serve as the secretary to both NPSC and NTAC.

5. **County level.** Depending on each county's governance structure, the County Project Steering Committee (CPSC) will be chaired by the County Secretary, who will be responsible for providing implementation oversight in the participating counties. CPSC will approve county annual work plans and budgets (AWP&B) and community-led micro-project proposals, and ensure that they are incorporated in the County Integrated Development Plan (CIDP). CPSC will comprise: Chief Officers of relevant county ministries (e.g., Agriculture, Livestock and Fisheries, Water, Trade and Cooperatives, Environment and Natural Resources, Works, Mechanization); County Directors of Environment (NEMA); County Chambers of Commerce/private sector representatives; county representatives of farmers/POs; and representatives of civil society organizations (CSOs) and VMGs (youth, women, and the differently-abled). The County Commissioner may be co-opted in the County Project Steering Committee (CPSC), as needed. Similarly, the actual number of CPSC members attending each meeting will depend on the agenda or technical advice sought by the County Project Coordination Unit (CPCU). The County Project Coordinator (CPC) will serve as secretary to CPSC and the CPCU as the secretariat of CPSC.

6. CPCU, which will be embedded in the respective county government structures, will comprise the CPC, County Component Leaders (Components 1–3), County M&E Assistant, County Finance Assistant/Project Accountant, County Procurement Assistant, and Internal Auditor. CPCU staff will be seconded to the project on a full-time basis by the county governments. Recruitment of CPCU staff from the market will be done only where internal capacity is inadequate, and with approval from the NTAC following the recommendation by the County Public Service Boards.

7. **Community level.** The CDDCs with elected leaders (chair, secretary, treasurer, and board members) will represent beneficiaries in the targeted communities. CDDCs will be responsible for mobilizing communities into CIGs and VMGs, through the PICD process. They will also be responsible for identifying vulnerable and marginalized members of the community through participatory targeting approaches. CDDCs will facilitate the preparation of prioritized CDPs and the resulting community micro-projects, as well as their implementation, community participatory monitoring, and reporting. Other community-level groups and subcommittees will also participate in the project, including Water Resource Users' Associations (WRUAs), CBOs, and Social Accountability and Integrity Committees (SAICs), among others.

Figure A3.1: Institutional Arrangements, NARIGP



Financial Management, Disbursements, and Procurement

Financial Management

8. **MoDP and counties were assessed as having strengths and weaknesses.** The assessment, carried out in August 2015, revealed both FM strengths and weaknesses in the Ministry. MoDP's major strength is that it has adequate experience and capacity in dealing with Bank-financed projects.

9. **Material fiduciary weaknesses identified in the WKCDD&FMP.** The Bank carried out an in-depth FM review of the WKCDD&FMP, initiated on the basis of reports of suspected fraud and corruption (F&C) in the project. The review carried out during September – October 2015, covered the PCU based in Nairobi and 6 of 11 sub-county implementing units. The FM review revealed material lapses in fiduciary control cutting across all project components, including community grants, the sustainable land development (SLD) component, and project management. The key findings are summarized as follows:

- **Breakdown of internal control systems**, including overriding FM procedures by the project's management and fiduciary staff.
- **Procurement-related irregularities** in civil works and goods contracts with indications of conflict of interest, collusion, and other irregular practices. These issues cut across all six subcounties audited.
- **Malpractices in community grants** that included misappropriation of funds through irregular involvement of project staff in disbursement and procurement at the community level.
- **Anomalies in operating costs that included unsupported/insufficiently supported expenditures**, noncompliance with Bank and GoK procedures, and evidence of irregular payments.
- **County-level PFM risks** at the District Treasury and District Tender Committee, eroding project fiduciary arrangements.
- **Weak management oversight** and lack of effective M&E systems by the PCU.
- **Weak HR practices**, including weak procedures over staff hiring and assessment of management, performance, and discipline. The resulting cronyism, favoritism, and lack of appropriate sanction for employee malpractices created a culture of impunity.

10. GoK undertook a parallel audit, focusing on those areas not covered by the Bank's review, particularly the remaining five subcounty implementing units. The design of NARIGP was updated to take account of the emerging risks identified from the in-depth review of WKCDD&FMP. This was the second time that WKCDD&FMP had experienced corruption-related challenges. The first time was in 2009, when the project was suspended for 2.5 years after an FM review revealed similar cases of suspected F&C. After the project was suspended, additional governance and fiduciary measures were put in place, but these did not work as intended. The measures were as follows:

- **Development of a more comprehensive FM and procurement manual with stringent financial control procedures** at the national, county/subcounty, and community levels. However, the project staff simply ignored/bypassed the fiduciary procedures by colluding and overriding internal controls.
- **Recruitment of project staff using an independent private sector agency.** This measure was not effective, partly because of weak management oversight, favoritism, lack of effective sanctions for poor performance, and overriding of controls.
- **Engagement of an independent integrated fiduciary reporting agency (IIFRA).** An IIFRA was engaged to conduct continuous monitoring and on-site FM, procurement, value-for-money, and performance audits and provide quarterly reports, but this intervention did not work as intended due to weak contract management.
- **Enhanced public reporting, corruption reporting, complaint handling, and grievance redress.** The complaint reporting mechanism was ineffective as the reporting/handling chain led to the same project/ministry staff engaged in malpractices. This mechanism resulted in cover-up, intimidation, and victimization of complainants. Displaying project financial information on billboards and notice boards in communities also proved to be ineffective.
- **Enhanced use of community volunteers as part of a social audit.** Some success was noted in reporting by the community volunteers—i.e., the pool mobile advisory teams (MATs)—but this mechanism was undermined by irregularities in hiring,

management, and payment to these individuals, many of whom were intimidated through harassment, victimization, and non-payment/underpayment of their dues.

- **Enhanced ToRs for fiduciary review of OAG and internal audit department (IAD).** This measure failed due to limited/inadequate scope of annual audit coverage and lack of inclusion of the project in their respective annual work plans (both at OAG and the IAD while claiming lack of or inadequate budget).
- **Enhanced management monitoring, control, and supervision by creating a regional office in Kakamega County.** A regional office was set up, but it proved to be largely ineffective because it was not empowered to execute its mandates.

11. On the basis of the FM review, the malpractices were perpetrated mainly by project staff who manipulated the fiduciary procedures. As such, more community empowerment is needed in funds flows and payments, independent monitoring and reporting, and effective management oversight. Measures that will be put into place under NARIGP to achieve this aim (and detailed in the FM and procurement manuals as part of the PIM) include, among others:

- **OAG as the GoK's Supreme Audit Institution (SAI) is to set up and implement an independent fiduciary project monitoring and certification system, acceptable to the World Bank,** for the national, county and community levels, comprising acceptable private audit/CPA firms and with the participation of CSOs, NGOs, and other non-state actors, by not later than June 30, 2017. The monitoring and certification system will be set up and implemented on the basis of ToRs approved by the Bank. The selected monitoring private audit firms, CSOs, NGOs, and other non-state actors will be vetted and cleared by the Bank before being hired. Their main role will be verification of payments and expenditures in line with ISA 800 (Audit of Financial Statements Prepared in Accordance with Special Purpose Frameworks). The selected audit firms will have financial, forensic, and procurement capacity, and will be independent of any project implementing unit or agency. Their contracts will be reviewed and renewed periodically based on performance and will be subject to rotation. The OAG will provide reports to the Bank on a semi-annual basis in form and content satisfactory to the Bank. The costs of setting up and implementing this system by OAG will be financed out of NARIGP funds.
- **Set up an MIS database with built-in standards for simultaneous reporting to the Bank and GoK.** Through subcomponent 4.2 (monitoring & evaluation and ICT), the project will set up a web-based database using standard formats to capture FM, procurement, and M&E reports from all participating counties on a monthly basis. The database will contain information such as eligible beneficiaries, disbursements, financial reports received (from counties and communities), contracts awarded, GPS coordinates, names and contacts of community officials, minutes of meetings (for NPSC, CPSCs, CDDCs, etc.), quarterly IFRs and annual financial statements, and reports by the project monitors on standard templates, among others.
- **Use GPS mapping for all micro-projects accessible to the public** with full details of the location, names, and telephone contacts of community officials, details of contracts, names and telephone numbers of owners of the firms awarded, procurement method used, payments made, and status of work done.
- **Obtain high-level clearance of the Project Implementation Manual (PIM).** Given the importance of the document in project implementation and fiduciary controls, the PIM, which includes the FM and Procurement Manuals, will be subject to review and

clearance by the staff of the Bank's INT, FM, legal, and procurement departments. Any changes to the PIM during implementation will be subject to the same review and clearance process.

- **Include Human Resource (HR) guidelines in the PIM on staff rotation and sanctions for project employees who breach fiduciary protocols.** The PIM will contain HR measures for employees who persistently breach project fiduciary procedures, cause ineligible expenditures, or create loopholes that could be exploited to misappropriate project resources. The sanctions would include GoK separating such staff from the project, and in cases where INT investigation confirms culpability, barring such employees from working on any other Bank projects.
- **Enable complaints to be reported to the World Bank.** On top of the normal reporting of complaints to the GoK and its agencies, the PIM will include an option for reporting to the World Bank Country Office breaches/noncompliance with project guidelines; and to INT in cases of suspected F&C, in line with the Bank's Anti-Corruption Guidelines.
- **Involve county governments in the payment process.** For better checks and balances in the payment process, Component 1 will be implemented directly by counties. The county treasuries will handle the relevant FM arrangements for county-level activities through the CPCUs.
- **Provide increased/continuous community awareness and capacity building with enhanced public reporting and complaint-handling mechanisms.** Part of the project's design includes continuous community awareness and capacity strengthening to ensure proper community ownership and participation. It also includes the strengthening of public reporting and complaint-handling mechanisms.
- **Increase transparency and strengthen existing social accountability mechanisms,** by including the use of community volunteers (pool MATs), setting up community-level integrity committees such as SAICs, and disclosure of project information at prominent places within the community.
- **Require detailed transaction reviews and risk-based, randomized, on-site spot checks as part of the Bank's FM review** for NPCU, CPCUs, and micro-projects at county and community levels. The reviews will include forensic tests on areas and transactions assessed as high risk.
- **Provide corruption prevention and reporting mechanisms** through the EACC by the use of hotlines, anonymous corruption reporting, integrity assurance officers, and corruption-reporting boxes.
- **Designate a qualified project internal auditor for NPCU and for each of the 21 CPCUs** on the basis of ToRs cleared by the Bank. The selected officers will be vetted by the Bank before they are issued with contracts (or secondment letters). The contracts will provide for annual renewal with clearance from the Bank based on performance appraisal and rotation of staff.
- **Designate a qualified project accountant, and procurement officer for NPCU and assistant accountants and procurement officers for each of the 21 CPCUs** on the basis of ToRs cleared by the Bank. The selected officers will be vetted by the Bank before they are issued with contracts (or secondment letters). The contracts will provide for annual renewal with clearance from the Bank based on performance appraisal and rotation of fiduciary staff.

- **Enhance OAG’s audit capacity through fiduciary support in the following three areas:** (i) need-based fiduciary training of OAG staff; (ii) payment of project incremental audit costs; and (iii) outsourcing to private audit firms (where necessary). The ToRs for the private auditors will be reviewed and cleared by the Bank, and the selected audit firms will be vetted and cleared by the Bank before the contracts are awarded. The audit contracts will be subject to periodic review, and renewal will be based on performance.

12. Apart from the risks identified in the WKCDD&FMP review, other portfolio-level and entity risks include: (i) long in-country funds flow delays in moving funds from Designated Accounts (DAs) to Project Accounts (PAs) and (ii) limited scope of the annual project audits of CDD-type and decentralized projects previously done by KENAO. The scope of KENAO’s audit involved a risk-based, on-site review of funds disbursed to spending units outside the NPCU in Nairobi. Both of these issues remain portfolio-level challenges, and the World Bank, the NT, and the OAG are engaged in dialogue to resolve them.

Project-Specific Fiduciary Arrangements

Budgeting

13. The budgeting arrangements are assessed as being adequate and will continue to be carried out by MoDP and counties in line with existing GoK procedures. The project budget will be based on AWP&Bs submitted by CPCUs to NPSC for approval and inclusion in the MoDP’s budget. The project AWP&Bs will be consolidated from the national activity plans compiled by NPCU and county plans received from the 21 CPCUs. This approach is in line with GoK’s financial regulations and procedures. NARIGP will be assigned IDA-specific budget codes in IFMIS for both national and county activities using the GoK Standard Chart of Accounts. These arrangements will form the basis for project disbursement, expenditure, and reporting.

Accounting System and Capacity

14. MoDP maintains adequate accounting capacity headed by a qualified and experienced Head of Accounting Unit, who is supported by a team of accountants with the requisite qualifications and experience. The ministry also has a qualified and experienced Chief Finance Officer (CFO), who is in charge of budgeting arrangements. The Head of Accounting Unit and the CFO independently report to the PS, MoDP. The accounting processes within the ministry are based on IFMIS, which has been adopted for use in all ministries’ departments and counties. However, since the project management module in IFMIS is yet to be activated, the financial reporting and other FM activities will be done using accounting software compatible with IFMIS or by Excel spreadsheets.

15. The Ministry has developed the FM manual for NARIGP based on the “Government Financial Regulations and Procedures Manual.” The FM (and procurement) manual incorporates the additional mitigation measures resulting from the in-depth review of the WKCDD&FMP. The FM manual will include clearly defined standards for recordkeeping and document management and retention to ensure that both hard and electronic copies are maintained in a manner conducive to enabling a proper audit trail.

16. GoK will designate a project accountant at NPCU to take overall responsibility for the project’s FM functions at the national level. The county governments will also designate county project accountants to each of the participating CPCUs. The designation of project accountants will be done on the basis of ToRs cleared by the Bank. The County Treasury will be responsible for Project FM arrangements for activities implemented by the county. The

county PFM systems are still being developed, and NARIGP will undertake the necessary staff training and capacity building to address any FM risks identified. The capacity training will include County Treasury staff supporting the project.

17. Another inherent risk is weak FM capacity at the community level, especially in those counties where Bank-funded CDD-type projects have not been implemented in the past. To address this risk, the project will conduct training for communities in recordkeeping, accountability, and procurement procedures to build their capacity. Further, the project has developed a community participation manual detailing the fiduciary arrangements for implementing CDD-type activities under Component 1. The community participation manual stipulates the procedure for disbursements to communities, records to be maintained, and reports to be submitted to CPCUs by communities; it also documents the relevant social accountability mechanisms necessary for proper community engagement. CPCUs will be required to make regular visits to the communities to provide FM support during micro-projects implementation.

Internal Controls and Internal Audit

18. At the national level, the MoDP has internal control arrangements involving approval and authorization procedures, adequate segregation of functions, and internal check mechanisms in line with GoK financial regulations and procedures. The ministry has internal audit functions with auditors seconded from the NT. GoK will designate a project internal auditor at NPCU to take overall responsibility for the project audit at the national level. The participating counties will designate county project internal auditors to each of the 21 CPCUs. The designation of the project internal auditors will be done on the basis of ToRs cleared by the Bank. MoDP also has an audit committee that functions as an oversight committee on budget execution and implementation of internal audit recommendations. Bank reconciliation statements are prepared by MoDP's Chief Accountant on a monthly basis and approved by the Head of Accounting Unit or his/her designate.

19. The project will be subjected to an "in-year" risk-based fiduciary review. The project will also be subjected to annual risk-based reviews by the Bank's FM team to strengthen internal controls. In addition, OAG will conduct on-site audits of all 21 CPCUs as part of the end-of-year annual statutory audit. Further, NPSC will be responsible for providing effective oversight over project activities, including compliance with fiduciary requirements.

20. At the county level, payment vouchers initiated by the 21 CPCUs will undergo examination, vote book entry, and accountant authorization under the oversight of the county treasury. The project will maintain a cashbook at 21 CPCUs and ensure monthly bank reconciliation reports are prepared to enhance internal controls.

21. Activities under Component 1 will entail making disbursements to communities with weak internal control and social accountability structures. As part of measures to strengthen social accountability structures at the community level, detailed social accountability measures were incorporated in the project design to enhance community participation, corruption prevention, public reporting, and complaint handling.

Funds Flow and Disbursement Arrangements

22. The flow of funds arrangements will consist of: (i) two (2) DAs denominated in US dollars (DA-1 for county-level activities and DA-2 for national-level activities) to be opened by the NT at the CBK or in a financial institution acceptable to IDA and managed by the NT; (ii) a PA in Kenyan shillings to be opened by the NT at the CBK or financial institution acceptable to IDA and managed by MoDP, from which the project's payments will be made; (iii) for counties, MoDP will trigger transfer of funds from DA-1 through the respective

County Revenue Fund (CRF) accounts opened at the CBK or financial institutions acceptable to IDA and managed by the individual county governments, to the County Special Project Account; and (iv) the beneficiary/community group bank accounts will be opened in commercial banks acceptable to the Bank and managed by community/group elected leaders.

23. The triggers for the initial deposit/transfer from DA-1 to CRF accounts will include the signing of the participation agreement, and approved county annual work plan and budget. Subsequent transfers will be based on submitting the Statement of Expenditures (SoEs). For communities/groups, eligibility criteria will include having in place a community development plan/business plan of POs and an approved micro-project. Once communities/groups have met the eligibility criteria, funds will be disbursed by county governments from their County Special Project Accounts to the community/group accounts. The CRF accounts will be replenished from DA-1, and the PA from DA-2. Flow of funds is summarized in Figure A3.2.

24. The accounting and internal control systems are in line with GoK's Bank FM guidelines, the FM manual, and applicable PFM regulations. Additional controls will be incorporated in the grant manual for NARIGP, particularly for the CDD component, for which GoK guidelines do not exist. The project will submit quarterly IFRs and annual financial statements to the World Bank. The annual financial statements will be carried out on the basis of International Public Sector Accounting Standards as prescribed by the Public Sector Accounting Standards Board from time to time. The audit of the project will be done by the Office of the Auditor General, which is assessed as having adequate capacity.

25. One FM risk that could affect project implementation is delays in transfer of funds from the DA to the PA at MoDP - NPCU. This problem affects the entire Kenya portfolio and is being addressed progressively through constant engagement between the Bank and the NT. As part of GoK's plans to address this issue, the NT has established External Resources Sections (ERS) in each ministry as a means of fast-tracking the funds flow process.

Financial Reporting

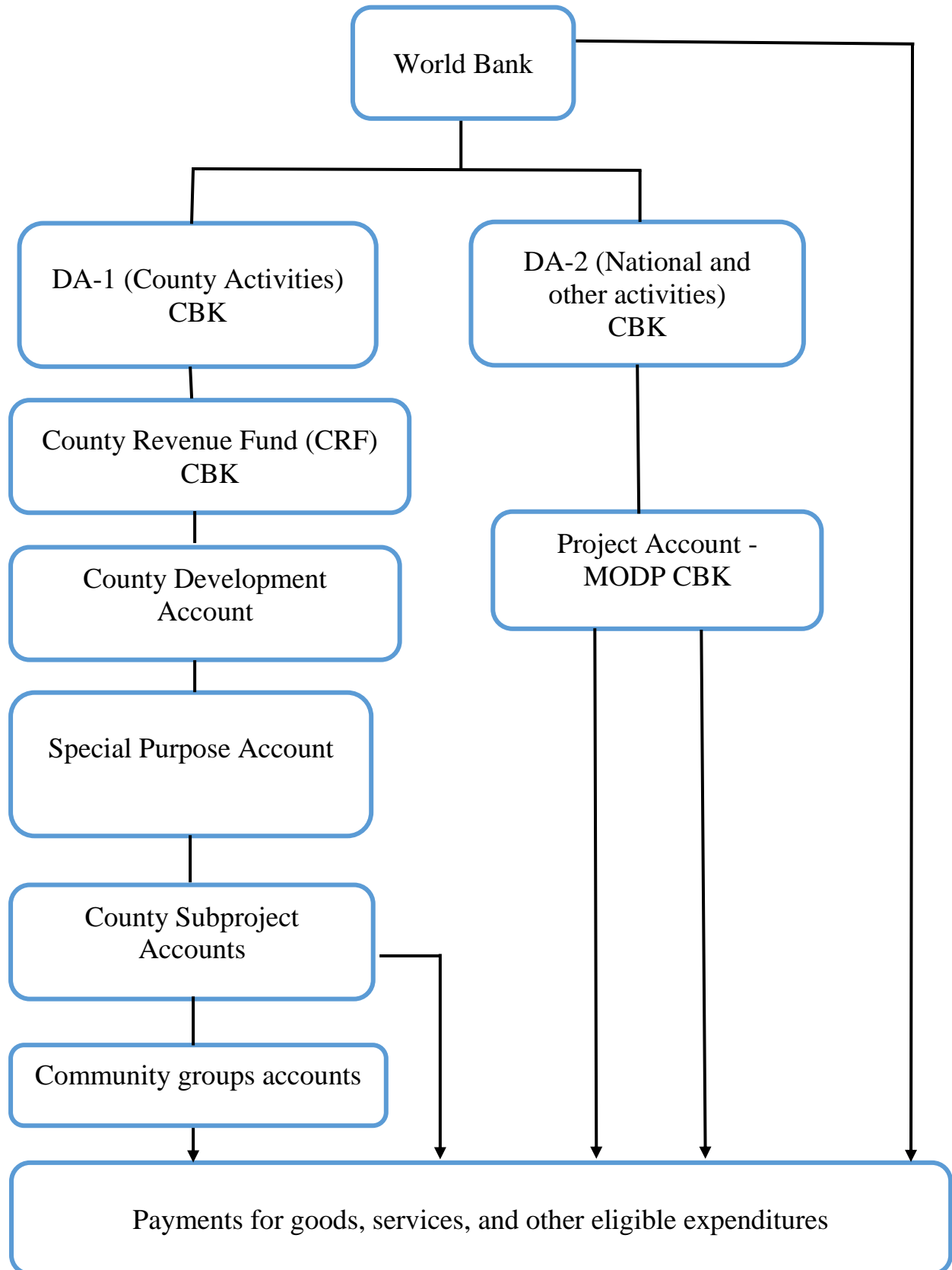
26. Preparation of quarterly IFRs, which will be submitted to the Bank within 45 days after the end of the quarter, will be the responsibility of NPCU. To facilitate this process, each county will prepare and submit quarterly IFRs to NPCU within 30 days after the end of the quarter for consolidation and submission to the Bank within the stipulated timelines. The IFRs will mainly be used for monitoring and financial reporting, but not as a means of initiating disbursements from IDA, since the project will be on a reimbursement (SOE) method of disbursement. NPCU will also ensure preparation of annual financial statements, which will be submitted for external auditing within three months after the financial year end. External auditing will be conducted by OAG and the audit report and management letter will be submitted to the Bank within six months after the financial year end. The formats of both the quarterly IFRs and annual financial statements have been agreed on with MoDP. The monitoring and certification agents will submit quarterly reports to the World Bank.

External Audit Arrangements

27. The OAG is by law mandated to audit all public expenditures, including Bank-funded projects in Kenya. Thus OAG will be responsible for the project audit of NARIGP's financial statements. In the past, OAG's predecessor, KENAO, had generally been rated satisfactory, but there have been concerns about its limited scope of audit for CDD-type projects. For instance, in the FY14/15 WKCDD&FMP audit, KENAO was unable to audit project funds amounting to KSh 1.5 billion, citing "lack of resources." Therefore to mitigate the resource

constraint the project will provide funds to OAG to facilitate audits, as needed. As part of the annual audit review process, the external audit review reports will be compared with the Bank FM supervision findings. Follow-up of audit issues will be undertaken as necessary

Figure A3.2: NARIGP Funds Flow Arrangements



Risk Assessment and Mitigation Table

28. Table A3.1 presents the results of the risk assessment analysis and the corresponding mitigation measures.

Table A3.1: Risk Assessment and Mitigation Table

Type of Risk	Initial Risk Rating	Brief Explanation	Risk Mitigation Measures Incorporated in Project Design	Condition of Effectiveness (Y/N)?	Residual Risk Rating ¹
INHERENT RISK					
Country level	S	This rating is based on the Country Public Financial Management (PFM) environment and considers the overall history of the country's governance environment and corruption concerns.	A more robust PFM Act 2012 is now in place. PFM reforms are ongoing, including the rollout of IFMIS to the 47 counties and introduction of EFT payments via G-Pay. KENAO has been strengthened while the Office of Controller of Budget has been established to oversee budget execution.	No	S
Entity level	H	MoDP has adequate capacity and experience to implement the project and will set up CPCUs in the 21 participating counties. However, Governance and Anti-Corruption (GAC) concerns have been raised regarding MoDP and material weaknesses in WKCDD&FMP.	A governance action plan will be developed and implemented on completion of WKCDD&FMP's in-depth review.	No	H
Project level	H	Project design involves payments of community grants with inherent FM risks. Ineffective management oversight and material fiduciary concerns for the WKCDD&FMP project.	Fiduciary mechanisms will be enhanced, including hire of monitoring and certification agents and establishment of an MIS database.	Yes, disbursement condition/dated covenants	H
OVERALL	H				H
Type of Risk	Initial Risk Rating	Brief Explanation	Risk Mitigation Measures	Condition of Effectiveness (Y/N)?	Residual Risk Rating ¹
CONTROL RISK					
Budgeting	S	Possible delays by some counties in capturing project activities in their budgets.	Increased training and capacity building.	No	S
Accounting	H	Cases of noncompliance with fiduciary procedures	FM manual revised. NT to designate NPCU and	No	H

Type of Risk	Initial Risk Rating	Brief Explanation	Risk Mitigation Measures Incorporated in Project Design	Condition of Effectiveness (Y/N)?	Residual Risk Rating ¹
		and GAC challenges in WKCDD&FMP. Weak accounting capacity at the community level.	CPCU project accountants. Designation of project accountants based on ToRs approved by the Bank. Enhanced social accountability and GAC measures incorporated as part of project design.	Yes, dated covenant	
Internal controls, management oversight, and risk management	H	Weak internal controls at county and community level.	Revised FM manual developed. NT to designate NPCU and CPCU project internal auditors. Regular audit and monitoring and reporting.	Yes, disbursement condition	H
Funds flow	S	Significant delays in funds flow from DA to PA could delay project implementation. Risk of disbursement delays at county level. Challenges in disbursement to community groups by some subcounties in WKCDD&FMP.	Hire monitoring and certification agents. Project will open and maintain segregated subproject accounts. Direct disbursement of funds to community groups from the project account.	Yes, disbursement condition	M
Financial reporting	S	Challenges of accuracy and completeness of the reports. Risk of financial reporting delays at counties	Annual SOE reviews to be conducted. Monitoring and certification agents to provide quarterly reports to the Bank. Capacity-building (training) of counties.	No	S
Auditing	H	Limited scope of audit, whereby KENAO was unable to conduct audit of project funds citing lack of funds.	Project funds will be ring-fenced from other regular GoK funds. Project funding of OAG, and outsourcing of external audits to private audit firms where necessary.	No	H
OVERALL CONTROL RISK	H				H

OVERALL PROJECT FM RISK**High (H)**

29. **Dated covenants of the project will include: (i) designation of a project accountant** for NPCU and assistant accountants for each CPCU on the basis of ToRs reviewed and cleared by the World Bank and vetting of the selected employees by the World Bank by December 31, 2016 and **(ii) establishment of an MIS database with GPS coordinates** for tracking micro-projects satisfactory to the World Bank by June 30, 2017.

Implementation Support

30. Based on the outcome of the FM risk assessment, the following implementation support plan is proposed (Table A3.2).

Table A3.2: Proposed Implementation Support Plan for NARIGP

Financial Management Activity	Frequency	FM Output
Desk reviews		
IFR reviews	Quarterly	IFR review report
Audit report review for NARIGP	Annually	Audit review report
Review of other relevant information such as internal control system reports	Continuous as they become available	FM review report
On-site visits		
Review of overall FM system including internal controls	Once every 12 months	FM review report
Monitoring of actions taken on issues highlighted in audit reports, auditor's management letters, internal audit, and other reports	As needed	FM review report
Transaction reviews (if needed)	Annually or as needed	FM review report
Capacity-building support		
FM training sessions	By effectiveness and thereafter as needed	Training sessions held

Procurement

31. Although the implementation arrangements for NARIGP will borrow heavily from the experience and lessons learned from WKCDD&FMP and KAPAP, due to the decentralized nature of implementation and the multiplicity of implementing entities proposed under the project, the design of the procurement arrangements will be informed largely by the existence and functionality of the following elements: (i) adequacy and application of policies and procedures; (ii) strength and effectiveness of procurement organizational systems; (iii) number and competencies of procurement staff and the suitability of their work environment; and (iv) structures of government supervision and oversight both at the national and county levels.

32. It is proposed that the project will be implemented under a three-tiered institutional arrangement, namely at the national, county, and community levels. At the national level, MoDP, through its Department of Planning, will be the implementing agency; county governments will implement the project at the county level; and community groups will implement community-led interventions and programs at the community level. The proposed institutional arrangements are aimed at: (i) minimizing the layers of approval for speedy decision-making processes and for efficient project implementation and (ii) utilizing as much as possible the constitutionally established structures at the national and county levels of

government. It is noted that although MoDP has not implemented a Bank-financed project in the past, the NPCU of WKCDD&FMP is housed at MoDP and has been implementing the project since 2007; thus it has experience in implementing World Bank-financed projects following Bank Procurement Guidelines.

33. Procurement staff with the required qualifications and experience will be assigned from the implementing agencies or recruited from the open market. The staff who worked on WKCDD&FMP will not be automatically migrated/continued in this project. Any staff who worked on WKCDD&FMP and who are assigned or selected for this project will be required to undergo additional due diligence to ensure they were not involved in the irregularities in the WKCDD&FMP. With additional TA to strengthen procurement capacity, the institutions can undertake implementation, facilitation, and coordination of the project with reduced risk.

34. Kenya's 2010 Constitution established a devolved form of government that consists of a national government and county governments. As a result, 47 county governments were created following the March 2013 General Election as part of the implementation of devolution. The Constitution grants county governments the power to provide services in the areas of their jurisdiction through revenues they collect, budgetary subsidies they receive from the national government, and loans they may borrow from domestic and/or external institutions.

35. Recognizing the implications of the devolved system of government for the implementation of the development loans and grants of the World Bank to Kenya, in 2014 the fiduciary team of the World Bank Country Office, in collaboration with MoDP and the NT, conducted FM and procurement capacity assessments of 12 of the 47 county governments. At the end of the capacity assessment exercise, the Bank team produced a consolidated report that was presented at a Bank-organized workshop in December 2014. In addition to the Bank fiduciary team, the workshop was attended by MoDP, the NT, and county government representatives from counties covered by the fiduciary capacity assessment. The workshop discussed the findings and recommendations of the report for participants' validation and adoption of the report.

36. Of the counties initially targeted (during the preparation mission), Narok, Tharaka Nithi, Kiambu, Murang'a, Makueni, Kisii, and Kwale Counties were covered by the Bank's fiduciary capacity assessment in 2014 and 2015. In addition, a detailed procurement needs assessment for Kilifi County was conducted by the United Nations Office for Project Services in 2013, and the findings were shared with the Bank as part of the procurement donor working group collaboration. As a follow-up to this assessment, the procurement team at the World Bank Kenya Country Office visited two of the project counties (Kiambu and Machakos) in September 2015 to review and update the procurement capacity status of the counties to be used as a sample of the proposed project counties. Kiambu County was one of the 12 counties whose fiduciary capacities were assessed in 2014, while Machakos County was not.

37. Procurement for the proposed project will be carried out in accordance with the World Bank "Guidelines: Procurement of Goods, Works and non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers," dated January 2011 and revised July 2014 (referred to here as the "Procurement Guidelines"), and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers," dated January 2011 and revised July 2014 (referred to here as the "Consultant Guidelines"); and provisions stipulated in the Financing Agreement. The project will also follow the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated October 15, 2006, and

revised January 2011. Further, as the project has a CDD component, the project's procurement arrangements for community-based procurement will be in line with the "Guidance Note for Design and Management of Procurement Responsibilities in Community-Driven Development Projects," dated March 15, 2012. The national procedures acceptable to the Bank will be followed for contracts obtained through National Competitive Bidding (NCB) procedures.

Findings of the Assessment

38. MoDP itself has implemented a Bank-financed project in the past through an NPCU housed in the ministry. Procurement under the ministry is conducted centrally and administered by an Assistant Director (AD) who is the Head of the Procurement Function of MoDP and reports directly to the PS. The Procurement Officer is responsible for the management of procurement, stores, and warehousing functions of the ministry. In addition, the officer coordinates the procurement activities of each Directorate (specialized Departments) within MoDP. Each Directorate has its own procurement function headed by a Senior Supply Chain Officer (SCO). Procurement in the ministry is largely centralized, with nearly all procurement undertaken at Headquarters.

39. The procurement risk is **High**, based on the assessment carried out and recent findings of the fiduciary review conducted on WKCDD&FMP, also a CDD operation at county level.

County Governments

40. The institutional structure of the executive arm of county governments was formalized and fully staffed 8-12 months ago. Structurally, the executive arm consists of a Governor, a Deputy Governor, a County Executive Committee (CEC), a County Secretary, Chief Officers, Directors, and operations staff. Each CEC member is in charge of the overall policy and operational responsibility of a specific portfolio of a department or ministry of the county government. The day-to-day operations of each county department or ministry are led by a Chief Officer with the assistance of directors and operations staff. Administratively, the counties have offices at the county headquarters, in subcounties, and wards. Government offices in subcounties and wards are headed by administrators who are assisted by accountants and procurement staff. In the structure of the executive arm of county governments, a department or ministry is responsible for matters relating to FM, including procurement. A procurement function within the County Ministry of Finance is charged with county procurement functions.

41. The procurement function in counties is headed by a Unit Head who is supported by an operations team of Supply Chain Management (SCM) officers. An SCM officer is attached to each county ministry and 1-2 two subcounties. The minimum qualifications of the procurement team is a Diploma in SCM. The Bank team was informed that the majority of SCM officers hold a Master's degree in SCM, followed by Bachelor's degree holders in SCM.

42. Based on discussions between the Bank and county procurement staff, it was noted that the procurement teams are conversant with the Public Procurement & Asset Disposal Act (PPADA 2015) and its regulations. It was further confirmed to the Bank that consolidated procurement plans are prepared by the procurement units from individual ministerial procurement plans. The procurement units are equipped with adequate ICT equipment and internet connectivity.

43. In conformity with the PPADA (2015), counties have established a County Procurement Function, and an Inspection and Acceptance Committee. Bid opening and bid evaluation committees are appointed on an *ad hoc* basis. Upon the recommendations by the

Head of the Procurement Function, the County Secretary awards contracts to successful bidders and signs them on behalf of the county government.

44. The Bank noted a few areas of weaknesses in the procurement capacity of county governments that need strengthening. Office spaces for the operations of the procurement staff and for procurement recordkeeping are inadequate. No sound procurement filing system exists, as procurement records are kept in different offices. None of the procurement teams in the counties assessed has exposure to international DPs' procurement procedures.

45. In terms of quantity and quality, counties' procurement units are adequately staffed. For example, Kiambu County is divided into 12 subcounties that are in turn subdivided into 60 wards (or administrative cells). The county offices at its headquarters, subcounties, and wards are supported by 60 SCM Officers. Five procurement unit officers have a Master's degree and 15 hold a Bachelor's degree in SCM. The rest of the procurement personnel either have a certificate or a diploma in SCM. In Machakos County, which consists of eight subcounties and 40 wards, 26 SCM Officers carry out procurement duties at the county ministries based in headquarters, subcounties, and wards. Eighty percent of this county's procurement officers are university graduates while the other 20 percent are Diploma holders in SCM.

46. The procurement officers of the two counties are conversant with the PPADA. Due to the availability of reliable internet connectivity at county headquarters, the procurement officers have access to the PPADA website, from which they can download standard bidding documents to initiate and administer procurement processes. Reliable internet connectivity and a conducive office environment may not be readily available in all counties, however, which may hamper project implementation.

47. Some of the procurement capacity weaknesses noted in both counties include: (i) only a few procurement personnel have experience in the public sector and its procurement operations; (ii) no major or significant procurement training has been organized for procurement staff, although a training plan developed by county governments exists; and (iii) working space and filing cabinets for procurement records are limited, and no proper procurement filing system is in place.

48. In view of the fact that (i) most county procurement staff were recruited from the private sector and therefore have little or limited exposure to public procurement operations either in the public sector or under donor-funded projects, and (ii) clear weaknesses exist in county procurement filing systems, a key recommendation is that procurement officers assigned to NARIGP at county level are trained on World Bank procurement procedures initially for a period of two or three weeks before project implementation commences. Subsequent regular procurement clinics will also deepen county governments' procurement capacity.

Community-Driven Development (CDD) Operations

49. At the community level, it is proposed that CDDCs with elected leaders will represent the targeted communities. The CDDCs will be responsible for mobilizing communities into CIGs through a PICD process to identify vulnerable households, assess key sources of vulnerability, and define priority on- and off-farm investments that enhance livelihoods and reduce vulnerability.

50. An independent firm/agency will be enlisted to conduct assessments of selected CIGs and related cooperative organizations and movements and develop detailed guidelines and

simplified procedures and social accountability structures for use in implementation of CDD programs.

51. Due to the geographical spread and decentralized nature of project implementation; identified capacity gaps in the county government procurement systems and staffing; the multiplicity, size, value, scattered nature, and remoteness of some of the locations for CDD activities; and drawing from lessons learned from previous CCD operations, the procurement risk is assessed as “*High.*”

52. The following mitigation measures are proposed: (i) increase ownership of procurement at the community level by communities; (ii) simplify the procurement manual at the community level and ensure that project staff or county officials do not get involved; (iii) conduct any procurement beyond the community level at the county level/CPCU following Bank Procurement Guidelines; (iv) advance training of procurement officers at the national and county levels on World Bank procurement procedures before the project starts; (v) increase staff capacity at the national level, either through internal transfers and/or open recruitment; (vi) promote internal transfer of sector specialists from technical sectors to county procurement units to strengthen their capacities to manage contracts, as required; (vii) prepare a comprehensive and detailed procedures manual for use at all levels of project implementation; (viii) establish and maintain a structured and effective filing and records management system; (ix) engage an agency to carry out a capacity assessment of beneficiary community groups, assist in their capacity building, and monitor and report on procurement performance; (x) hire a firm/agency to conduct annual procurement post-reviews as per ToRs agreed with the Bank; (xi) use the project website to proactively disclose procurement information; and (xii) hire a Third Party Quality Assurance/Quality Control Consultant to provide independent assurance on the quality of civil works constructed under the project.

53. In addition, the following measures will be implemented:

- Integrate procurement planning as part of the budgeting process, and use procurement plans as a management tool for allocating responsibilities and accountability and monitoring procurement performance.
- Effectively monitor contracts and undertake post-evaluations to strengthen systems, enhance performance, and measure improvement.
- Establish a complaint and grievances handling system.
- Allocate adequate and secure office space, and establish a conducive work environment.

54. A Procurement Management manual will be prepared in line with Bank Procurement and Consultant Guidelines. Procurement at the community level by communities will be in accordance with the provisions applicable for Community Participation in Procurement (CPP) as defined in Paragraph 3.19 of the Procurement Guidelines and described in detail in the PFM Manual. These procedures will be in line with the “Guidance Note for Design and Management of Procurement Responsibilities in Community-Driven Development Projects,” dated March 15, 2012. The PFM Manual shall include a chapter on disclosure as provided below and a code of ethics for project procurement staff and communities.

55. **Disclosure:** The project will proactively disclose the following documents on the project website (to be created and maintained): (i) procurement plans and updates; (ii) invitation for bids for goods and works for all international competitive bidding (ICB) and NCB contracts; (iii) requests for expression of interest for selection/hiring of consulting services; (iv) contract awards of goods and works procured following ICB/NCB procedures; (v) list of contracts/purchase orders placed following shopping procedures on a quarterly

basis; (vi) shortlists of consultants; (vii) contract awards of all consultancy services; (viii) lists of contracts following direct contracting (DC), consultants' qualifications selection (CQS), or single source selection (SSS) on a quarterly basis; (ix) reports on actions taken on complaints received on a quarterly basis; and (x) the progress of all contracts awarded and payments made on a quarterly basis.

56. The following details will also be published on the Bank's external website and United Nations Development Business (UNDB): (i) invitation for bids for procurement of goods and works using ICB procedures; (ii) request for expression of interest for consulting services with estimated cost more than US\$300,000; (iii) contract award details of all procurement of goods and works using ICB procedure; (iv) contract award details of all consultancy services with estimated costs above US\$300,000; and (v) list of contracts/purchase orders placed following SSS, CQS, or DC procedures on a quarterly basis.

57. As part of citizen engagement, all civil works will have a notice board displaying contract description, contractor's name, contract amount, and physical and financial progress. The project will create a Procurement MIS to display information on micro-projects executed and procurement carried out by the community (description, quantity, unit rate, and supplier/contractor name and consultants if any hired, including remuneration) at the community level. At the community level, posters and pamphlets will be printed and distributed in simple language to uphold the highest integrity in implementing the project, drawing from similar experiences in other successful CDD operations.

Procurement Plan

58. The Borrower at appraisal developed a Procurement Plan that provides the basis for procurement during project implementation. This plan will be available in the project's database and on the Bank's external website. The Procurement Plan will be updated in agreement with the Bank annually or as required to reflect actual project implementation needs and improvements in institutional capacity.

Table A3.3: Thresholds for Procurement Methods and Prior Review

Expenditure Category	Procurement / Selection Method	Procurement/Selection Method Threshold (US\$)	Bank's Review Requirements (US\$)
Works	ICB	≥15 m	≥5 m
	NCB	<15 m	≥5 m
	Shopping	<0.2 m	None
	Direct Contracting	All Values	≥0.1 m
Goods	ICB	≥3 m	≥0.5 m
	NCB	<3 m	≥0.5 m
	Shopping	<0.1 m	None
	Direct Contracting	All Values	≥0.1 m
Non-Consulting Services	ICB	≥3 m	≥0.5 m
	NCB	<3 m	≥0.5 m
	Shopping	<0.1 m	None
	Direct Contracting	All Values	≥0.1 m
Consulting Services (Firms)	QCBS/QBS/least cost selection (LCS)/fixed budget selection (FBS)	All Values	≥0.2 m
	CQS	≥0.3 m	≥0.3 m
	SSS	All Values	≥0.1 m
	IC	All Values	≥0.1 m

59. **Shortlists comprising entirely national consultants.** Shortlists for consultancy services, engineering, and contracts supervision for contracts estimated to cost US\$300,000 or less may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultants Guidelines.

60. **Review of procurement decisions.** The Procurement Plan will set forth those contracts that shall be subject to Bank's prior review. All other contracts shall be subject to post-review by the Bank.

61. **Frequency of procurement supervision.** In addition to the prior review supervision to be carried out from Bank offices, the Bank will conduct annual missions to the field to provide support and carry out post-review of procurement actions.

Governance and GAC Measures

62. **Governance risks, including lessons and key measures needed to address risks that have emerged in other projects involving decentralized service delivery (such as CDD-type operations), were incorporated in the design of NARIGP.** A set of governance risk mitigation measures was developed to strengthen overall governance and anti-corruption (GAC) aspects during project implementation. These measures, as presented below, will form part of the project's risk framework and will also be detailed in the PIM. These measures include:

- ***Strong emphasis on building financial and procurement management capacity, to include community/public involvement, at each level of the project.*** This measure will be embedded as part of capacity building of communities (e.g., subcomponent 1.1), POs (subcomponent 2.1), and counties (subcomponent 3.1). To the extent possible, civil society should not be engaged in community-level procurement. To implement this requirement, it will be imperative to deliver training to communities

on financial management, procurement, and recordkeeping aspects, supplemented by straightforward, easy-to-understand manuals that communities can refer to.

- **Robust MIS** that: (i) provides up-to-date reports on project finances, activities, and performance across project components and subcomponents; (ii) generates reports comparing performance between counties and communities on key project results versus financing; (iii) geo-maps key project interventions under each component (including name of activity, financing, results, name and contacts of responsible persons); and (iv) keeps a fixed asset register of project assets. The MIS will need to accommodate inputs from different levels of project implementation using easily available technology (e.g., smartphone forms). Draft ToRs for the system were developed.
 - **Public disclosure of project information**, including: (i) a communication program that ensures that Kenyans, particularly those in participating counties, are fully aware of the project, its objectives, criteria, activities, finances, information sources (e.g., web-based map), contact persons, and grievance redress mechanisms; (ii) web-based, publicly accessible, updated geo-maps of all project interventions; (iii) public signboards in prominent locations at each level (e.g., village, ward, subcounty, county) displaying activities, financing, and location of key micro-projects for each component; (iv) all awarded procurement contracts (goods, works, consultants); (v) all project-financed staff listed by name; (vi) uptake points for complaint handling in public information and communications materials; and (vii) annual project reports that are publicly disclosed on the web and in hard copy at project implementation unit sites.
 - **Establishment of a complaint-handling mechanism** to include a grievance/complaints committee, designation of a focal point officer to coordinate complaints, and establishment of a framework (i.e., what types of complaints will be handled by which entities/agencies (e.g., F&C complaints forwarded to EACC). Capacity building of the complaint management system is also required and will be built into performance contracts of responsible parties. Quarterly monitoring reports will be consolidated, reviewed by NPCU, and provided to the World Bank.
 - **Third-party monitoring and oversight** to be implemented at each level, including: (i) independent SAICs and/or anticorruption monitors at the community level who are independently selected and provided with capacity training and basic resources; and (ii) engagement of CSO(s) to review project implementation at each level and/or by county. The project provides for an assessment of POs, including their accountability to community and farmers' groups.
 - **Suspension of transfers/disbursements** to counties and communities that do not comply with recordkeeping, reporting, and other governance requirements.
 - **Project implementation support**. In addition to regular implementation support visits, unannounced visits to project sites at each level will be conducted.
63. Additional GAC measures could include:
- **Leverage/support for existing preventive GAC initiatives spearheaded by EACC**, for example:
 - (i) Conduct corruption risk assessment and systems audits of various institutions, projects, etc. After the assessment, make various recommendations to the

institution on actions to be taken and require the institution to report back on addressing risks identified within a set time frame.

- (ii) Leverage the existing County Corruption Prevention Advisory Program, whose focus is to advise county governments on mapping out corruption-prone areas in operational systems and procedures; develop strategies and measures to address corruption and unethical practices in operational systems; and develop and enforce codes of conduct, anti-corruption policy, and anti-corruption plans. At the end of the program, participating county governments sign action plans for implementation.
 - (iii) Use County Anti-Corruption Outreach Programs to educate the public on the dangers of corruption and enlist public support in the fight against corruption and unethical practice.
 - (iv) Train Integrity Assurance Officers (IAOs) and Corruption Prevention Committees.
 - (v) Train Community-Based Anti-Corruption Monitors to participate in the fight against corruption and unethical practices.
- ***Increased public awareness within the program of direct reporting on governance issues, including F&C, to oversight institutions,*** including through the Integrated Complaints Reporting Mechanism, which establishes unified complaint reporting centers for EACC, the Commission on Administrative Justice, National Anti-Corruption Steering Committee, National Cohesion and Integration Commission, Kenya National Commission on Human Rights, and Transparency International (Kenya). Through this platform, EACC's outreach is extended to places where it does not have a physical presence, as cases can be reported through these institutions, which in turn lodge complaints on the platform, which is accessed, managed, and maintained by dedicated EACC staff. Complaints are regularly analyzed, categorized, and referred to appropriate units or other responsible agencies.

Environmental and Social (including safeguards)

Environmental Safeguards

64. **The Project is proposed as Category B - Partial Assessment.** No significant and/or irreversible adverse environmental issues are anticipated from the investments to be financed under the project. Civil works will lead to relatively minor air and water pollution during the construction phases, and once the works are completed, limited loss of non-critical animal and plant habitats. The impacts will be assessed through a screening process and appropriate mitigation measures will be proposed. Three environmental safeguards are triggered—Environmental Assessment (OP 4.01), Natural Habitats (OP/BP 4.04), and Pest Management (OP 4.09). Table A3.4 summarizes the safeguards policies triggered by NARIGP.

65. **Environmental Assessment (OP/BP 4.01).** The proposed project investments in rural infrastructure (e.g., irrigation, local markets, water conservation structures, etc.) and agriculture VCs (e.g., storage facilities, local-level value addition, limited use of agro-chemicals, etc.) are likely to have negative environmental and social impacts that are expected to be small-scale, site-specific, and largely reversible. The area of project investments and the design of micro-projects are not known during project preparation, given the project’s CDD approach. Thus GoK prepared an ESMF (Environmental and Social Management Framework) that takes into account the natural environment (e.g., air, water, and land), human health and safety, and social aspects (e.g., involuntary resettlement, VMGs, and physical cultural resources). The ESMF outlines the process for undertaking an environmental and social assessment to guide the implementing agencies at the national, county, and community levels to identify, assess, and avoid or mitigate the potential negative impacts of the proposed interventions.

Table A3.4: Safeguards Policies Triggered by NARIGP

SAFEGUARD POLICIES TRIGGERED BY THE PROJECT	YES	NO
OP/BP 4.01 Environmental Assessment	X	
OP/BP 4.04 Natural Habitats	X	
OP/BP 4.36 Forests		X
OP 4.09 Pest Management	X	
OP/BP 4.11 Physical Cultural Resources		X
OP/BP 4.10 Indigenous Peoples	X	
OP/BP 4.12 Involuntary Resettlement	X	
OP/BP 4.37 Safety of Dams		X
OP 7.50 Projects in International Waters		X
OP 7.60 Projects in Disputed Areas		X

66. The ESMF defines uniform screening mechanisms and monitoring procedures for identification and management of localized potential adverse environmental and social impacts. The screening will utilize the following evaluative tools:

- An Environmental and Social Screening Form/Checklist to help identify potential adverse environmental and social impacts.
- An Environmental and Social Project Report that will outline simple environmental mitigation measures for micro-projects that do not require a full ESIA (Environmental and Social Impact Assessment) report.
- A summary of World Bank safeguard policies to ensure they are taken into account during the micro-project planning stage.

67. The ESMF also includes a capacity-building and training program to support the mainstreaming of safeguards implementation based on the lessons learned from the implementation of WKCDD&FMP and KAPAP. In addition, the ESMF provides guidance on handling complaints that may arise during project implementation. Based on the environmental and social screening process provided in the ESMF, ESIA/ESMPs (Environmental and Social Management Plans) shall be developed and relevant environmental assessments undertaken. Monitoring and reporting formats are provided in the ESMF and shall be customized to the respective micro-projects during implementation.

68. **Natural Habitat (OP/BP 4.04).** A specific focus of the project will be the rehabilitation of degraded areas to improve rural livelihoods. Some project activities dealing with catchment management may directly or indirectly result in the conversion or degradation of natural habitats, such as wetlands and streams. The ESMF provides for adequate screening and management measures to mitigate the adverse impacts of any activities in the project intervention areas.

69. **Pest Management (OP 4.09).** Project activities may indirectly result in pesticide and other agro-chemical use. Overall, the project is not expected to have significant pest management issues nor to finance substantial quantities of pesticides. However, to guide the project in procurement, management, and disposal of these chemicals, the ESMF includes a chapter on chemical management and use to guide their safe handling, storage, and disposal, and includes training and capacity-building activities for farmers.

70. **Physical Cultural Resources (OP/BP 4.11).** Micro-projects are not expected to traverse areas of cultural or historical importance. In addition, due to the CDD nature of project activities, civil works are expected to be small-scale and localized. However, the ESMF includes a procedure for handling “chance finds.” Chance find procedures will be included in contracts and ESMPs.

Social Safeguards

71. Since the project adopted a CDD approach, the area of project investments and the design of micro-projects are not known *ex-ante*. As such, GoK prepared a Resettlement Policy Framework (RPF) and Vulnerable and Marginalized Group Framework (VMGF) that will take into account all resettlement and inclusion aspects of micro-projects supported by the project.

72. **Involuntary Resettlement (OP/BP 4.12).** Although no resettlement is envisaged, this policy is triggered as a precautionary measure. GoK prepared an RPF for the purpose of establishing resettlement and compensation principles, organizational arrangement, and design criteria to be used to meet the needs of people who could be affected by the various micro-projects supported under NARIGP. The RPF guides compensation due to involuntary resettlement, including impacts on livelihoods, acquisition of land, or restrictions to access to natural resources. The RPF also: (i) presents the relevant policy and legal framework pertaining to resettlement; (ii) anticipates the potential project impacts and suggests mitigation measures; (iii) provides eligibility criteria for compensation; (iv) includes valuation methods for compensation of asset categories; (v) outlines steps for Resettlement Action Plan (RAP) preparation, implementation, and monitoring; and (vi) includes disclosure arrangements. The RAPs will provide guidelines on how micro-projects will avoid, manage, or mitigate all related compensation and displacement risks.

73. **Indigenous Peoples (OP/BP 4.10).** This policy is triggered because it is likely that Indigenous Peoples or VMGs are present in, or have collective attachment to, the project

area. The VMGF outlines the processes and principles of: (i) screening to determine if a proposed micro-project investment will be undertaken in the vicinity of vulnerable and marginalized communities and (ii) the preparation of a VMGP (Vulnerable and Marginalized Group Plan), including the social assessment process, consultation and stakeholder engagement, disclosure procedures, communication, and a grievance redress mechanism. A detailed VMGP will be prepared for each micro-project once the location is identified and a screening has determined that VMGs are present in the area.

74. **Safeguards Consultations.** The final consultation and disclosure workshop was held at the Kenya School of Monetary Studies on January 12, 2016. The workshop was attended by about 51 participants from 10 counties (Baringo, Bungoma, Nairobi, Nakuru, Kilifi, Kakamega, Kwale, Vihiga, Samburu, and Siaya) and included representatives from national and county governments, several project implementing agencies, VMGs/Indigenous Peoples Organizations, and relevant NGOs, and financial intermediary UNEP (United Nations Environment Programme) as an independent observer. Earlier consultations were held in Embu, Meru, Nakuru, and Narok (January 6-7, 2016) and Kilifi, Kwale, Homa Bay, and Kisii (January 13-14, 2016). MoDP underlined the importance it attached to safeguards and emphasized that NARIGP envisages no and/or minimal physical relocation of project affected persons in its implementation across the 21 counties. The majority of micro-projects are to be carried out on-farm with minimal and reversible impacts. Every effort will be made to ensure that the siting of micro-projects investments avoids physical resettlement of anyone and minimizes economic displacement.

75. Feedback from the consultations was overall supportive of the project, and participants endorsed the draft ESMF, RPF, and VMGF, but areas for enhancing the frameworks were highlighted. With regard to project design, participants: (i) especially welcomed the channeling of TA and resources directly to communities and underlined the importance of ring-fencing such resources against leakages; (ii) requested more information about the criteria for county selection and urged that counties with insecurity not be further marginalized; (iii) asked if free prior and informed consent would apply to NARIGP; (iv) emphasized the importance of timely dissemination of information, in appropriate language and form; and (v) underlined that VMGs' livelihood activities should not be ignored. Participants endorsed the CDD approach and CIG representatives stated that they had benefitted from previous and ongoing projects with CDD activities and believed that this project would build on those successes and good practices. Participants welcomed that the project and GoK were reaching out to VMGs and groups that meet the criteria of OP 4.10 Indigenous Peoples and affirmed that the proposed proactive steps in the framework were adequate to ensure that VMGs benefit from NARIGP. The detailed comments and MoDP responses are captured in the respective frameworks.

76. The ESMF, RPF, and VMGF were publicly disclosed at the World Bank InfoShop on February 11, 2016 and in-country on the MoDP website on February 12, 2016.

Capacity Building and Training on Environmental and Social Safeguards

77. Effective implementation of the VMGF, ESMF, and RPF will require adequate capacity in institutions and other stakeholders, especially in regard to M&E. There is a need for targeted capacity building and training on safeguards implementation and monitoring at the national, county, and community levels, to include the private sector (Table A3.5).

78. In the initial preparatory stages, the environmental and social safeguard specialists in the NPCU will prepare VMGPs in collaboration with county-level staff to further enhance learning. These will be done in consultation with VMGs in the communities. The PIM will

describe in detail safeguards-related aspects such as capacity building, undertaking the social assessment analysis, and compliance monitoring, among others.

Table A3.5: Safeguards Capacity Building and Training Support for NARIGP

Level	Key Target Groups	Type of Training
National	NPCU NPSC NTAC	Sensitization on the PICD; Social and Environmental Safeguard Framework
County	CPSC County Project Technical Team (with line department and ministries at the county level)	PICD; Social and Environmental Safeguard Framework; Application of the screening checklists, manuals, and tools; Conflict resolution and grievance redress mechanism; Social audits; Report writing; Citizen and stakeholder engagement
Community	Community-level structures (VCs, POs, CIGs, VMGs, and CDDCs).	PICD; Skills on screening and use of environment and social checklist; Checklist for RFP and RAP implementation; VMGF and VMGP training; Conflict resolution and grievance redress committee (GRC); Participatory M& E and reporting; Gender screening; Training on CIDP; Lobby and advocacy; Building farmers' organizations

Monitoring and Evaluation

79. **NARIGP will be underpinned by a solid monitoring, learning, and evaluation system that will feed into decision support systems, business analytics, and rigorous studies.** The M&E and MIS will be set up at the national, county, and community levels. Its primary objective will be to enforce the culture of results-based project M&E and provide the basis for an evidence-based decision-making process. These systems will be designed to provide concurrent feedback to key stakeholders about progress toward achieving the project's key results (detailed in Annex 1).

80. An integrated MIS that builds on the experiences and lessons learned from projects under implementation will be developed under the project. The MIS will have the capability to monitor project activities based upon the AWP&B, financial and procurement reporting, and monitoring and reporting against the results framework. The MIS will be linked to an ICT-based Agricultural Information Platform that draws upon data collected during the implementation of activities across project components to generate reports that: (i) compare implementation performance at the national, county, and community levels; (ii) simplify and enable project and financial reporting internally and externally; and (iii) give project stakeholders relevant information with which to make informed business and analytical decisions.

81. An M&E Officer at the national and county levels will be responsible for data collection, compilation, and reporting. The project will strengthen the overall monitoring and evaluation capacity by investing in technological infrastructure and training.

82. At the community level, NARIGP will adopt the participatory M&E approach, whereby non-committee members of CIGs/VMGs (a man and a woman) will be elected to monitor micro-project activities. NARIGP will build on the experience of WKCDD&FMP, which has successfully implemented web-based and geo-tagged M&E and MIS that include real-time monitoring images and data for each micro-project across all participating sub-counties.

Overall Risk Rating and Explanation of Key Risks

83. The overall risk to achieving the PDO is “*Substantial.*” While the overall project design and institutional arrangements build on the proven experience of WKCDD&FMP and KAPAP in Kenya, which have been successful in achieving their development objectives, the multi-sectoral nature and devolved implementation of the proposed project requires significant efforts for effective convergence between community institutions (e.g., CIGs, VMGs, POs, and SACCOs) and service providers (SPs). Also, in view of the limited capacity of the newly formed county governments, additional efforts are required to enhance their capacity for project implementation. Each risk noted in the SORT’s summary is described further below.

Table A3.6: Summary of SORT Analysis

Risk Category	Rating (High, Substantial, Moderate, Low)
Political and Governance	S
Macroeconomic	M
Sector Strategies and Policies	M
Technical Design of Project	M
Institutional Capacity for Implementation and Sustainability	S
Fiduciary	H
Environment and Social	M
Stakeholders	M
Other	
OVERALL	S

84. **Political and governance.** Kenya will hold the next general elections in August 2017. In this regard, the political campaign period is likely to begin in 2016, around the time NARIGP becomes effective. There is a significant risk that NARIGP can be used as an election tool and that key policy decisions and strategic directions relating to project implementation could change after the elections. The current challenges of devolution and tensions between the national and county governments relating to devolved sectors, which include agriculture, could also be exacerbated in the wake of political transition. To mitigate this risk, the project design ensures that county governments are represented at the national-level project implementation arrangements. The Chair and CEO of the CoGs will be members of NPSC and NTAC, respectively. In addition, NARIGP is developing a comprehensive communication strategy that will provide accurate information to the public on the project design, including its objectives, targeted beneficiaries, and roles and responsibilities of national, county, and community institutions in implementing the project.

85. **Macroeconomic.** GoK has recently recorded high current account and fiscal deficits, driven by low exports and large imports (increasingly becoming a net importer) of capital goods, while the fiscal deficit is caused by large investments in infrastructure and additional spending on the devolved governance structure and functions. There is a risk that these external and domestic imbalances might result in further depreciation of the local currency against the major trading currencies and high inflation during the life of the project. However, investments in large infrastructure projects will in the long run reduce the cost of doing business (particularly transport and communication costs), stimulate economic growth (which will increase tax revenues), and increase exports (reducing the current account deficit), helping to manage this risk.

86. **Sector strategies and policies.** GoK has in place a number of policy, strategy, and action plans to guide agricultural sector development. The ASDS 2010-2020 (Agricultural Sector Development Strategy) provides the strategic direction of the sector and aims at addressing two critical challenges: first, increasing the productivity, commercialization, and competitiveness of agricultural commodities, and second, developing and managing key factors of production, such as land, water, and rural finance. The design of NARIGP is consistent with the goals of ASDS, which in turn contribute to achieving the objectives of Vision 2030.

87. **Technical design of project.** NARIGP's design is generally perceived as complex, particularly because of its CDD and multi-sectoral nature and also because of its three-tiered structure (operating at the national, county, and community levels). In addition, NARIGP will support multiple demand-driven CDD-type interventions in agriculture, NRM, alternative livelihoods, nutrition, and social protection (off-season cash-for-work). These require intervention-specific responses from various sectors, both at the national and county levels. The main risk here is how to coordinate the response of national and county institutions to the multiple demands of community institutions—CIGs, VMGs, POs, and SACCOs. To mitigate this risk, NARIGP simplified the design of community-level interventions to enable greater beneficiary involvement and clearly defined the implementation roles and responsibilities of national, county, and community institutions.

88. **Institutional capacity for implementation and sustainability.** The limited capacity of the relatively new county governments to deliver agricultural services, including public advisory services, animal health, and disease surveillance and control/veterinary services, makes this risk “*Substantial.*” To mitigate this risk, NARIGP will undertake a Capacity Needs Assessment (CNA) to identify staffing levels and skills gaps at the county level. The staffing gap will be filled either through secondment from MoALF (Ministry of Agriculture, Livestock and Fisheries) to counties or recruitment from the market, while the skills gap will be addressed by training and capacity-building activities. A systematic process of learning and exposure visits to India, Mexico, and Brazil will be put in place for senior county government officials. Lastly, uncertainty surrounds counties' capacity to sustain the infrastructure and institutions supported by NARIGP beyond the life of the project.

89. **Fiduciary.** The FM and procurement risks are “*High*” based on the recent in-depth review conducted for WKCDD&FMP, a CDD-type operation implemented by MoDP. Some of the fiduciary issues identified include: (i) the breakdown of internal financial management controls; (ii) procurement-related irregularities; (iii) malpractices in community grants, including misappropriation of funds; (iv) anomalies in operating costs, including unsupported/insufficiently documented expenditures; (v) weak management oversight; and (vi) lack of effective M&E systems by the NPCU. To mitigate this risk, a detailed action plan was developed to improve fiduciary compliance.

90. **Social and environmental safeguards.** NARIGP is an environmental Category B - Partial Assessment. This classification means that the project's interventions are likely to have negative environmental and social impacts. Even so, they are expected to be small in scale, site-specific, and largely reversible. Given that the nature of the proposed interventions and the design and location of specific micro-projects are not known *ex-ante*, the project adopted a framework approach to managing safeguards, comprising an ESMF for environmental assessment, a VGMP for Indigenous Peoples, and an RPF for involuntary resettlement.

91. **Stakeholders.** The design of NARIGP was informed by wide consultations with various government agencies, DPs, the private sector, and beneficiaries. Their views were

largely incorporated to enhance project ownership. A potential risk relates to the fact that stakeholders, particularly counties and beneficiaries, will have higher demand for project interventions than can be supported. To mitigate this risk: (i) a comprehensive PIM will be developed to explain in detail the requirements, procedures, and processes for accessing project funds, as well as various stakeholders' roles and responsibilities; and (ii) to access the project resources, the county governments will be required to sign a Participation Agreement with MoDP, which stipulates the allocations, terms and conditions of support.

Annex 4: Implementation Support Plan

KENYA: National Agricultural and Rural Inclusive Growth Project

Strategy and Approach for Implementation Support

1. The strategy for successful implementation support (IS) of the proposed NARIGP operation will focus on mitigating the risks identified at various levels and supporting risk management plans as proposed in the Systematic Operations Risk-Rating Tool (SORT).

Implementation Support Plan

2. The IS plan will comprise a number of critical review instruments to assess progress toward achieving the PDO and overall implementation progress and to effectively respond to issues and challenges as they arise. Such reviews will include, among others: (i) IS missions conducted semi-annually to include other development partners (DPs), as appropriate; (ii) a mid-term review (MTR) that will include a comprehensive assessment of the progress achieved at the mid-point of project implementation and will serve as a platform for revisiting project design issues and identifying where adjustments might be needed; (iii) impact assessment; and (iv) implementation completion, where an independent assessment of the project will be undertaken and lessons drawn to inform future or similar operations.

3. The IS Strategy, as articulated above, will include a concerted plan of technical, fiduciary, and safeguards support needed to ensure due diligence over the course of project implementation.

4. **Technical support.** At the technical level, the Bank team will assemble the appropriate technical skills and experience needed to support implementation of this complex operation. This team will include participation by IFC (International Finance Corporation), particularly with regard to issues around policy pertaining to, and regulation of, commodity value chains (VCs).

5. **Fiduciary support.** Given the *High* fiduciary risk rating, reviews will be further enhanced by the Bank's financial management (FM) and procurement specialists to ensure that fiduciary systems and capacities remain adequate during the course of project implementation in accordance with the World Bank's fiduciary requirements.

6. **Financial management support.** The Bank will require that quarterly Interim Financial Reports (IFRs) be submitted to the Bank as well as the annual external audit report for review. The Bank will review other project-related information as well, such as the internal control systems report. Annual and unannounced on-site visits will be carried out by the Bank to review the FM systems, including internal controls, at all devolved levels. Monitoring of actions taken on issues highlighted in the audit review of WKCDD&FMP, external audit reports, auditors' management letters, internal audits, and other reports will be reviewed by the Bank, including SOE transaction reviews. FM capacity training for ministry

and project coordination units (NPCU, CPCUs, etc.) will be carried out by effectiveness. Additional FM training will be conducted during project implementation as needed.

7. **Procurement support.** The Bank will undertake IS missions every six months. An independent agency will be established to conduct regular procurement audits for community-driven development (CDD) operations.

8. **Safeguards support.** The Bank’s safeguard team will consist of social and environmental specialists who will guide the project team in applying the agreed safeguard instruments as well as reviewing compliance during IS missions. An enhanced capacity-building action plan is outlined in Annex 3 to guide safeguards implementation and monitoring activities.

Table A4.1: Main Focus of Support to Project Implementation

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First 12 months	<ul style="list-style-type: none"> • Project effectiveness and implementation start-up • Establishment of an NPCU • Safeguards instruments application/compliance • M&E system (methodology, etc.) in place • Fiduciary training provided • PICD and VC prioritization • Standardized training modules developed 	<ul style="list-style-type: none"> • Lead Agriculture Economist (TTL) • Senior Social Development Specialist (Co-TTL) • Irrigation Specialist (FAO) • Value Chain Specialist (FAO) • Agriculture Specialist/Agronomist (FAO) • ICT Specialist • Senior Operations Officer • M&E Specialist • Safeguards Specialists (Social and Environmental) • Nutrition Expert (FAO) • Fiduciary Specialists (FM and Procurement) • Legal Counsel • Finance/Disbursement Officer • Leadership, Learning and Innovation (LLI) Engagement Leader 	US\$150K – US\$200K (est.)	FAO Investment Center (TCI)
13-48 months	<ul style="list-style-type: none"> • Implementation of planned activities/review of AWP&Bs • Monitoring, reporting against targets • IS missions conducted • MTR undertaken (during year 3) • First impact assessment conducted 	<ul style="list-style-type: none"> • Lead Agriculture Economist (TTL) • Senior Social Development Specialist (Co-TTL) • Irrigation Specialist (FAO) • Value Chain Specialist (FAO) • Agriculture Specialist/Agronomist 	US\$150K – US\$200K/year (est.)	FAO/TCI

		(FAO) <ul style="list-style-type: none"> • ICT Specialist • Senior Operations Officer • M&E Specialist • Safeguards Specialists (Social and Environmental) • Nutrition Expert (FAO) • Fiduciary Specialists (FM and Procurement) • LLI Engagement Leader 		
49-60 months	<ul style="list-style-type: none"> • Implementation of planned activities/review of AWP&Bs • Monitoring, reporting against targets • IS missions conducted • Impact assessment conducted • Project completion and ICR preparation 	Same as above	US\$150K – US\$200K/year (est.)	FAO/TCI

Table A4.2: Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
<ul style="list-style-type: none"> • Agriculture Economist • Social Development Specialists • Irrigation Specialist • Value Chains • Nutrition • Agronomy • ICT • Financial Management • Procurement • Safeguards (social and environment) • Legal • Finance/Disbursements • Operations 	2 staff weeks	1 – 2 trips/year	

Table A4.3: Partners

Name	Institution/ Country	Role
Canadian International Development Agency (CIDA) Department for International Development (DfID) European Investment Bank (EIB) European Union (EU) Food and Agriculture Organization (FAO) Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) International Fund for Agricultural Development (IFAD) Japan International Cooperation Agency (JICA)		DPs currently involved in Kenya's agricultural sector

The Netherlands Embassy United States Agency for International Development (USAID) United Nations Industrial Development Organization (UNIDO) United Nations Development Programme (UNDP)		
--	--	--

Annex 5: Economic and Financial Analysis

KENYA: National Agricultural and Rural Inclusive Growth Project

Introduction

1. NARIGP's economic and financial analysis (EFA) is based on experience with similar community-driven development (CDD) and agricultural projects in Kenya, as well as other regions, and follows World Bank guidelines.³⁹ To justify the project financing decision, the EFA aims to answer three questions: What is the project's development impact? Is public sector provision or financing the appropriate vehicle? What is the World Bank's value added?

Rationale for public sector provision/financing

2. Traditional private financing of the agricultural sector has always been problematic due to perceptions of heightened risk, low profitability, high dis-aggregation of farmers, and losses due to quality and waste. NARIGP fundamentally addresses these traditional challenges by providing matching grants to resource poor smallholder farmers to enable them invest into their farms; and play a more active role in established supply chains. This medium-term finance is vital to enable farmers to make longer-term investments into their farms. The development impact of the project is that farmers who adopt TIMPs increase their productivity and become more profitable; and those who join POs and SACCOs increase their bargaining power for inputs and output prices, attain greater economies of scale, and present a better risk profile. Private investments in SLM interventions also generates "public goods" with positive externalities, including reduced soil erosion (which benefits downstream water users) and GHG emissions. Thus public financing, such as provision of irrigation infrastructure, advisory services, and market information is necessary for both farmers' long-term investments and public benefits.

Value added of World Bank's support

3. The Bank's leadership in supporting preparation and implementation of agricultural projects has been acknowledged by GoK and reflected in its request for NARIGP support. The Bank is well positioned to assist GoK in implementing potentially cost effective interventions to help increase agricultural productivity and profitability in the targeted areas. The Bank is able to draw on its vast global knowledge, including significant experiences on agricultural development projects, landscape-wide and CDD approaches to customize them to fit the unique context of Kenya to achieve desired outcomes. The Bank is able to mobilize resources within the World Bank Group (i.e., the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA)), as well as partner with other donors.

4. The financial analysis is conducted at the farm household level to estimate financial viability of eight selected value chains (VCs)⁴⁰ expected to be of interest to beneficiaries. These VCs were identified by the Agriculture Sector Development Support Program (ASDSP) as among the eight top priority VCs in the 21 participating counties. This finding was based on expert opinion and previous experience from WKCDD&FMP, KAPSLMP, and KAPAP. The economic analysis considers the same eight selected VCs to evaluate the project's benefits and costs to the national economy. In addition, the economic analysis includes the environmental benefits likely to accrue from the potential mitigation of GHG emissions and carbon sequestration.

³⁹ World Bank (2014): Investment Project Financing. Economic Analysis. OPSPQ, October 9, 2014.

⁴⁰ The value chains comprise commodities: tissue-culture banana (TCB), mangoes, tomatoes, intercropped maize and beans, intercropped sorghum and green grams, milk production, honey, and local poultry.

5. *Ex-ante* economic and financial analyses of agricultural projects that introduce new technologies, improved crop and livestock management practices, and capacity building encounter several difficulties. The first set of difficulties involves capturing the diverse objectives of such a project, such as export promotion, natural resource conservation, and poverty reduction. The second set involves the uncertainty about the expected degree of technology adoption. The third set includes issues related to cause and effect (i.e., to attributing impact)—for example, productivity may be influenced by diverse factors external to the project. Fourth, the reliability of predicted future cost and benefit flows may also present a problem.⁴¹ Finally, for CDD-type operations, investments are not known *ex-ante*, yet the analysis requires assumptions to be made regarding certain community demands. To address some of these issues, the EFA draws from previous experiences in related projects implemented in Kenya, such as the WKCDD&FMP, KAPSLMP, and KAPAP.

Project Development Objective and Project Benefits

6. NARIGP's PDO is “to increase agricultural productivity and profitability of targeted rural communities in selected Counties, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response.” While the approach is demand-driven, it is expected that approximately 12,000 direct beneficiaries who engage in SLM and VC development activities will be reached per county, or about 252,000 beneficiaries across 21 participating counties. While all beneficiaries receive training on improved TIMPs (technologies, innovations, and management practices), the adoption rate is expected to be 70 percent in year 5, resulting in 176,400 beneficiaries. The project is expected to provide a range of direct tangible and indirect benefits to these beneficiaries.

Tangible benefits

7. Direct, tangible benefits are related to increased crop productivity through access to primary production inputs; improved technologies, agronomic and animal husbandry, and SLM practices; and technical advisory services under Component 1. The use of ICT-based platforms for sharing agricultural knowledge under Component 4 would enhance adoption rates. Component 2 supports POs formed by federated CIGs and VMGs supported under Component 1 to increase access to markets and take advantage of value addition opportunities. This would result in an expansion of production and a reduction of transaction costs at stages of the VCs due to aggregation and economies of scale. Improved advisory services and value addition can increase product quality and standards, further enhancing market opportunities. Component 3 provides capacity-building activities, sensitization, and awareness creation of participating counties to support community-led development of VCs based on priorities identified under Components 1 and 2. These activities are expected to translate into higher margins per unit of land or labor and higher net profit.

8. Several studies demonstrate that SLM approaches increase yields, reduce yield variability, and contribute to more resilient farming systems compared to conventional practices.⁴² Studies in Kenya found that SLM practices such as integrated soil fertility

⁴¹ Horstkotte-Wesseler, G, Maredia, M, Byerlee, D, Alex, G (2000): “Ex Ante Economic Analysis in AKIS Projects: Methods and Guidelines for Good Practice,” Agriculture Knowledge and Information Systems Good Practice Note, Report 20881, World Bank, Washington, DC.

⁴² Bryan, E, Ringerl, C, Okoba, B, Roncolio, C, Silvestru, S, Herrero, M (2013): “Adapting agriculture to climate change in Kenya: Household strategies and determinants,” *Journal of Environmental Management* 114: 26-35; Chesterman, S, Neely, C (eds.) (2015): “Evidence and policy implications of climate-smart agriculture in Kenya,” CCAFS Working Paper no. 90, Copenhagen.

management or conservation agriculture (CA) can increase crop yields by 30-170 percent.⁴³ Terracing trials in Narok by KALRO demonstrated increases in wheat yields of 88-400 percent. In fields without terracing, yields ranged between 0.5 t/ha and 1.5 t/ha, and in terraced trials between 2.5 t/ha to more than 4 t/ha. The monitoring results of the Kenya Agriculture Carbon Project show that farms implementing SLM practices experienced maize yields ranging from 1,167 kg/ha to 2,415 kg/ha compared to control farms, where yields ranged from 1,023 kg/ha to 1,578 kg/ha over the trial years 2009-2012.⁴⁴ A long-term study in Malawi and Zimbabwe found CA to increase net benefits by US\$193-444 per hectare due to increased yields and reduced labor requirements.⁴⁵

9. With climate change, extreme events can become more frequent and intense. As a result, yield levels are expected to decline and yield variability is likely to increase. Studies suggest that climate change could result in a 20 percent decrease in yields by 2050 in most African countries.⁴⁶ This assessment is particularly important for Kenyan agriculture, which is mainly rainfed and thus very vulnerable. Climate variability and extreme events have significant economic costs. SEI (2009) assessed the economic cost of the 1998-2000 drought to the Kenyan economy at US\$2.8 billion, mainly due to the loss of crops and livestock, forest fires, damage to fisheries, reduced hydropower generation, reduced industrial production, and reduced water supply.⁴⁷ The introduction of SLM practices and climate-resilient farming systems may thus contribute toward reducing the economic cost of climate change.

Community benefits

10. The project provides further intangible benefits, such as empowerment of CIG and VMG members, building social capital, and strengthening governance. Typically, CDD approaches involve communities in the identification of priority interventions and beneficiaries. This approach improves the targeting of the most vulnerable community members, while also allowing them to express their interests openly, thus making the development process more inclusive. Empirical studies demonstrate the benefits of community-driven approaches. For instance, community-developed facilities typically have higher utilization rates and better maintenance than when decisions are made by an external actor.⁴⁸ The sustainability of water systems was found to be higher when communities controlled the key investment decisions and shared the cost of the investment,⁴⁹ and community-organized irrigation systems generated higher levels of agricultural productivity than modern systems constructed by the government.⁵⁰ An impact evaluation survey of a CDD project in India's Andhra Pradesh District Poverty Initiative Program found significant

⁴³ United Nations Convention to Combat Desertification (UNCCD) (2009): "Benefits of sustainable land management," WOCAT and Centre for Development and Environment, University of Berne (http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/CSD_Benefits_of_Sustainable_Land_Management%20.pdf accessed January 2016); Tittonell, P, Crbeels, M, van Wijk, B, Vanlauwe, B, Giller, K (2008): "Combining organic and mineral fertilizers for integrated soil fertility management in smallholder farming systems in Kenya: Explorations using the crop-soil model FIELD," *Agronomy Journal* 100(5): 1511-1526; Chesterman, S and Neely, C (eds.) (2015).

⁴⁴ Chesterman, S, Neely, C (eds.) (2015).

⁴⁵ Thierfelder, C, Bunderson, WT, Mupangwa, W (2015): "Evidence and lessons learned from long-term on-farm research on conservation agriculture systems in communities in Malawi and Zimbabwe," *Environments* 2:317-337.

⁴⁶ Schlenker, W, Lobell, D (2010): "Robust negative impacts of climate change on African agriculture," *Environ. Res. Lett.* 5: 1-8.

⁴⁷ Stockholm Environmental Institute (2009): "Economics of climate change Kenya." Project Report.

⁴⁸ Dongier, P, Van Domelen, J, Ostrom, E, Rizvi, A, Wakeman, W, Bebbington, A, Alkire, S, Esmail, T, Polski, M (2003): "Community-driven development," in *Poverty Reduction Strategy Paper Sourcebook*, World Bank, Washington, DC.

⁴⁹ Sara, J, Katz, T (1997): "Making Rural Water Sustainable: Report on the Impact of Project Rules," United Nations Development Programme (UNDP) and World Bank Water and Sanitation Program, Washington, DC.

⁵⁰ Lam, WF (1998): *Governing irrigation systems in Nepal: Institutions, infrastructure and collective action*, Oakland, CA: ICS Press; Tang, SY (1992): *Institutions and collective action. Self-governance in irrigation*, Oakland, CA: ICS Press.

gains for beneficiaries, whose nutrition intake and asset accumulation were about 15 percent and 26 percent higher, respectively, compared to the control group.⁵¹ The impact survey from WKCDD&FMP, which supported local communities in wealth-creation activities, found that the number of participants in decision-making processes nearly doubled, from 40 percent to 78 percent, and mean monthly household income more than doubled compared to non-beneficiaries, whose income declined on average.⁵² Project effectiveness can, however, be diminished if communities have low ability to engage in collective action and low levels of social capital. In addition, several studies argue that institutional support from external agencies, particularly in providing technical backstopping, may be required to ensure the sustainability of projects.⁵³

Fund management

11. Growing evidence suggests that CDD offers an effective way of improving the efficiency of public financing. Strengthened institutional capacity and CDD, with inclusive and transparent decision making, can increase the effectiveness and efficiency of delivering funds and implementing project activities. A recent study in Bangladesh found that community-led development led to effective delivery of funds for community infrastructure and village development. In addition, the community-led fund management led to recurrent savings in annual operating costs.⁵⁴

Women's empowerment and improving nutrition

12. By facilitating VMGs' access to funds, NARIGP will improve women's access to productive resources, markets, and services, and it can contribute to closing the gender gap in agriculture. If women have the same access to resources and services as men, yield can increase by up to 30 percent.⁵⁵ Empowering women as decision makers enables them to control their time and returns from labor. Several studies have documented that income controlled by women has significantly greater effects on child nutrition and household food security than that controlled by men,⁵⁶ as women typically spend a higher proportion of their income on food and health care for children than men.⁵⁷

13. Nutrition mainstreaming is another dedicated activity under Component 1, with large potential benefits for individuals and at the national level. Several studies demonstrate the high economic cost of malnutrition to the economy. Malnutrition leads to direct losses in productivity due to poor physical status and diseases linked to malnutrition, indirect losses from poor cognitive development and losses in education, and losses caused by increased

⁵¹ Wong, S. (2012): "What have been the impacts of World Bank Community-Driven Development Programs? CDD impact evaluation review and operational and research implications," Sustainable Development Network, Report 69541, World Bank, Washington, DC.

⁵² ALPEX Consulting Africa (2014): "Western Kenya Community-Driven Development and Flood Mitigation project: Household impact assessment survey," Final Report.

⁵³ Mansuri, G, Rao, V (2003): "Evaluating Community-Based and Community-Driven Development: A critical review of the evidence," Working Paper, Development Research Group, World Bank, Washington, DC.

⁵⁴ People's Republic of Bangladesh (2010): "Empowerment and livelihood improvement 'Nuton Jibon' project/Social Investment Program project."

⁵⁵ FAO (Food and Agriculture Organization) (2011): *State of food and agriculture. Women in agriculture: Closing the gender gap*. Rome.

⁵⁶ Herforth, A, Jones, A, Pinstrup-Andersen, P (2012): "Prioritizing nutrition in agriculture and rural development: Guiding principles for operational investments," HNP Discussion Paper Series No. 74152, World Bank, Washington, DC; Quisumbing, AR, Brown, L, Feldstein, H, Haddad, LJ, Pena, C (1995): "Women: The key to food security," Food Policy Report, International Food Policy Research Institute (IFPRI), Washington, DC.

⁵⁷ Hallman, K (2003): "Mother-father resources, marriage payments, and girl-boy health in rural Bangladesh," in Quisumbing AR (ed.) (2003): *Household decisions, gender, and development*, Washington, DC: International Food Policy Research Institute (IFPRI), pp. 115–200; Herforth, A. et al. (2012).

health care cost.⁵⁸ On an individual level, undernourished farmers are less productive. For example, childhood stunting reflected in a 1 percent loss in adult height is associated with a 1.4 percent loss in productivity.⁵⁹ In Zimbabwe, the effect of malnutrition on schooling was calculated to reduce lifetime earnings by 12 percent.⁶⁰ At the national level, a study of several African countries found that undernutrition caused economic losses ranging from 1.9-16.5 percent of GDP. In addition, governments spend billions of dollars on interventions to deal with poor nutrition and its effects.⁶¹ Examples from India suggest that micronutrient deficiencies alone may cost India US\$2.5 billion annually, about 0.4 percent of India's annual GDP.²⁷ Foregone wage employment from child malnutrition and productivity losses costs India another US\$2.3 billion. In addition, improving nutrition can provide public good benefits. For example, better nutrition can reduce the spread of contagious diseases and increase national economic productivity.⁶²

Environmental benefits

14. NARIGP supports the introduction of SLM practices on-farm under Component 1, and it support their introduction across communities through landscape-wide NRM interventions and rural infrastructure investment, such as irrigation or flood control, under Component 3. The adoption of SLM practices provides private benefits in the form of productivity increases and generates environmental benefits, which are sometimes difficult to monetize and include increased soil fertility and sustenance of ecosystems and agro-biodiversity, improved water quality and quantity on sub-basin level, and reduced frequency and severity of flooding due to reduced sedimentation of reservoirs.⁶³ In the course of WKCDD&FMP, a valuation of benefits of SLM practices was conducted.⁶⁴ The implementation of SLM practices and off-farm erosion control interventions were assumed to reduce sedimentation, leading to lower treatment costs for water companies in the intervention area. Water companies could reduce the use of chemicals, such as aluminum compounds and chlorine, to purify and disinfect water, thus reducing water treatment costs by US\$72,986 per month.

15. SLM practices provide public good benefits in the form of climate change risk mitigation. SLM practices such as agroforestry prevent land degradation and topsoil loss, thus preventing carbon from escaping into the atmosphere. Globally, soils store more than double the carbon of the atmosphere and biomass combined⁶⁵ and have a large potential for carbon sequestration. The shadow price of carbon, or social cost of carbon (SCC), presents the marginal damage cost of carbon emission. It is estimated as the present value of the stream of

⁵⁸ World Bank (2006): "Why invest in nutrition?" in *Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action* (<http://siteresources.worldbank.org/NUTRITION/Resources/281846-1131636806329/NutritionStrategyCh1.pdf>, accessed January 2016); Herforth, et al. (2012).

⁵⁹ Hunt, JM (2005): "The potential impact of reducing global malnutrition on poverty reduction and economic development," *Asia Pac. J. Clin. Nutr.* 14(S): 10–38.

⁶⁰ Behrman, JR, Alderman, H, Hoddinott, J. (2004): „Nutrition and hunger,” in *Global Crises, Global Solutions*, Bjorn Lomborg (ed.), Cambridge, UK: Cambridge University Press.

⁶¹ African Union Commission, NEPAD Planning and Coordinating Agency, UN Economic Commission for Africa, and UN World Food Programme (2014): *The Cost of Hunger in Africa: Social and Economic Impact of Child Undernutrition in Egypt, Ethiopia, Swaziland and Uganda*, Abridged Report, Addis Ababa: UNECA.

⁶² World Bank (2006).

⁶³ Ong, CK, Oregon, F (2002): "Links between land management, sedimentation, nutrient flows and smallholder irrigation in the Lake Victoria Basin," in *The Changing Face of Irrigation in Kenya: Opportunities for anticipating change in Eastern and Southern Africa*, Blank, HG, Mutero, CM, Murray-Rust, H. (eds.), Colombo: IWMI, pp. 135-154 (<http://publications.iwmi.org/pdf/H030837.pdf>); Bruijnzeel, LA (2004): "Tropical forests and environmental services: Not seeing the soil for the trees," *Agriculture, Ecosystems & Environment* 104: 185–228.

⁶⁴ This assessment is part of the EFA in the Annex of PAD for WKCDD.

⁶⁵ UNCCD (United Nations Convention to Combat Desertification) (2015): "Science-Policy Notes: Pivotal Soil Carbon" (http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2015_PolicyBrief_SPI_ENG.pdf, January 2016).

future economic damages of increased GHG emissions.⁶⁶ For 2015, the World Bank proposes using an SCC of US\$30/t in the economic analysis.⁶⁷ Using the net carbon balance assessed on agroforestry interventions in Kitui County (see Annex 9), which resulted in about -2 MtCO₂-eq GHG emissions avoided over 20 years, the analysis shows that the potential benefits accruing to society from avoiding damages from emissions range from US\$1 million per year to US\$3 million per year (for a price of US\$10 or US\$30).

Financial Analyses of Potential Micro-Projects

16. The proposed CDD approach poses a challenge to *ex-ante* analysis, as communities can select from a wide range of potential agricultural production and alternative livelihood activities. To assess the financial viability of interventions supported under NARIGP, several farm models representing eight VCs (Table A5.1) were analyzed. Under NARIGP, communities and counties may choose to engage in VCs that are not part of the list. It is assumed that VMGs have fewer assets, cultivate on smaller plots, are likely to have low productivity, and focus on staple crops for subsistence. Thus VMGs may favor improvements in staple crop production, as well as off-farm activities such as tree nurseries and poultry production. It is further assumed that farmers working with the project will adopt CSA and SLM practices, including the use of improved primary production inputs that will increase productivity. The models are assigned to specific regions to account for varying agro-ecological conditions. Table A5.1 describes the assumptions in the “with project” (WP) and “without project” (WOP) scenarios for each model.

17. The time frame for each financial analysis is 20 years, with a discount rate of 12 percent, reflecting a standard rate of borrowing. The exchange rate is KSh 102.31 to US\$1 (as of January 2016). Data and information on labor requirements, input use, and production potential were obtained from farm management handbooks for representative counties, county household surveys conducted by ASDSP, related projects and technical studies, and discussions with technical experts. Market prices of inputs and outputs are from the Market Research and Information Subdivision of MoALF; the Economic Sector Review of Agriculture (2013, 2015), and the Regional Agricultural Input Information System (AMITSA). It is assumed that farm labor is mainly provided by the household (ranging from 80-100 percent), but also through hired labor at a cost of KSh 200 per day. Land rental cost is 5,000 KSh per acre. Home consumption is assumed to range from 10-25 percent for most commodities. Results are presented in Table A5.2.

⁶⁶ Placing an adequate price on GHG emissions helps to mobilize the financial investments required to mitigate them. Carbon pricing can be an instrument for government to mitigate emissions, and it can also be a source of revenue. Current carbon prices vary significantly—from less than US\$1 per tCO₂e to US\$130 per tCO₂e. Most emissions (85 percent) are priced at less than US\$10 per tCO₂e, considerably lower than the price that economic models estimate is needed to meet the 2°C climate stabilization goal recommended by scientists (see World Bank 2015, “State and Trends of Carbon Pricing 2015,” Washington, DC). The shadow price for carbon, or social cost of carbon (SCC), is also assessed. The SCC is an estimate of the economic damages associated with a small increase in CO₂ emissions (conventionally one metric ton) in a given year; this dollar figure represents the value of damages avoided through a small reduction in emissions. Climate change damages include changes in net agricultural productivity, human health, property damage from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning. Given current modelling and data limitations, not all important damages are assessed. The SCC is assessed with three integrated assessment models; estimates for 2020 for discount rates between 5 percent and 2.5 percent are US\$12, US\$43, and US\$62 per ton of CO₂-equivalent emission (United States Environmental Protection Agency Technical documentation available n: <http://www3.epa.gov/climatechange/EPAactivities/economics/scr.html>; January 2016).

⁶⁷ World Bank (2014): “Technical guidance note on the social value of carbon” or: <http://www.worldbank.org/en/topic/climatechange/brief/integrating-climate-change-world-bank> (Accessed January 2016).

Table A5.1: With and Without Project Scenarios

Region	Value chain/activity	WOP situation	WP project situation
Nyanza	Maize-green beans intercropped	No input use, low productivity	Input use, improved seed, and increased productivity
Eastern	Green grams-sorghum intercropped	No input use, low productivity	Input use and increased productivity
Nyanza	Banana	Traditional banana production	TCB production
Western	Tomatoes	No input use, low productivity	Improved variety, input use, and improved productivity
Western	Apiculture	Maize-green bean cultivation without inputs	(i) 10 Langstroth beehives
			(ii) 3 Langstroth beehives
Rift Valley	Milk production	Free-range pasture system	Semi-intensification, improved breeding and feeding practices
	Dairy – post-production	-	Milk cooler business
Coast	Mango	Traditional mango varieties	Integrated pest management
Eastern	Poultry	Local poultry	Hybrid chicken breeds, improved feeding, intensification of production

18. **Apiculture.**⁶⁸ With the project, a CIG can establish a honey refinery, which facilitates the adoption of modern Langstroth beehives among community members. The financial analysis assesses the benefits of a farmer with 10 modern Langstroth beehives. Besides the tangible benefits of increased yield (5-15 kg from a traditional hive versus up to 50 kg per Langstroth hive), Langstroth hives have gender equity benefits. Women traditionally do not use log beehives, which require tree climbing; modern beehives can be easily accessed by women. Without the project, smallholder farmers will continue to plant maize and green beans without using modern or improved inputs. With the project, the NPV of incremental net benefits for apiculture is US\$5,268, with a benefit-cost ratio (BCR) of 3.8. Switching values identify the value change in benefits and costs for which the project becomes unacceptable. The analysis shows that the switching value for an apiculture micro-project is -74 percent (or reduction) for benefits and 280 percent (or increase) in costs of production. A farmer with 3 beehives could still achieve a positive NPV of US\$950 and a BCR of 2.7, with switching values of -64 percent for benefits and 174 percent for production costs.

19. **Tissue-culture banana (TCB) production.** TCB was introduced in Kenya in early 2000. By 2006, Kenya had around 5.96 million plants, or about 5.22 percent of the total area under banana production. A yield increase from 16 t/acre to 20.8 t/acre with TCB is assumed. TCB production provides intangible benefits,⁶⁹ such as nutrition security (bananas are perennial and contribute up to 25 percent of the total caloric intake of consumers) and women's empowerment in household decision making (income from banana production is typically controlled by women and goes toward purchasing other food items, school fees, and improvements in housing). The NPV is US\$12,142, the BCR is 13.1, and switching values are -92 percent for benefits and 1,208 percent for production costs.

20. **Mangoes.** Mango production increased over the past few years due to surging demand for fresh fruits, expansion of processing (fruit juice canning), and increased awareness of mangoes' health benefits. Makeni, Kwale, and Kilifi Counties lead the country in mango

⁶⁸ Information for beekeeping was provided by a beneficiary of the WKCDD&FMP and from the agri-business webpage (<http://www.agricoop.info.ke/files/downloads/Production%20of%20honey.pdf>).

⁶⁹ Africa Harvest (2008): "Socio-economic assessment of the Tissue Culture Banana Industry in Kenya" (<http://issuu.com/africaharvest/docs/socio-economic>; October 2015).

production. Between 2012 and 2014, Kwale and Kilifi Counties produced on average 8 t/acre and 6 t/acre, respectively.⁷⁰ Recent household surveys found that an average household produces 0.8 t/acre.⁷¹ This analysis assumes that the introduction of integrated pest management to fight fruit fly and mango seed weevil, which together severely impact the quantity, quality, and size of the fruit, could double productivity from 2 t/acre to 4 t/acre. This leads to an NPV of US\$1,626, a BCR of 2, and switching values of -51 percent for benefits and 102 percent for production costs.

21. **Maize-bean production.** Crop productivity is typically low due to depleted soil fertility and pressure from weeds, pests, and diseases. For instance, in Kisii County, crop yields averaged 9 90-kg bags/acre of maize and 4 90-kg bags/acre of beans. Both can be improved to 16-30 90-kg bags/acre and 8-10 90-kg bags/acre, respectively, through the adoption of improved technology and agronomic practices.⁷² This analysis conservatively assumes that yield will increase from 9 to 18 bags/acre for maize and 1 to 2 bags/acre for beans. The NPV of the incremental net benefit is US\$577 per acre, with a BCR of 1.49, and switching values of -33 percent for benefits and 49 percent for production costs.

22. **Green grams-sorghum production.** Green grams and sorghum were identified as potential VCs in semi-arid areas. These areas have a comparative advantage in the production of pulses, and account for 95 percent of total production of green grams. In addition, in the eastern region, female-headed households more frequently cultivate crops than keep livestock; and within male-headed households, the power to decide which crops to produce is with women.⁷³ Nationally, the average yield of green grams fluctuated between 0.5 bags/ha in 2010 and 5.2 bags/ha in 2014, while sorghum yield increased from 8.3 bags/ha to 9.2 bags/ha. The analysis captures a yield increase from 3 90-kg bags/acre to 4.5 90-kg bags/acre for green grams, and from 4 to 7 bags for sorghum.⁷⁴ The resulting NPV of the incremental net benefits is US\$692, the BCR is 1.34, and the switching values are -25 percent for benefits and 34 percent for production costs.

23. **Milk production.** In Nakuru County, average milk production from local cow breeds was 6 liters/animal/day; from cross-breeds, 7.7 liters/animal/day; and from exotic cows, 11.3 liters/animal/day.⁷⁵ This analysis relies on two models. The first model assumes improved productivity through access to artificial insemination and animal health services and establishment of semi-intensive dairy farming, which is a mixture of grazing associated with fodder and supplementary feeding. It is assumed that milk production can increase from as low as 4 liters to 8 liters/cow/day. Assuming a farmer increases the number of cows from 1 to 5 in year 10, the NPV of the incremental net benefits is US\$1,098, with a BCR of 1.4, and switching values of -30 percent for benefits and 43 percent for production costs. The second model assumes that additional benefits emanate from post-primary production business, as reported in a recent IFAD project in which the enterprise collects raw milk from farmers,

⁷⁰ MoALF (Ministry of Agriculture, Livestock, and Fisheries, Kenya (2015): *Economic Review of Agriculture (ERA) 2015*, Nairobi (<http://www.kilimo.go.ke/wp-content/uploads/2015/10/Economic-Review-of-Agriculture-2015-6.pdf>, accessed July 2016).

⁷¹ ASDSP (Agriculture Sector Development Support Programme) (2014): "Volume 1. Household Baseline Survey Report, Kilifi County, 2014," Government of Kenya.

⁷² ASDSP (Agricultural Sector Development Support Programme) (2014): "Volume 1. Household Baseline Survey Report, Kisii County, 2014," Government of Kenya.

⁷³ ASDSP (Agricultural Sector Development Support Programme) (2014): "Volume 1. Household Baseline Survey Report, Kitui County," Government of Kenya.

⁷⁴ MoALF (2015): ERA.

⁷⁵ ASDSP (Agricultural Sector Development Support Programme) (2014): "Volume 1. Household Baseline Survey Report, Nakuru County," Government of Kenya.

cools it, and supplies it to large processors and traders.⁷⁶ Assuming the enterprise has a milk cooling capacity of 5,000 liters/day, the financial analysis shows that with an initial outlay of US\$130,000, the business can generate an IRR of 36 percent, with an NPV of US\$79,099 over 10 years.

Table A5.2: Summary of Financial Farm Models

Enterprise	NPV (in US\$)	BCR	Switching value - benefits	Switching values – cost	IRR
Horticulture					
Tissue-culture banana – by kg	12,142	13.1	-92%	1208%	
Mango	1,626	2.0	-51%	102%	
Tomato	2,146	4.4	-77%	343%	
Cereals and pulses					
Maize-beans intercropped	577	1.49	-33%	49%	
Sorghum and green grams	692	1.34	-25%	34%	
Livestock					
Dairy: Semi-intensive grazing	1,098	1.4	-30%	43%	
Dairy: Milk cooler business	79,099	-	-	-	36%
Apiculture: 10 hives	5,268	3.8	-74%	280%	
Apiculture: 3 hives	950	2.7	-64%	174%	
Local poultry	8,227	1.89	-47%	89%	

24. **Poultry.** Recent household surveys found that about 40 percent of households produced eggs. Decision-making power on poultry activities usually rests with women. With productivity increases, poultry will provide nutritional benefits through increased home consumption. This analysis assumed that households stock hybrid chickens and adopt improved feeding and management practices, which in turn increases the productivity per chicken. The financial analysis demonstrates an NPV of the incremental benefits of US\$8,227, a BCR of 1.9, and switching values of -47 percent for benefits and 89 percent for production costs.

25. **Horticulture – Tomatoes.** Average tomato productivity in Bungoma County was around 29 t/acre over the last three years, far above the national average of about 17 t/acre.⁷⁷ A recent household survey found that a large number of respondents used improved tomato seed. Adult men were found to dominate decision making for tomato production, as it is a market-oriented and high-value horticultural crop. The financial analysis assumed that yield increases from 1 t/acre to 2 t/acre were possible if farmers used hybrid seed and fertilizer. In this case, a tomato enterprise can lead to an NPV of the incremental benefits of US\$2,146, a BCR of 4.43, and switching values of -77 percent for benefits and 343 percent for production costs.

Economic Analysis

26. The economic analysis aggregates the incremental net benefits of crop and livestock production derived from the financial analysis and the environmental benefits captured by the

⁷⁶ IFAD (International Fund for Agricultural Development) (2015): “Kenya. Smallholder Dairy Commercialization Programme. Update Design Report – Additional Financing.”

⁷⁷ MoALF (2015): ERA.

project's net carbon balance. It is assumed that the project will reach a total of 360,000 direct beneficiaries. About 252,000 (i.e., 70 percent of direct beneficiaries) are from CIGs/VMGs engaged in SLM/VC micro-projects. The adoption rate of improved TIMPs is assumed to be 70 percent. In other words, about 176,400 direct beneficiaries of SLM/VC micro-projects adopt improved TIMPs and increase crop and livestock productivity. Further, it is assumed that in each county, direct beneficiaries are spread evenly across the three selected priority VC micro-projects as proposed under ASDSP. Average household farm size is assumed to be one acre. The aggregation takes into account the adoption rate of TIMPs as proposed in the results framework, i.e., 3 percent in year 2, 24 percent in year 3, 73 percent in year 4, and 100 percent in year 5.

27. Economic prices are calculated using import parity prices for traded goods (maize, sorghum, fertilizer, improved seed, and agro-chemicals). Transfer payments are eliminated, while commodity-specific conversion factors are derived; and the shadow exchange rate factor is applied on traded goods. Due to the low trade volume and/or perishability of some commodities in this analysis, it is assumed that they are traded locally; thus financial prices are used. The daily farm wage rate of KSh 200 was discounted by 0.6, taking into account the rural unemployment rate of 40 percent.

28. To capture environmental benefits stemming from cross-community SLM interventions supported under Component 3, a net carbon balance is calculated and expressed in tCO₂-eq emissions (Annex 9). For example, Kitui County is promoting landscape-wide interventions such as agroforestry and grassland restoration. It is assumed that these interventions target 2.5 percent of the county's agricultural land area (about 25,000 ha). As such, about 12,500 ha would fall under agroforestry, leading to a carbon sink of approximately 2 MtCO₂-eq emissions. To monetize these benefits, a carbon price of US\$10 is used.⁷⁸ On the one hand, considering that VC activities promote CSA and SLM practices, the net carbon balance may be underestimated. On the other hand, the increase in livestock production (e.g., dairy cows and goats) could increase the project's net carbon source. However, since the project adopted a demand-driven approach, a conservative estimate is used, whereby the potential carbon benefits from Component 1 are not included.

Results

29. The economic analysis considers the project's investment cost of US\$219 million and a recurrent cost of US\$14.3 million. The NPV is calculated over a time span of 20 years with a discount rate of 5 percent.⁷⁹ The economic analysis results in an NPV of US\$827 million and an IRR of 21.8 percent (Table A5.3). In contrast, by aggregating the financial accounts, the NPV results in only US\$707 million and an IRR of 20.9 percent.

30. The project's benefits may be underestimated because the analysis captures only costs and benefits from SLM/VC interventions (i.e., it considers only CIG/VMG micro-projects, which account for 70 percent of Component 1 investments), of which 70 percent of direct beneficiaries adopt improved TIMPs and thus increase crop and livestock productivity. The analysis neglects: direct beneficiaries engaged in alternative livelihood and nutrition interventions under Component 1; value addition and employment generation under Components 2 and 3; and the overall intangible benefits related to empowerment, improved nutritional status, and environmental benefits, which could not be quantified.

⁷⁸ World Bank (2015): *State and Trends of Carbon Pricing 2015*, Washington, DC.

⁷⁹ World Bank (2015): "Technical Note on Discounting Costs and Benefits in Economic Analysis of World Bank Projects," Washington, DC.

31. Sensitivity analyses were conducted to test the robustness of the results to:
- (i) **Increase and decrease in total project cost of 30 percent and 50 percent:** With an increase in project costs of 30 percent, NPV decreases to US\$763 million and the IRR to 18 percent. With an increase of 50 percent in project costs, NPV decreases to US\$721 million and the IRR to 17 percent. A decrease in project costs of 30 percent leads to an NPV of US\$891 million and an IRR of 27 percent, while a 50 percent decrease leads to an NPV of US\$933 million and an IRR of 32 percent.
 - (ii) **Decline in incremental net benefits of 30 percent and 50 percent:** A decline in incremental net benefits of 30 percent leads to a decrease in NPV to US\$515 million and an IRR of 17 percent, while a decrease in incremental net benefits of 50 percent leads to an NPV of US\$307 million and an IRR of 14 percent.
 - (iii) **Decrease in adoption rate of improved agricultural practices:** A decline in adoption rate of another 30 percent results in an NPV of US\$519 million and an IRR of 17 percent, while a decline in the adoption rate of 50 percent results in an NPV of US\$313 million and an IRR of 13.6 percent.
 - (iv) **Changing environmental benefits:** Increasing the SCC to US\$30 per ton, instead of using a tentative market price of US\$10, and capturing the benefits of avoided damage, leads to an NPV of US\$852 million and an IRR of 22.2 percent, while without capturing the benefits, the NPV is US\$814.9 million and the IRR is 21.6 percent.
32. Overall, the results show that the project is capable of absorbing substantial negative impacts and still generating a robust NPV and an IRR that is above the opportunity cost of capital, supporting NARIGP's investment decision.

Conclusion

33. The *ex-ante* EFA of potential project interventions indicates that the activities are profitable from an economic perspective and that of participants. The incremental net benefits expected in the WP scenario compared to the WOP situation justify the project's cost, even though not all incremental benefits could be expressed in monetary terms. The project's impact may thus be underestimated, since these estimates capture neither the benefits of beneficiaries engaged in alternative livelihood and nutrition activities nor the tremendous potential of value addition and employment opportunities, health and nutritional outcomes, and community empowerment benefits. The analysis suggests that the range of potential micro-projects to be supported by the project would be financially sustainable for direct beneficiaries. A strong rationale exists for public sector financing due to the institutional capacity building at the county level that is necessary for supporting investments in Components 1 and 2 and for providing a regulatory and enabling environment for PPPs to flourish. The rural infrastructure and landscape-wide investments under Component 3 would increase the sector's climate-resilience; reduce negative environmental externalities, such as GHG emissions and sediment load in rivers and reservoirs; correct market failures in certain VCs; and identify and support selected priority VCs that fit communities' needs and leverage further private investment. The Bank's value added is justified, as NARIGP can complement the efforts of previous and ongoing projects in Kenya, such as WKCDD&FMP, KAPAP, and KAPSLMP.

Table A5.3: Economic Analysis of the Project (in ‘000 US\$)

Value Chain	Number of beneficiaries	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10	PY11-PY20
Horticulture												
Tissue-culture banana	21,000	0	-224	1,117	13,307	46,036	58,370	50,903	38,921	30,892	30,927	30,927
Mangoes	5,600	0	24	187	653	1,149	1,321	1,321	1,321	1,321	1,321	1,321
Tomatoes	19,600	0	-52	-169	251	2,612	4,177	4,177	4,177	4,177	4,177	4,177
Cereals and pulses												
Maize-beans intercropped	19,600	0	-17	-10	395	1,801	2,669	2,669	2,669	2,669	2,669	2,669
Sorghum and green grams	12,600	0	27	197	631	951	964	886	941	1,012	1,012	1,012
Livestock												
Dairy: Semi-intensive grazing	53,200	0	-918	-6,013	-16,716	-18,406	-16,124	-18,783	-18,862	-1,447	33,870	10,611
Apiculture: 10 hives	8,400	0	-134	-672	-809	3,070	8,110	10,397	12,112	13,078	13,078	47,380
Poultry	36,400	0	-598	243	13,806	50,267	44,570	50,191	44,570	50,191	44,570	1,178
Environmental Benefits												
Reduced GHG emissions		0	0	1,178	1,178	1,178	1,178	1,178	1,178	1,178	1,178	1,178
Total incremental benefits		0	-1,891	-3,942	12,696	88,659	105,236	102,940	87,029	103,072	132,803	127,136
INVESTMENT COST (total baseline cost minus recurrent cost)		40,942	40,942	40,942	40,942	40,942						
RECURRENT COST	2,858	2,858	2,858	2,858	2,858	2,858	2,858	2,858	2,858	2,858	2,858	2,858
Incremental cash flow	-43,800	-45,691	-47,742	-31,104	44,859	102,378	100,082	84,171	100,214	129,945	-43,800	134,499
Discount rate	5%											
NPV	827,482											
IRR	21.8%											

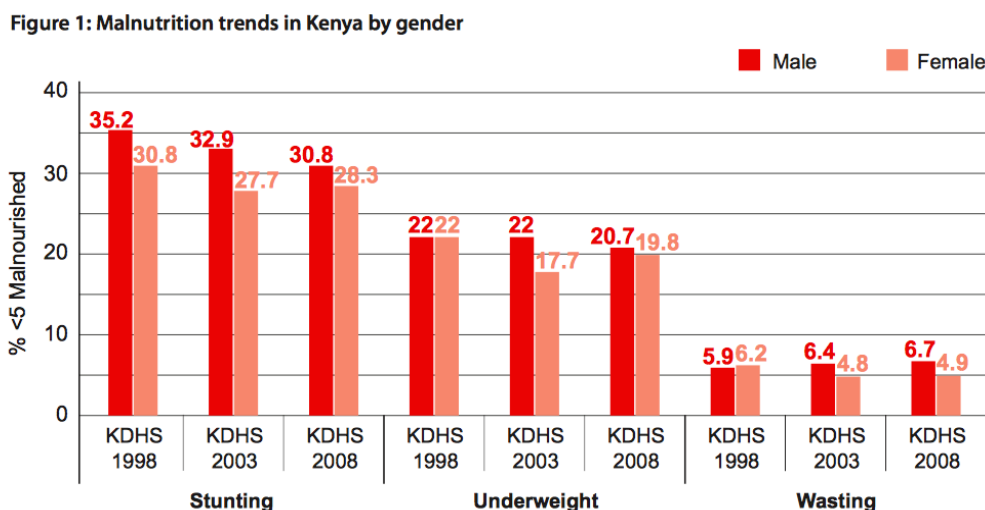
Notes: column “PY11-PY20” shows the average over 10 years.

Annex 6: Mainstreaming Nutrition in the National Agricultural and Rural Inclusive Growth Project (NARIGP)

Food and Nutrition Situation in Kenya

1. Overcoming chronic food and nutrition insecurity remains one of Kenya’s greatest human and economic development challenges. Kenya’s National Food and Nutrition Security Policy 2011 (FNSP) highlights that over 10 million people suffer from chronic food insecurity and poor nutrition. According to the Kenya Demographic and Health Survey (2014), an average of 26 percent of children under five suffer from chronic undernutrition (stunting) (severe, 8 percent; moderate, 18 percent), which is a serious national development concern, as these children will never reach their full physical and mental potential. While the reduction in the national average stunting rate from 35 percent in 2008-09 demonstrates the consolidated efforts of the government, West Pokot and Kitui Counties have extremely high proportions (46 percent) of stunted children, followed by Kilifi (39 percent), Mandera (36 percent), and Bomet (36 percent) Counties. Despite the cumulative GDP per capita growth of 15.1 percent for the latest five years,⁸⁰ the trend of undernutrition among children under the age of five years from 1993 to 2008/09 indicates little or no improvement.

Figure A6.1: Malnutrition Trends in Kenya by Gender



Source: National Nutrition Action Plan 2012-2014.

Nutritionally Vulnerable Population

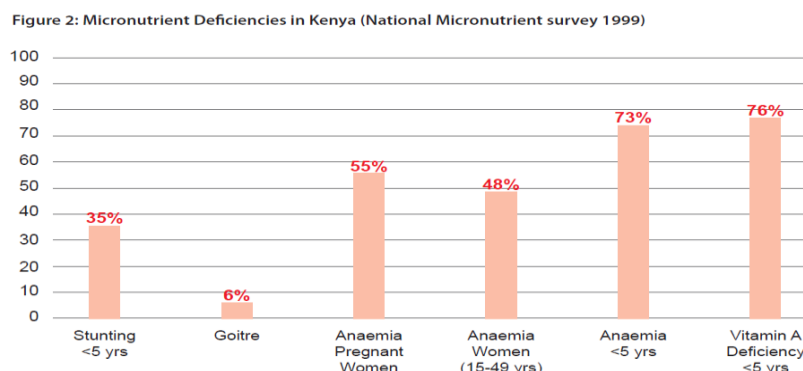
2. In addition to chronic food insecurity, the most vulnerable groups of the Kenyan population, particularly in the ASALs, suffer from acute food insecurity mainly due to droughts. As these areas are not suitable for rainfed farming, Kenya’s most common form of agriculture, they are used mainly as rangelands by ranchers, agro-pastoralists, and pastoralists.⁸¹ Due to Kenya’s diverse agro-ecological zones, regional disparities in nutrition indicators are significant: the northeastern province has the highest proportion of children exhibiting severe wasting (8 percent), while the eastern province has the highest level of stunted children (44 percent).

⁸⁰ Source: [IMF World Economic Outlook Database](#).

⁸¹ ACF (Action Contre la Faim) (2013): “Reconciling agriculture and nutrition: Case study on agricultural policies and nutrition in Kenya,” Paris.

Micronutrient deficiencies are highly prevalent among children under the age of five and women. Around 48 percent of women of reproductive age (25 percent of population) suffer from anemia due to iron deficiency; 55 percent of pregnant women have Vitamin A deficiency; and 52 percent of mothers are zinc deficient. Similarly, 84 percent of preschool children are Vitamin A deficient and 51 percent are zinc deficient; zinc is essential for brain maturation and growth during the first 1,000 days of life.

Figure A6.2: Micronutrient Deficiencies in Kenya



Source: National Nutrition Action Plan 2012-2014.

3. Millions more who survive chronic undernutrition (stunting) during their childhood suffer permanent physical and cognitive impairment, which harms their future prospects and their countries' economic productivity and growth. Further, poor nutrition contributes to an intergenerational cycle of undernutrition and poverty, as undernourished women are more likely to give birth to children who begin life nutritionally disadvantaged, are more likely to be stunted, and are more likely to grow into short and disadvantaged adults.

Causal Factors of Undernutrition – Multi-sectoral Agenda

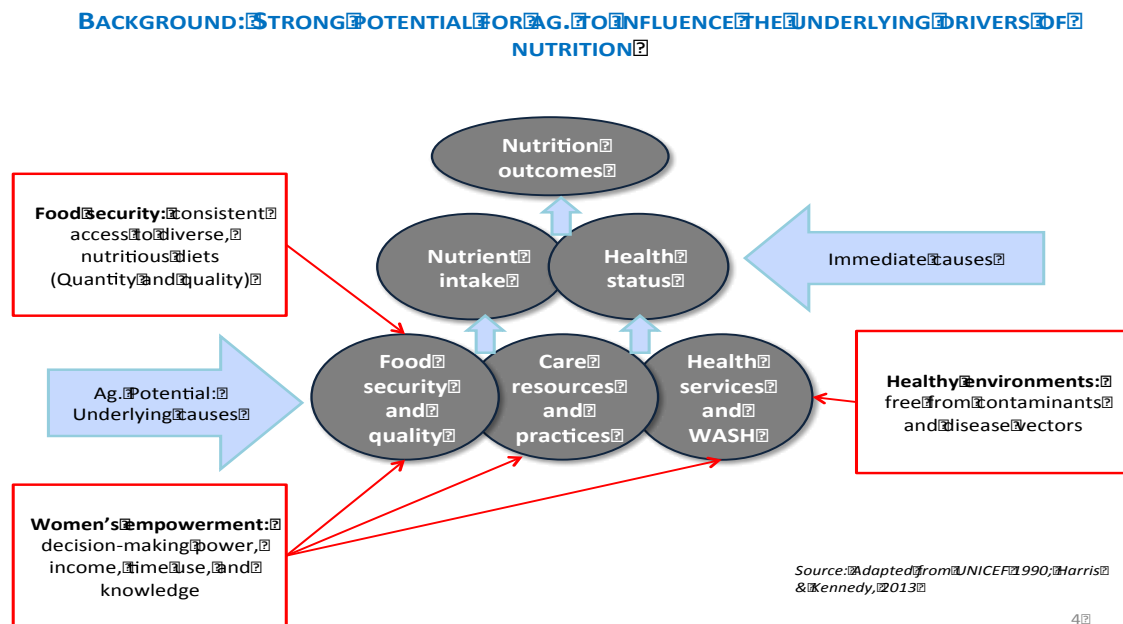
4. Overall, the high prevalence of undernutrition in Kenya has multiple causal factors: food insecurity, especially due to frequent droughts; high poverty levels; rising food prices; poor dietary diversity; poor access to water and sanitation; infections (especially from diarrhea, HIV, and malaria); poor maternal nutrition; and poor child feeding practices. According to UNICEF, the three pillars for tackling undernutrition are food security (consistent access to a diverse, nutritious diet); women's empowerment (decision-making power, income, time use, and knowledge); and a healthy environment (free from contaminants and disease vectors) (Figure A6.3). It is critical to understand that no one pillar alone is sufficient to solve the undernutrition problem.

Kenya's Nutrition Policy and Strategy

5. Kenya has a number of policy documents that support the framework to improve the nutrition status of its citizens. Kenya's National Food and Nutrition Security Policy (FNSP 2011), for example, was based on Kenya's 2010 Constitution, which recognizes food and nutrition security as every Kenyan's constitutional right. Further, it is closely aligned with the policy direction highlighted within Vision 2030, the ASDS (Agricultural Sector Development Strategy, 2010-2020), CAADP (Comprehensive Africa Agriculture Development Programme), and the Sustainable Development Goals (SDGs). The FNSP provides a solid framework covering all key dimensions of food and nutrition security, including availability, accessibility, stability, and utilization to meet nutritional requirements. Further, the policy aims to: (i) achieve adequate nutrition for optimum health of all Kenyans; (ii) increase the

quantity and quality of food available, accessible, and affordable to all Kenyans at all times; and (iii) protect vulnerable populations using innovative and cost-effective safety nets linked to long-term development. In addition, Kenya’s accession to the Scaling-Up Nutrition (SUN) movement in 2012, together with the CAADP initiative (targeting allocation of at least 10 percentage of national budget to the agricultural sector) created an opportunity to strengthen national efforts in favor of nutrition. But the draft Food and Nutrition Security Strategy (FNSS), needed to operationalize the FNSP, has not yet been finalized.

Figure A6.3: Agriculture’s Potential to Influence the Drivers of Nutrition Outcomes



Inter-sectoral Coordination for Kenya’s Nutrition Agenda

6. The Government of Kenya (GoK) launched the National Nutrition Action Plan 2012-2017 in November 2012 (“Kenya Call for Commitments for Nutrition”).⁸² The Plan is being rolled out at the national and county levels with nutrition-specific interventions targeting women and young children. The Nutrition Interagency Coordinating Committee (NICC), a multi-stakeholder platform chaired by the Ministry of Health and SUN Focal Point, includes five ministries, UN agencies, civil society, and academic institutions. NICC endorses policies and strategies on food and nutrition security and mobilizes resources. While the nine ministries⁸³ constituting the SUN Coordination Team have signed on to the FNSP, the multi-sectoral NICC is not fully operational. In view of this situation, the SUN Compendium Kenya 2014⁸⁴ proposed that the National Food Security Steering Group (NFSSG) and its Secretariat be housed under MoDP to coordinate all sectors and county-level activities.

Role of MoALF - Missing Link for Nutrition-Sensitive Interventions

7. Despite the agricultural sector’s potential to help address all three underlying causes of undernutrition (i.e., by contributing to better food security, adequate child care, and a safe

⁸² SUN (<http://scalingupnutrition.org/wp-content/uploads/2015/06/Kenya-Costed-Plan-Summary.pdf>).

⁸³ Agriculture, Livestock, Fisheries, Education, Trade, Gender, Social Protection, Finance Planning and Vision 2030.

⁸⁴ See http://scalingupnutrition.org/wpcontent/uploads/2014/11/SUN_Compndium_ENG_20141026_29Kenya.pdf.

environment with access to safe water and sanitation), this potential has not yet been fully unleashed. The Nutrition Technical Forum (NTF) at the national and county levels focuses on technical consultation solely with nutrition stakeholders, leaving it little space to engage in nutrition-sensitive interventions. Currently, the Home Economics section in MoALF, which is also underfunded, is responsible for nutrition-sensitive interventions at the household level. Therefore, the nutrition debate has been largely led by the Ministry of Health (MoH), which uses its small nutrition budget to finance high-impact nutrition interventions, such as Vitamin A and zinc supplementation and food fortification. For example, the government allocated only 0.5 percent of its health budget to nutrition-specific interventions in the 2010/2011 financial year, an allocation that has grown at a rate of 0.1- 0.2 percent annually for the past five years. The persistence of high levels of undernutrition, particularly chronic undernutrition (stunting), calls for urgent action by both the GoK and development partners (DPs). The government must first commit itself to increasing the budget allocation for holistic nutrition interventions.

County-Level Implementation of FNSP

8. One of the major challenges to implementing FNSP is the delayed finalization of the FNSS. When finalized, the FNSS will guide the 47 county governments to implement the FNSP. The extent to which counties prioritize nutrition will most likely vary depending on their level of nutrition-sensitivity and capacity to implement the interventions. Currently, counties have insufficient numbers of Home Economics and nutrition officers, whose mandates are to deliver basic nutrition messages as well as knowledge on food utilization. Staff functions will include promoting appropriate technologies for improved nutrition; training women on food preparation; promoting traditional crops with high nutritional value; training farmers on post-harvest technologies and practices; and promoting the rearing of small livestock (e.g., poultry, sheep, and goats) and home and school gardening.

Key Nutritional Issues and Opportunities for Project Intervention

9. A critical review of FNSP and the draft FNSS, as well as programs and activities supported by other DPs, identified a number of nutrition-related issues that could be considered entry points for nutrition-sensitive interventions under NARIGP support. They include addressing the following challenges, among others:

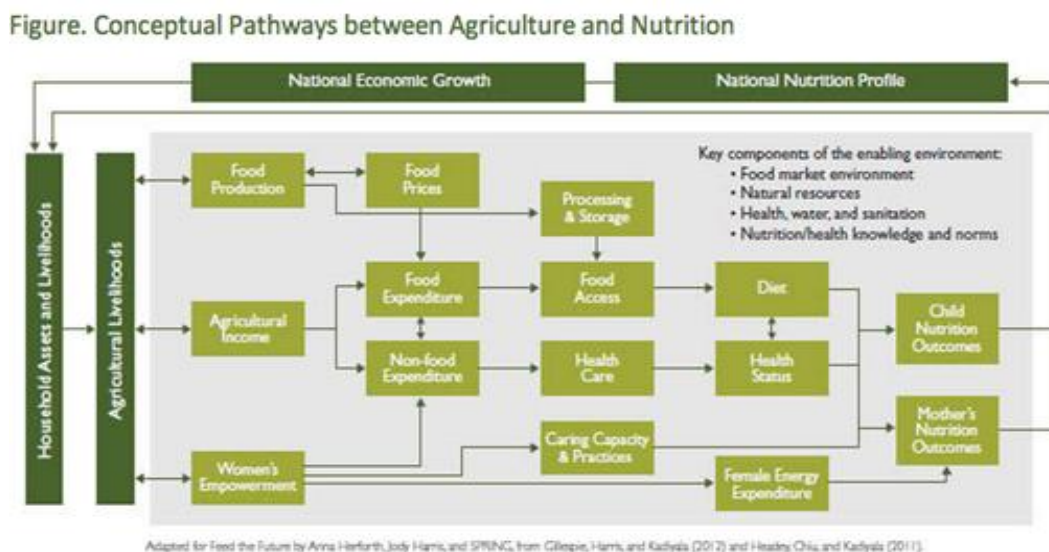
- (a) High chronic malnutrition rates and inadequate infant and young child feeding practices (based on locally available food items).
- (b) Micro-nutrient deficiencies among pregnant women (women of reproductive age).
- (c) Sociocultural eating practices, which distort the household food allocation pattern.
- (d) Inadequate dietary diversity—lack of knowledge of traditional nutrient-rich crops/fruits and vegetables (orphan crops).
- (e) Limited access to information, appropriate technology, rural credit, and assets for income-generating activities (land, water source, fodder, etc.) by women.
- (f) Multi-sectoral coordination mechanisms for food and nutrition linkage working group at the national and county levels (especially between MoALF, MoH, and the Ministry of Education, Science and Technology).
- (g) Underutilized capacity of Home Economics officers at the county level (e.g., limited mobility with limited human and financial resources).
- (h) Food production diversification, including traditional high-value crops and small livestock.

Proposed Interventions

10. Based on the above dire undernutrition status of children and women, and the need for a multi-sectoral approach to improve the nutrition status of women and children in participating counties, NARIGP will support development of nutrition-sensitive VCs. The aim will be to improve the diets of target beneficiaries—especially women, children under two (to seize the first-thousand-day window of opportunity), and primary and secondary school children—by diversifying both food production and consumption through household- and school-based nutrition-sensitive VC development in underprivileged communities.

11. Nutrition-sensitive interventions will be mainstreamed in Components 1-3 using three pathways. First, *consumption pathways* promote traditional nutrient-dense crops and small livestock raising through home- and school-based gardening. Second, *income pathways* promote home-based food processing, storage, and preservation to retain nutritional value, increase shelf-life, and ensure food safety, while at the same time reducing seasonal food insecurity and post-harvest losses. Third, *women’s empowerment pathways* facilitate women’s participation in on- and off-farm activities by promoting labor-saving technologies and rural credit schemes. Training and capacity building will be provided at the county and community levels to: (i) create awareness and build the institutional capacity and knowledge base of small- and medium-scale farmers; (ii) build government agencies’ capacity to implement the nutrition agenda; (iii) develop nutrition assessment tools and manuals for county- and community-level interventions; and (iv) develop county-specific dietary guidelines with infographics.

Figure A6.4: Conceptual Pathways between Agriculture and Nutrition



Source: Herforth and Harris, 2014

Annex 7: Gender Mainstreaming and Inclusion of Youth and Vulnerable Groups

KENYA: National Agricultural and Rural Inclusive Growth Project

1. **The social pillar of Kenya’s Vision 2030 states that it aims to ensure equity in power and resource distribution between the sexes, improved livelihoods for all vulnerable groups, and responsible, globally competitive, and prosperous youth.** Specific strategies involve: increasing women’s participation in all economic, social, and political decision-making processes; improving access to all disadvantaged groups (e.g., business opportunities, health and education services, housing and justice); and minimizing vulnerabilities through the prohibition of retrogressive practices (e.g., female genital mutilation and child labor) and by scaling up training for people with disabilities and special needs.
2. Increasing social capital among the poor is a guiding principle of the proposed project, which emphasizes the importance of enhancing economic and social *inclusion* of vulnerable and marginalized groups (VMGs) in targeted rural communities. Under the project, VMGs will comprise unemployed youth, indigenous peoples, elderly women and men, widows/orphans, the differently-abled, recovering substance abusers, and people living with HIV/AIDS. NARIGP will seek to mainstream gender-informed approaches in its design, implementation, and monitoring of activities by factoring in the different needs, constraints, and opportunities of women, men, girls, and boys across all components. Specifically, the project will provide marginalized women, youth, and other vulnerable groups with targeted interventions that recognize their different skill needs and resources compared to other members of the community.
3. This annex highlights the main objectives of gender mainstreaming and social inclusion strategies and presents action plans for operationalizing these strategies as part of the project’s design. These strategies are based on good practices and lessons learned from implementing community-driven development (CDD) and agricultural projects in Kenya⁸⁵ as well as globally.

Women in Kenya’s Agricultural Sector

4. Kenyan women make significant yet often unrecognized contributions to the country’s economy,⁸⁶ and gender gaps are particularly noticeable in the agricultural sector, as it provides support to the very poor.⁸⁷ Kenyan women are a major force in agriculture, providing over 70 percent of the labor, yet they own only a fraction of the land titles,⁸⁸ thus reducing incentives to invest in land and possibly contributing to lower productivity. A 2011 study found that a much higher percentage of men (81 percent) compared to women (19 percent) own land individually in Kenya. The study also found that men’s overall landholdings tend to be at least four times larger than women’s, and that men tend to farm larger parcels of land compared to women.⁸⁹ Women are also disadvantaged in their access to

⁸⁵ KAPAP, WKCDD&FMP, KAPSLMP, EAAPP, and Accelerating Rural Women’s Access to Agricultural Markets (GROOTS).

⁸⁶ Kenya ranks 121st out of 149 countries included in the Gender Inequality Index in 2013. Of adult women, 25.3 percent have reached at least a secondary level of education compared to 31.4 percent of their male counterparts. Female participation in the labor market (population ages 15-64) is 62.0 percent compared to 72.2 for men, and women’s share of the seats in parliament in 2013 was 19.9. For every 100,000 live births, 360 women die from pregnancy-related causes, and the adolescent birth rate is 93.6 births per 1,000 live births (http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/KEN.pdf).

⁸⁷ World Bank Country Partnership Strategy for 2014-2018. Annex on Gender.

⁸⁸ AfDB (African Development Bank) (2007): “Country Gender Profile,” Tunis.

⁸⁹ Tegemeo Institute, 2011.

other types of agricultural inputs, such as extension information and services⁹⁰ and access to credit.⁹¹ It is suggested that allocating land, labor, capital, and fertilizer more equally would increase agricultural yields in Kenya by more than 20 percent,⁹² which demonstrates the serious consequences of gender disparity.

5. Given the highlighted challenges for women's participation in the agricultural sector, Kenya's ASDS (2010-2020) emphasizes that new interventions should focus more on equality and equity of the outcomes than on equal treatment, as traditional interventions in the sector tend to affect men and women differently. It also notes that women suffer from poorer health and nutritional status as well as high maternal mortality.

Overall Strategy and Objectives

6. A strategy for gender mainstreaming and social and economic inclusion of youth and VMGs was designed to achieve the following objectives (Figure A7.1):

- (i) Build awareness about gender mainstreaming, and social and economic inclusion among all project stakeholders—i.e., men, women, community members, service providers (SPs), and county governments.
- (ii) Ensure that men, women, and VMGs participate and benefit equitably under the project (i.e., social and economic inclusion).
- (iii) Reduce the gender gap and discrepancies across different social groups by improving human development status.

7. The strategy will be broadly operationalized along three pillars of activity to: (i) provide targeted information, education, and communication (IEC) and capacity building to all stakeholders; (ii) ensure full representation of men, women, youth, and all social groups in community-level institutions and decision-making processes; and (iii) provide targeted programs and investments to VMGs to boost their human development status and social capital. Action plans were developed that cut across the project's three technical components (Table A7.1). Further details will be outlined in the PIM. An indicative list of indigenous peoples is presented in Table A7.2 for information.

8. To the extent possible, performance indicators were disaggregated by gender and by social subgroup (e.g., CIG/VMGs), to measure their participation in the decision-making process, implementation of micro-projects, and sharing of benefits accruing from the various interventions.

⁹⁰ For example, a study in 2013 says that a significantly larger proportion of male (54 percent) than female (41 percent) primary farmers had received extension services over the previous year (World Bank, "Tapping the Potential of Farming in Kenya," Gender Policy Note, Washington, DC).

⁹¹ For example, women in Sub-Saharan Africa receive less than 10 percent of small farm credit and 1 percent of credit extended in the agricultural sector (FAO 2011).

⁹² World Bank (2009): *Gender in Agriculture Sourcebook*, Washington, DC.

Figure A7.1: Overall Gender and Inclusion Strategy for Achieving NARIGP Objectives

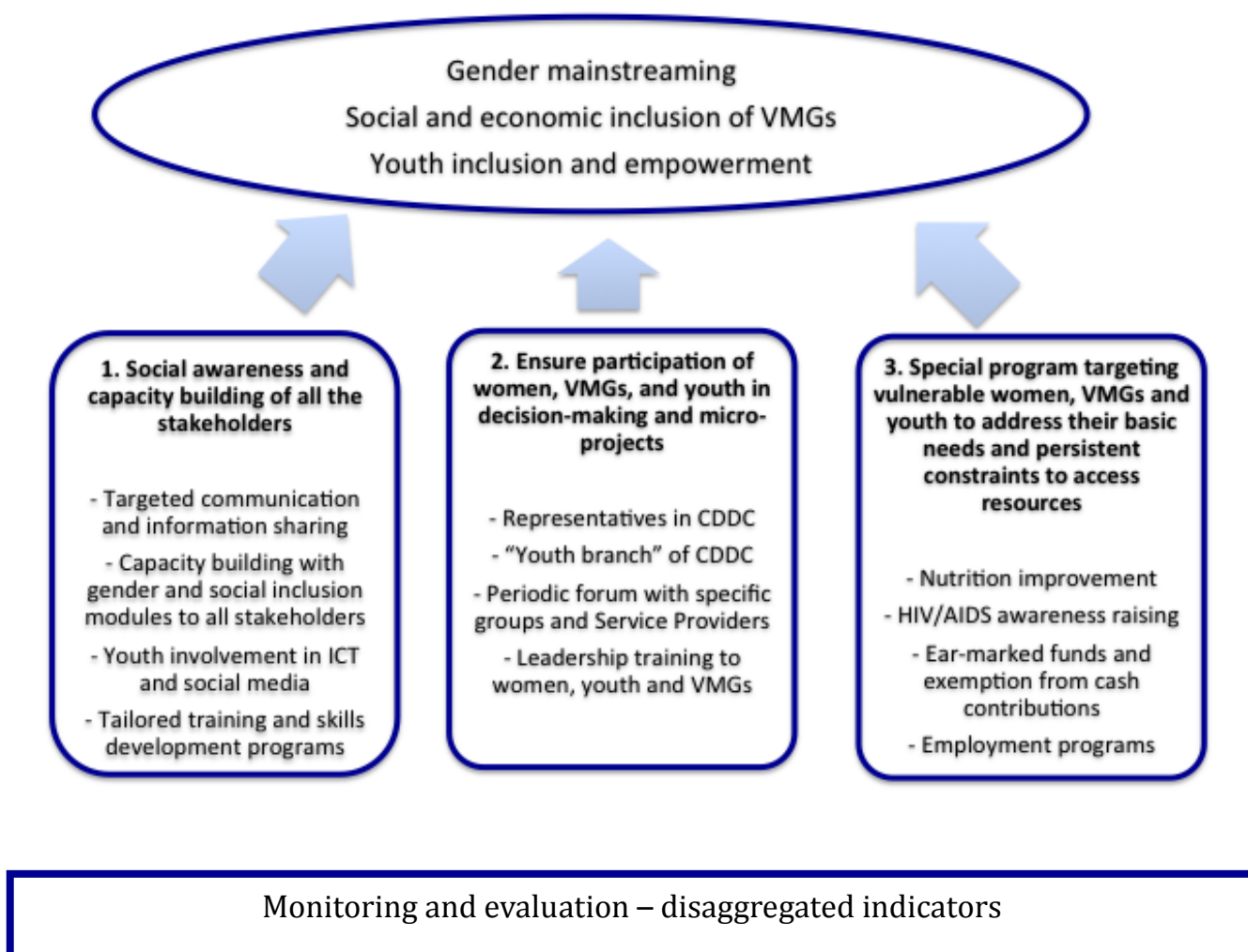


Table A7.1: Action Plans by Subcomponent – Gender Mainstreaming and Social and Economic Inclusion of Youth and VMGs

<i>GENDER MAINSTREAMING</i>	<i>Social and Economic Inclusion of Youth and Vulnerable and Marginalized Groups (VMGs)</i>
Cross-cutting:	
<p>Increasing awareness of gender and changing the mindset among county governments and technical staff, especially male stakeholders, is critical. Therefore, a module on capacity building and training on gender mainstreaming (across the 3 technical components) will be provided to all stakeholders, including NPCU, CPCUs, county governments, subcounty and ward administrators, SPs/facilitators, extension workers, and community members.</p>	<p>Social inclusion, like gender mainstreaming, also starts from good communication and social awareness actions using various media, combined with capacity building and training. A module on social inclusion will be included in the capacity building of all stakeholders, including communities, POs, and counties.</p>

Component 1: Supporting Community-Driven Development

Subcomponent 1.1: Strengthening Community-Level Institutions

PICD process: PICD is an important process that allows community members to identify the difference between men's and women's roles and assets, time allocation for work, and other activities. The PICD process will be conducted through a gender mainstreaming and social inclusion lens. Implementation of the PICD process will form part of the SPs' ToR. Detailed PICD approach will be further described in the PIM.

Modalities of capacity building: Studies and on-the-ground experience have shown that it is not easy for women to participate in meetings and training for development projects, due to their wide range of responsibilities, from caring for the family welfare (food preparation, cleaning, and child care) to economic activities (such as small commerce and markets). Therefore, the project will select the timing and venue of key meetings and information sharing to ensure both men and women can participate and access information (e.g., avoiding market days and male-dominated gathering places when planning training sessions).

Content and targets for capacity building within the community: Men and women have different comparative advantages in agricultural production.⁹³ It is observed that women are good at managing grassroots activities when trained and equipped with skills and some inputs. However, certain activities are still managed by men, such as planting that requires heavy machinery, large animals, or bringing products to the market in bulk. Therefore, training sessions will need to first identify who will play the main role in certain types of activities, and then train those target groups—male or female—to ensure training can actually make changes on the ground.⁹⁴

Decision making: At the community level, capacity building using an inclusive PICD process and participatory identification of VMGs will be essential. In addition to having modules on cross-cutting themes like inclusion, it is important to have conflict resolution as part of the training and awareness creation for communities. Capacity building delivered by SPs will ensure that marginalized groups are meaningfully included in decision-making processes for micro-projects. The use of quotas, in combination with capacity building for these groups, can be one approach.

Facilitators/trainers and modalities of training: Selection of qualified facilitators and trainers who can deliver training modules using an inclusive approach will be dependent on well-developed ToRs. The training modules that are developed for the communities should ensure that language and tools should not create barriers that could exclude the participation of certain groups in capacity-building measures. It is important to recognize that different groups may be more receptive to different modes of capacity building and means of communication. For example, effective use of ICT, existing social media networks, and cultural events and performances could be ways to better reach and communicate with youth.

CDP formation: Community Development Plans will be required to include a Social Inclusion (including Gender) dimension to ensure certain funds are channeled and secured for youth and marginalized groups.

Specific capacity building for VMGs: As the target groups become clear and awareness of the social and economic inclusion principle of the project is widely shared, community members will be invited to participate in training and capacity-building sessions. Marginalized groups may have specific capacity-building needs.

⁹³ According to a recently conducted study in Kenya, women have an especially strong role in producing tea, coffee, various fruits and vegetables, cereals, and poultry. Their participation, however, is not often fully recognized or visible, partly because food crop production, where women's participation is high, tends to be less visible than alternative agricultural pursuits, as it requires less capital and labor. "Even then, women tend to be regarded as 'assistants on the farm' rather than farmers or economic agents in their own right. Such perceptions, along with cultural and social norms, make it difficult for women to graduate from subsistence farming to more commercial agricultural enterprises" ("Supporting Women's Agro-Enterprises in Africa with ICT," conducted from August 2012 to April 2014).

⁹⁴ In addition to county-specific data and studies, the *Gender in Agriculture Sourcebook* (World Bank 2009) has sections on livestock, fisheries, crops, etc., that could be useful in developing county-specific strategies.

Involvement in decision making: A practice that worked well under WKCDD&FMP was the requirement that in Community-Driven Development Committee (CDDCs), not more than two-thirds of the members should be of one gender. The project will further facilitate opportunities for female representatives to share their opinions and to influence decisions to be made as a group, by:

- Periodically creating visible interfaces between female representatives and SPs as the project proceeds.
- Identifying one member of the CDDC as a “gender and social inclusion champion,” who will collaborate with the relevant county-level officers and ensure that community-level group formation and activity identification are done in an inclusive way.

Saving groups’ formation: Women will be encouraged and supported to build their capacities (i.e., financial management skills) to form saving groups that can be federated into Community Savings and Loan Associations (CSLAs). The project will provide matching grants to boost the CSLAs’ capital. These would ultimately be linked to micro-finance institutions and commercial banks. Further details will be outlined in the PIM.

“Soft skills” for women and girls: At the community level, dedicated training will be provided to help improve the confidence of women and girls to make informed decisions. This will form part of the SPs’ ToR. Although gender quotas allow more women to participate in meetings, they are not always effective when it comes to decision making. Therefore, quotas need to be complemented by training and capacity building to build members’ self-esteem and confidence, improve literacy skills, and facilitate access to social networks, including the use of mobile devices for greater connectivity.

Raising awareness of health risks: The infection rate of HIV/AIDS is much higher in girls and young women compared to their male counterparts. As a result, women’s higher vulnerability to health risks is connected to their perceived lower social status. An awareness program focusing on social and health risks for

Therefore, dedicated skills training for such groups should be developed. Youth may need separate training programs tailored to their needs and lifestyles.⁹⁵

Representation in community institutions: In CDDC, when similar groups have not yet been present, a “youth branch” of CDDC could be created, where young members will take specific roles—for example, a role in communications and monitoring using mobile devices.

⁹⁵Lessons on the ground show that youth groups require additional time and training/capacity-building efforts, given that they tend to be less patient (i.e., want to see quick returns) and are more mobile, but when given opportunities and sufficient support, can prosper with lots of energy and enthusiasm.

<p>young women and girls, with topics such as malaria prevention and reproductive health, including risks of HIV/AIDS, will form part of training sessions targeting women and girls.</p>	
<p>Subcomponent 1.2: Supporting Community Investments</p>	
<p><i>VMG grants:</i> This subcomponent provides targeted grants for VMGs, including women. The use of such grants, especially by marginalized women, for example, could be used to purchase water tanks, organize training programs, and hire technical advisors to start their own business and use applications and mobile devices as needed.</p>	<p><i>VMG grants:</i> This subcomponent includes targeted grants for VMGs, including youth. VMGs will be exempted from the community cash contribution requirement. The menu of goods and services available must include those that are of relevance and interest to VMGs and should not include activities that discourage their participation.</p>
<p>Component 2: Strengthening Producer Organizations and Value Chain Development</p>	
<p>Subcomponent 2.1: Capacity-Building of Producer Organizations</p>	
<p><i>Labor-saving technology:</i> Analysis has shown that women tend to work longer hours compared to men. Introduction of labor-saving technologies through POs can help to reduce women's workload.</p>	<p><i>Assessment of POs:</i> POs will need to pay attention to inclusion dimensions. For existing POs, some relevant questions to ask include: Which community members/ farmers/ smallholder producers organize in POs, which ones do not, and why? Who receives support from POs, who does not, and why? For new POs, it will be important to incorporate the principles of inclusion.</p>
<p>Subcomponent 2.2: Value Chain Development</p>	
<p><i>Value chain selection:</i> Under KAPAP, gender issues were used as a criterion for the selection of priority commodities, and gender was explicitly considered in the design of training and dissemination of technologies. Women are shown to be good at certain areas of the VC process, including processing and marketing. The project will identify and provide customized support to high potential VCs that are conducive to the roles of women. More generally, social aspects will be considered in VC selection to ensure that the poor and vulnerable also benefit.</p> <p>Women tend to have more limited access to key assets and services. Therefore each participating county will need to be innovative in addressing such challenges. As communities and POs identify key commodities and VCs, SPs will help to identify gender gaps and opportunities in selected key commodities, and include them in capacity-building measures accordingly.</p>	<p><i>Value chain selection:</i> Similar to the gender dimension, social aspects will be considered in the selection of VCs to ensure that VMGs participate and benefit under this subcomponent.</p>
<p>Component 3: Supporting County Community-Led Development</p>	
<p>Subcomponent 3.1: Capacity Building of Counties</p>	
<p><i>Gender-sensitive sensitization and awareness creation:</i> As part of gender sensitization and awareness creation campaigns for counties, the</p>	<p><i>Inclusive sensitization and awareness creation:</i> For sensitization and awareness creation campaigns for counties under subcomponent 3.1,</p>

<p>project will use techniques to ensure that project information is accessible to both men and women with different skills and literacy levels. With guidance from NPCU, a tailored communication plan that takes into consideration varying capacities and access to project information will be developed in each county that draws upon existing local radio programs and media, information boards, text messages, meetings, and faith-based organizations.</p> <p><i>Capacity building for county technical staff:</i> Capacity building for county technical staff will include training on gender modules. Relevant staff in county departments for Gender and Social Development will also receive similar capacity building and training.</p>	<p>the project will use techniques to make project information accessible for VMGs with different skills and literacy levels.</p> <p><i>Capacity building for county technical staff:</i> Capacity building for county technical staff will include training on social inclusion modules. Relevant staff in the county departments for Gender and Social Development will also receive similar capacity building and training.</p>
Subcomponent 3.2: County Investments and Employment Programs	
<p><i>Employment programs and other support programs:</i> Under this subcomponent, the project will support vulnerable women to join employment programs. Counties will also be encouraged to link vulnerable women to other county-level support programs.</p>	<p><i>Employment programs and other support programs:</i> Employment programs for VMGs, including youth, will be supported. Counties will also be encouraged to link VMGs to other county-level support programs.</p>

Table A7.2: Indicative List of Indigenous Peoples/VMGs in Kenya
(i) Indigenous hunter-gatherers (H-G), including small fishing and agricultural communities

Tribal affiliation (2009 Census)	Name of marginalized community/group	Population	Livelihood	Location(County)
Mijikenda	Aweer(Boni)	7,600	H-G, Agric.	Lamu (11 villages in forests)
Mijikenda	Dahalo	2,400	H-G	Lamu, Tana River
Mijikenda	Waata (Watha, Sanye)	12,582	H-G Agric.	Lamu, Tana River
Kalenjin	Dorobo	35,000	H-G	
Kalenjin	Ogiek	79,000 (20,000)	H-G (honey) Agro-past.	Mau Forest/Mount Elgon
Kalenjin	ElMolo	<3,000	Fishermen	Lake Turkana
Kalenjin	Sengwer	>33,000	H-G Agric.	Trans-Nzoia, Elgeyo-Marakwet
Swahili	Munyoyaya	1,600	Fishermen	Garissa (Tana River)

Tribal affiliation (2009 Census)	Name of marginalized community/group	Population	Livelihood	Location(County)
Walwana	Malakote (Ilwana/Walwana)	17,000?	Fish. /Agric.	Tana River
Notin 2009 Census	Omotik	Ext.?	H-G	Narok
Notin 2009 Census	Bajuni	15,000?	Fishermen	Mainland and coral islands off the coast of Lamu
Notin 2009 Census	Yaaku (Yiaku)	200? 4,000?	H-G (honey) Pastoralists	Laikipia C (Mukogodo F.)
Burji	Burji	24,000	Agric.	Marsabit
Kipsigis Notin 2009 Census	Talai		Internally Displaced People (IDP)	Kericho

Sources: KNBS–2009 Population and Housing Census (2011) and Paul Lewis, Ethnologue: Languages of the World—Online version at <http://www.ethnologue.com>.

Note: The Ogiek estimate their population at between 20,000 and 60,000.

(ii) Indigenous nomadic and semi-nomadic pastoralists and agro-pastoralists

Tribal Affiliation (2009 Census)	Name	Population	Livelihood	Location County
Maasai	Maasai	840,000	Semi-Nomadic Pastoralists	Kajiado, Narok, Nakuru, Laikipia
Ilchamus	Ilchamus/Njemps	33,000	Agro-past./ Fishermen	Baringo C. L. Baringo
Kalenjin	Endorois	10,000? 60,000?	Pastoralists	Baringo C. L. Bogoria
Kalenjin	Pokot	635,000	Semi-Nomadic Past./Agric.	West Pokot
Kalenjin	Saboot	240,000	Agro-pastoralists	Trans Nzoia, Bungoma.
Samburu	Samburu	240,000	Semi-Nomadic Pastoralists	Samburu C./
Turkana	Turkana	988,592	S-Nomadic Pastoralists	Turkana, Isiolo

Rendille	Rendille/ArialRendille	60,000	Semi-Nomadic Pastoralists (camel)	Marsabit C. Isiolo C.
Borana	Borana Galla (Oromo)	169,000	Semi-Nomadic Pastoralists	Marsabit, Isiolo, Tana R., Garissa
Gabra	Gabra	89,515	Nomadic Camel	Marsabit
Sakuye	Sakuye	27,000	Semi-Nomadic	Marsabit, Isiolo
Dasenach	Dasenach	12,500	Agropast. Fish.	North Lake Turkana/
Somali	Somali,	2,300,000	Nomadic Pastor.	Mandera, Wajir
Orma	Orma	66,000	Nomadic Pastor.	Lamu, Tana River, Garissa/

Sources: KNBS–2009 Population and Housing Census (2011) and Paul Lewis, Ethnologue: Languages of the World—Online version at <http://www.ethnologue.com>

Notes: The **Ilchamus** and the **Njemps** belong to the same ethnic group but are listed under both names in the 2009 census, with 28,000 and 5,000 individuals, respectively. **Galla** is a derogative name for the **Borana** but they are listed under both names in the 2009 census, with 8,000 and 161,000 individuals, respectively. The **Somali** include various clans, including the Ajuran, Degodia, Arri (Gurreh, Gari), Hawiyab, Murile, Ogaden, Wardei, etc., some of whom are listed as independent groups in the 2009 census.

Annex 8: Sustainable Land and Water Management

KENYA: National Agricultural and Rural Inclusive Growth Project

1. The proposed project recognizes that sustainable land management (SLM) is critical to the well-being of the most vulnerable and to improving the livelihoods of the targeted rural communities. Indeed, the sustainability of project investments will in large part depend on the extent to which the project helps improve land and water management in the targeted counties and rural communities.

2. For many rural households, land constitutes the most significant (natural) capital for sustaining their livelihoods and dealing with various natural, social, and economic shocks. Kenya is highly vulnerable to recurrent floods and droughts, which greatly affect livelihoods and economic activities for many poor communities. The situation is worsened by the continuing degradation of critical catchments in the country. Improved land and water management is a key ingredient to reducing soil erosion, sedimentation, and non-point source pollution, while enhancing water quality.

3. Due to Kenya's demonstrable vulnerability to climate variability and change, the way land is utilized increasingly determines the way households/communities in any given catchment are able to withstand climate-induced hazards, such as floods, droughts, and landslides. Thus SLM is not only critical for promoting food security, but also for enhancing community resilience to climate change shocks. Indeed, various SLM practices reduce vulnerability to climate change by improving agronomic yields under adverse conditions, enhancing water retention and soil quality, and increasing farm income. But such practices also provide climate change mitigation co-benefits by sequestering carbon and reducing emissions of other greenhouse gases (GHGs) from agro-ecosystems in the targeted counties.

4. Such dual-impact practices include: use of complex crop rotations, such as leguminous cover crops and agroforestry systems, perennial tree crops, and deep-rooted crops; water harvesting and recycling; and restoration of degraded soils. The selection of practices to promote would be informed by the fact that SLM practices that enhance livelihoods and reduce poverty may have a higher chance of being widely adopted. Thus the introduction of cash crops (such as fruit trees) can be an important incentive to scale up good practices in SLM. Even if a particular practice is profitable, producers may be unable or unwilling to adopt it because of particular constraints, such as lack of credit or inputs or access to markets. Removal of such barriers through project interventions may allow wide-scale adoption (i.e., from farm to landscapes) of SLM practices, especially if they are profitable for producers. For practices such as agroforestry to be widely adopted, farmers will need help to bridge the period between when trees are planted, mature, and generate benefits; this help could be in the form of financing for livestock micro-projects (e.g., poultry, piggeries, dairy goats and cows, and rabbits) that not only generate short-term benefits but also produce manure that enriches the soil, thus increasing crop productivity. Large landscape rehabilitation and restoration measures, such as terracing and tree planting, will need to be combined with planting of short-term crops like Napier grass to yield quick benefits to farmers/communities (fodder/forage for own use or sale) while helping to stabilize soil and reduce erosion. Such landscape restoration measures also provide short-term employment for the poor and can be an essential component of the safety net available to communities.

Project Interventions

5. The proposed project will invest in SLM practices that increase agricultural productivity, while enhancing resilience to climate change in the targeted counties. To identify the most relevant SLM practices, the project will support counties and the respective

subcounties and wards of the targeted communities in the preparation of SLM strategies/plans for their respective areas. In close cooperation with water catchment authorities, counties will be assisted in conducting a catchment assessment and mapping exercise (under subcomponent 3.2) to identify risk areas with poor land and water management practices and possible solutions. The catchment assessment and mapping will assist: (i) in identifying county-level investments in improved land and water management under subcomponent 3.2; (ii) by guiding POs in providing the needed support to farming communities in selecting and developing more SLM practices under subcomponent 2.2; and (iii) targeted communities, during their PICD process (under subcomponent 1.1), to identify SLM initiatives as part of their selected micro-projects under subcomponent 1.2.

6. Depending on where the county is situated in the water catchment and the types of agro-ecological zones in the county, SLM practices will be focused more on soil and water conservation, water harvesting, improved water use, and/or selection of more suitable crops and varieties. In upstream water catchment areas, SLM initiatives will include, among others, tree planting, intensified on-farm afforestation, agroforestry, and terracing and soil conservation practices in erosion hotspots (such as steep slopes, water springs, gullies, areas affected by landslides, deforested areas, and degraded lands). Lower in the water catchment, in drier areas, SLM initiatives will include water harvesting practices (rainwater, earth dams), water conservation practices (mulch, cover crops, organic manure, reforestation, drip irrigation, greenhouse farming), use of early maturing, more drought-resistant crops/varieties, and/or planting of fodder crops and (fruit) trees. Especially in the drier areas, salinization of soils is becoming a serious problem. In areas where hardpans prevent percolation of water to deeper layers, incorporating deep rooting crops (such as sunflower or cotton) in crop rotations could be a solution.

7. SLM practices are knowledge-intensive, and promoting their adoption will require targeted capacity building and training of smallholder farmers. This training will not only enhance the local knowledge base of land and water management practices but will reduce barriers to the adoption of promoted practices. Therefore, the project will support a range of capacity-building activities, include short-term training activities focused on specific SLM practices, as well as more intensive, season-long agro-pastoralist farmer field school (FFS) and conservation agriculture farmer field school (CAFFS) approaches.

8. Building community-based early warning systems and resilience to floods and droughts is a critical aspect of reducing vulnerabilities of targeted communities. NARIGP will invest in providing producers with: (i) improved weather forecasting (e.g., installation of all-weather systems to collect data where gaps exist in the catchments) and (ii) improved access (e.g., through mobile phones, community radio) to relevant weather information to reduce production variability and losses, while enhancing community responses to recurring climate hazards. In addition, in a further effort to share risk and reduce vulnerability, NARIGP will help to link producers to take advantage of the various existing weather-indexed crop and livestock insurance and micro-insurance schemes in Kenya (e.g., Cooperative Insurance Company's - CIC Insurance Group, Kenya Orient Insurance, Heritage Insurance Company, UAP Insurance Company's *Kilimo Salama*), which cover drought, excess rain, floods, hail damage, frost damage, and uncontrollable pests and diseases.

Annex 9: Greenhouse Gas Accounting Analysis

KENYA: National Agricultural and Rural Inclusive Growth Project

Agriculture and Climate Change in Kenya

1. **Agriculture is the largest source of greenhouse gas (GHG) emissions in Kenya.** The sector contributes about 58.6 percent of total GHG emissions, followed by energy (25.3 percent), industry (3.2 percent), and waste management (1.2 percent).⁹⁶ The agricultural sector is also a key driver of deforestation and land degradation, which account for an additional 17 percent of emissions.⁹⁷ Within the agricultural sector, livestock methane emissions account for about 96.2 percent of agricultural emissions.⁹⁸ Enteric fermentation is suggested to be the major source of emission (Figure A9.1).

2. A reference scenario for the growth of GHG emissions from agriculture was calculated based on Tier 1 emission factors of the Intergovernmental Panel on Climate Change (IPCC) and an assumption of a “business as usual” scenario. GHG emissions from agriculture are expected to grow from 20 MtCO₂-eq to 27 MtCO₂-eq in 2030, representing an annual growth rate of 1.6 percent.

3. **Climate change concerns are reflected in national policy.** While Kenya’s top agricultural sector priority is to increase adaptation and farmers’ resilience to climate-change impacts, the need to mitigate GHG emissions is broadly acknowledged, and strategies for low-emission development have been developed. In 2010, Kenya developed the National Climate Change Response Strategy (NCCRS), implemented through the National Climate Change Action Plan 2013-2017 (NCCAP 2013). The NCCAP identifies six priority actions for a low-emission and climate-resilient development pathway, of which four relate to agriculture: (i) climate-smart agriculture (CSA)⁹⁹ and agroforestry; (ii) restoration of forests and degraded lands; (iii) improved water resources management; and (iv) clean energy solutions—geothermal power generation and infrastructure. The NCCAP considered the development of Nationally Appropriate Mitigation Actions (NAMAs) for priority sectors. The development of the NAMA framework is still in the pipeline.

4. **In July 2015, Kenya declared its Intended Nationally Determined Contribution (INDC)** to the United Nations Framework Convention on Climate Change (UNFCCC). By 2030, Kenya seeks to abate its total GHG emissions by 30 percent relative to the business as usual scenario of 143 MtCO₂-eq. To achieve this goal, Kenya estimates that approximately US\$40 billion is required to finance mitigation and adaptation measures across all sectors.¹⁰⁰

⁹⁶ WRI (World Resources Institute) (2014): CAIT: Country Greenhouse Gas Emissions Data (<http://www.wri.org/resources/data-sets/cait-country-greenhouse-gas-emissions-data/>).

⁹⁷ Government of Kenya (2012): “The National Climate Change Action Plan (NCCAP), 2013–2017,” Ministry of Environment and Natural Resources (MENR), Nairobi.

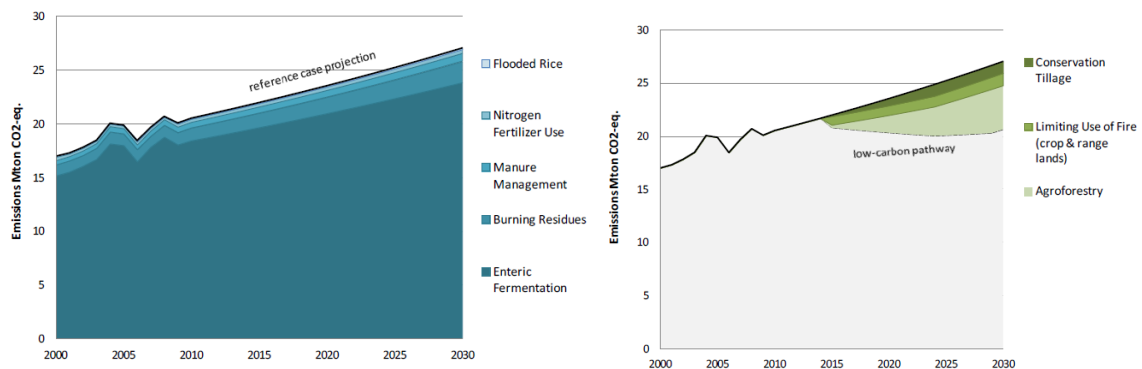
⁹⁸ Osumba J, Rioux J (2014): “Scoping study of climate-smart agriculture in Kenya. Smallholder integrated crop-livestock farming systems,” Food and Agriculture Organization (FAO), Rome.

⁹⁹ During the first national adaptation planning meeting for the agricultural sector in September 2013, a national vision for CSA was stressed. This vision included, among other things, activities related to improved water management, such as water harvesting and storage, and efficient use for livestock, SLM practices, and the introduction of improved technologies for livestock and fisheries. See CCAFS (2014): “Evidence and policy implications of Climate-Smart Agriculture in Kenya,” Working paper No. 90 (<http://ccafs.cgiar.org/blog/tackling-climate-change-kenya-holds-first-national-adaptation-planning-meeting-agriculture>).

¹⁰⁰ MENR (Ministry of Environment and Natural Resources) (2015): “Intended Nationally Determined Contributions (INDC),” UNFCCC ([www4.unfccc.int/submissions/INDC/Published%20Documents?Kenya?1?kenya_INDC_20150723.pdf](http://www4.unfccc.int/submissions/INDC/Published%20Documents/Kenya/1?kenya_INDC_20150723.pdf); accessed October 2015).

5. **Agriculture has GHG mitigation potential.** Research and expert consultation identified three practices with considerable mitigation potential and low implementation barriers:¹⁰¹ (i) agroforestry, a priority low-carbon development option in the agricultural sector, has the largest abatement potential; (ii) conservation agriculture (CA) was found to have important benefits; and (iii) limiting the use of fire in rangeland management in the ASALs also has potential.¹⁰² To refine the estimates associated with the projections shown in Figure A9.1, the NCCAP (2012) calls for gathering and improving data and information on GHG emissions and sinks in the agricultural sector, as well as for developing emissions factors specific to Kenyan agriculture, particularly for crucial issues such as livestock enteric fermentation.

Figure A9.1: Reference Case, Business-As-Usual (Left), and Mitigation Scenario (Based on implementation of agroforestry, conservation tillage, and limited use of fire)



Source: National Climate Change Action Plan. Mitigation Chapter 3: Agriculture, 2012: 6 and 12.

6. **Kenya is host to a variety of innovative land-based carbon projects.** A prominent example is the Kenya Agriculture Carbon Project (KACP) in Kisumu and Kitale Counties, launched in 2007. Funded by the World Bank and Swedish International Development Cooperation Agency, KACP covered an area of approximately 45,000 ha and supported 60,000 smallholder farmers. The project was closely accompanied by Vi-Agroforestry and aimed at implementing SLM practices, such as direct mulching and use of cover crops, no burning of residues, use of raw manure, no tilling, terracing, and use of inorganic fertilizer and improved varieties. While increasing agricultural productivity and resilience, farmers also earned carbon credits through the voluntary carbon market, following Verified Carbon Standards (VCS). The VCS approved the new Sustainable Agricultural Land Management (SALM) methodology, the first methodology for soil carbon sequestration from agricultural activities. The carbon benefits were estimated at around 2 MtCO₂-eq.

GHG Emissions Accounting in World Bank Projects

Background and Methodology

7. **Motivation.** In its Environment Strategy (2012), the World Bank adopted a corporate mandate to conduct GHG emissions accounting for investment lending (now Investment

¹⁰¹ See http://www.kccap.info/index.php?option=com_phocadownload&view=category&id=36 (accessed January 2016).

¹⁰² The calculations found that if agroforestry was implemented over 281,000 ha between 2015 and 2030, it would abate 0.28 MtCO₂-eq in 2015, rising to 4.1 MtCO₂-eq in 2030. Implementing conservation tillage practices across 475,000 ha between 2015 and 2025 would abate 0.1 MtCO₂-eq in 2015, rising to 1.1 MtCO₂-eq by 2030. Preventing 60 percent of current rangeland burning would abate 0.16 MtCO₂-eq in 2015, falling to 0.15 MtCO₂-eq in 2030. Preventing 60 percent of cropland burning would abate 0.65 MtCO₂-eq in 2015, rising to 1.0 MtCO₂-eq in 2030; see “National Climate Change Action Plan: Mitigation” (2012:13): Chapter 3, Agriculture.

Project Financing, IPF). The quantification of GHG emissions is an important step in managing and ultimately reducing emissions, as it provides an understanding of a project's GHG mitigation potential and can support sectoral strategies toward low-carbon development, as envisioned in Kenya.

8. **Accounting methodology.** To estimate the impact of agricultural IPF on GHG emissions and carbon sequestration, the World Bank adopted the Ex-Ante Carbon-Balance Tool (EX-ACT), developed by FAO in 2010.¹⁰³ EX-ACT is a land-based appraisal system that assesses a project's net carbon balance.¹⁰⁴ EX-ACT captures project activities in five modules: land use change, crop production, livestock and grassland, land degradation, and inputs and investment.

Scenario development for the analysis

9. **Demand-driven project activities.** NARIGP supports the introduction of climate-smart agriculture (CSA) and sustainable land management (SLM) practices in Component 1 and Component 3. While Component 1 focuses on on-farm activities to be implemented by farmers, Component 3 supports landscape-wide SLM practices implemented by county governments. The envisioned activities may have a significant potential to mitigate GHG emissions and increase carbon sequestration and hence impact the project's net carbon balance. However, the activities are not pre-determined, but rather driven by the demand of communities and counties, such that at project preparation stage, the type and extent of activities are not clear. The subsequent net carbon balance analysis thus relies on informed scenarios.

10. **Scenario analysis for selected counties.** EX-ACT and the validity of its results crucially rely on precise estimates of land area under production, number of livestock, and type and extent of on-farm interventions. Due to NARIGP's CDD nature, these values will only be known during implementation. Therefore, this analysis develops three scenarios to exemplify the mitigation potential of specific interventions:

- Component 1: Potential on-farm interventions in Kilifi County (Coast)
- Component 1: Potential on-farm interventions in Nakuru County (Rift Valley)
- Component 3: Potential SLM interventions at landscape level in Kitui County (Eastern Kenya)

11. The scenario design and selection of interventions is informed by: (i) the household baseline survey report (2014) for the ASDSP and (ii) CIDPs and county priority value chains (VCs) as identified through the ASDSP.

12. **Potential number of beneficiaries and target area.** It is assumed that in each county, 4 POs will be supported, each with 100 common interest groups (CIGs) as members. Further, each CIG will have up to 30 members. As a result, NARIGP will have approximately 12,000 beneficiaries engaged in SLM and VC development activities per county. At least 70 percent of beneficiaries (8,400 beneficiaries) are expected to adopt improved practices. Each PO will cover at least 2 wards, resulting in 8 participating wards per county. It is assumed that the priority VCs demonstrate an enhanced income-generating potential and are chosen by a third of the beneficiaries in the county. With an average farm size/pasture land of 0.5 ha and two dairy cows, the total area that may fall under CSA and SLM practices is 3,400 ha per county, or 425 ha per ward. Assuming that a third of the county population holds livestock,

¹⁰³ See <http://www.fao.org/tc/exact/ex-act-home/en/>.

¹⁰⁴ The net balance of tons of CO₂ equivalent (tCO₂-eq) GHGs emitted or carbon sequestered as a result of project implementation compared to a "without project" scenario.

there would be 5,600 head of livestock per county, or 700 head per ward. For interventions at the landscape level in Component 3, a percentage share of 2.5 percent of total agricultural land is assumed as the target area.

13. **Potential intervention – Farm level, Kilifi County.** The priority VCs for Kilifi (Coast) are cassava, chili, and local vegetables. The ASDSP household survey found that productivity of annual crops was very low, with maize, cowpeas, and beans having yields below 0.2 t/acre. Many households (71 percent) practiced SLM interventions, such as intercropping (61 percent), cover cropping (32 percent), crop rotation (29 percent), and minimum tillage (17 percent), often as an adaptation to perceived long-term environmental and climate changes. For grains, about 70 percent of households used local seed, while for vegetables about 30 percent of households used improved seed. In general, input use in Kilifi is very low. With the exception of field pesticides (31 percent) and manure (16 percent), which had relatively high adoption rates, other management practices, such as the use of basal or top dressing fertilizer, foliar feeding, and irrigation had lower adoption rates (less than 10 percent). Agroforestry was practiced by 30 percent of households—mainly shade trees, windbreaks, and alley cropping.

14. This analysis assumes that CIGs in two wards (i.e., farming 850 ha) will be interested in adopting improved nutrient management and varieties (improved agronomic practices) to increase productivity on land that was cultivated using conventional practices.

15. **Potential interventions – Farm level, Nakuru County.** The priority VCs in Nakuru County (Rift Valley) are dairy, pyrethrum, and aquaculture. The ASDSP household survey reported that 47 percent of households had access to agricultural technologies for crops, and 22 percent for livestock. About 79 percent of survey respondents had noticed long-term environmental changes, such as changes in temperature and rainfall patterns, reduction of water volume in rivers, and soil degradation. Agricultural adaptation practices, such as tree planting (42 percent), water harvesting (42 percent), increased soil and water conservation (34 percent), and crop rotation (30 percent) were used. In livestock production, the respondents changed livestock type (15 percent) and feed conservation practices (13 percent). In livestock production, input use is low, mainly due to high prices. Distance to markets, lack of access to inputs in the right packaging/dosage, and unavailability of inputs were other constraints. Currently, only 5 percent of households practice silvo-pastoral management.

16. The analysis assumed that CIGs in two wards, covering approximately 1,400 head of livestock, will focus on improving livestock productivity and resilience to climate change via improving the quality of livestock breeds, using artificial insemination services, and improving animal health through vaccination and tick control. In addition, the quality and quantity of pastures should improve through training on pasture and fodder management techniques and application of organic manure or soil conservation to decrease degradation and soil erosion. It is thus assumed that with the project the number of improved livestock breeds will increase by 20 percent, to 1,680 head, feeding practices will be improved for the entire herd, and 850 ha of pastureland will be improved with inputs (Table A9.1).

17. **Potential intervention – Landscape level, Kitui County.** The Kitui County CIDP for 2013-2017 lays out a comprehensive strategy to improve the sector's performance. The main crops produced are cereals, followed by legumes and root crops. About 498,860 ha are under food production and 706 ha under cash crops. The CIDP aims at increasing crop production and productivity by promoting SLM practices (among other interventions); thus agroforestry is increasingly gaining importance. Kitui has relatively poor soils that need to be improved to increase agricultural productivity. Intercropping of trees and crops has been identified as a critical activity. The types of trees selected for intercropping should preferably:

(i) raise soil fertility and conserve soil moisture; (ii) bring deeper soil nutrients to the soil surface; and (iii) provide fodder to livestock. For instance, mango production plays an important role in increasing household income and is expanding rapidly, particularly with newly introduced species. In addition, the CIDP encourages farmers to practice regenerative agriculture and practices such as no tillage, residue mulching, planting of cover trees, and rotation of crops. Kitui County is also known to have a large number of livestock. Water scarcity and disease outbreaks are the major challenges to livestock production. The livestock sector is largely dominated by local breeds with low productivity. Environmental degradation through overstocking and inappropriate farming systems also depletes the potential of rangelands for livestock holding.

18. It is assumed that project activities will be implemented in about 2.5 percent of the existing agricultural production area of 999,800 ha in Kitui County. Thus SLM practices will be implemented in about 25,000 ha classified as degraded. About 50 percent of this area will be under agroforestry; the remaining 50 percent will be under improved agronomic practices, which include improved varieties or intercropping, and no tillage practices. To improve rangelands, training will be provided to farmers on pasture and fodder management (Table A9.1).

Table A9.1: Description of Three Potential Project Scenarios for EX-ACT Modules

Project Activities/ EX-ACT Module	Current Situation	“Without project” scenario	“With project” scenario
Component 1 – On-farm interventions in Kilifi			
Crop production	850 ha under local varieties, no input use	850 ha under local varieties, no input use	850 ha under improved agronomic practices and improved nutrient management
Input use	No synthetic fertilizer	No synthetic fertilizer	336 t of fertilizer use for 5 years (80 kg/ha/year)
Component 1 – On-farm interventions in Nakuru			
Livestock	1,400 dairy cattle, local breeds, low access to services	1,400 dairy cattle, local breeds, low access to services	280 improved breeds and improved feeding practices for 1,680 head
Grassland and degradation	850 ha moderately degraded pasture land	850 ha severely degraded pasture land	850 ha pastureland improved with inputs
Component 3 – Landscape-level intervention in Kitui			
Land use change	12,500 ha degraded cropland, soil erosion, low productivity	12,500 ha degraded cropland, soil erosion, low productivity	12,500 ha agroforestry
Crop production	6,250 ha degraded cropland, soil erosion, low productivity	6,250 ha degraded cropland, soil erosion, low productivity	6,250 ha under no tillage, intercropping
Grassland and degradation	6,250 ha moderately degraded pastureland	6,250 ha moderately degraded pastureland	6,250 ha improved without inputs

Analysis in EX-ACT Modules

19. **Basic assumption.** The areas under assessment have a tropical dry climate and moisture regimes; the soil type is largely High Activity Clay Soil. The project duration is 5 years and the capitalization period assumed to be 15 years. Dynamics of implementation are linear over the project period. Default Tier 1 coefficients are used. Table A9.1 provides information on scenarios and values entered into the respective EX-ACT modules.

Results – Net Carbon Balance

20. **Total net carbon balance.** Data summarized in Table A9.1 were entered in the EX-ACT modules to estimate the net carbon balance for the “with” and “without” project scenarios. The results in Table A9.2 clearly show the tremendous mitigation potential: -2,380,387 tCO₂-eq emission over 20 years on a relatively small target area of about 26,700 ha, which results on average in about -4.5 tCO₂-eq per ha/year.

21. **Net carbon balance by activity.** The example of large-scale introduction of agroforestry in Kitui would contribute about 83 percent to the project’s net carbon sink, which is -1,968,083 tCO₂-eq total or - 8 tCO₂-eq/ha/year. Improving grassland, largely without inputs (as in Kitui), and avoiding severe degradation generates a large carbon sink of about 17 percent of the total balance, or -2.9 tCO₂-eq/ha/year. Improving crop management has the potential to provide a net carbon sink of - 0.3 tCO₂-eq/ha/year, and contributes 2 percent to the total net carbon balance. Two activities—livestock and fertilizer production—constitute a source of emissions of 0.2 tCO₂-eq/head/year and 0.2 tCO₂-eq/ha/year, respectively. Even if livestock management and breeding are improved, the increase in livestock numbers outweighs the potentially positive effect, likely leading to a net increase in the carbon balance. Increased absolute emissions may lead to an increase in emission intensity. But an increase in productivity per dairy cow due to improved breeds and management would still constitute a desirable outcome, as incremental benefits will partially offset the costs of GHG emissions.

Table A9.2: Results of the Scenario Analysis (in tCO₂-eq)

	Results for 20 years				Results per year			
	Without project	With project	Balance	Per hectare (head)	Without project	With project	Balance	Per hectare (head)
Agroforestry (Kitui)	0	-1,968,083	-1,968,083	-157.4	0	-98,404	-98,404	-7.9
Improved crop production (Kilifi and Kitui)	0	-40,408	-40,408	-5.7	0	-2,020	-2,020	-0.3
Grassland (Nakuru)	225,058	-186,345	-411,403	-57.9	11,253	-9,317	-20,570	-2.9
Livestock (Nakuru)	39,141	45,645	6,504	3.9	1,957	2,282	325	0.2
Inputs and investments (Kilifi)		33,003	33,003	4.6	0	1,650	1,650	0.2
Total	264,199	-2,116,188	-2,380,387		13,210	-105,809	-119,019	
Per hectare	10	-79	-89					
Per hectare per year	0.49	-3.96	-4.46		0.49	-3.96	-4.46	

22. **Conclusion.** This scenario-based analysis shows that NARIGP’s focus on promoting SLM and CSA practices has tremendous potential to mitigate GHG emissions and enhance carbon sequestration. The results indicate the type of SLM and CSA interventions that are most effective in supporting Kenya’s efforts in reaching its INDC mitigation goals. The results support the NCCAP’s conclusion that agroforestry has the largest mitigation potential, with nearly -8 tCO₂-eq per ha per year. Reducing and avoiding land degradation has the potential to reduce about -3 tCO₂-eq/ha/year. While improving agronomic practices, nutrient management and no tillage have a relatively small mitigation potential of about -0.3 tCO₂-eq/ha/year.

Annex 10: Overview of Small-Scale Irrigation in Kenya

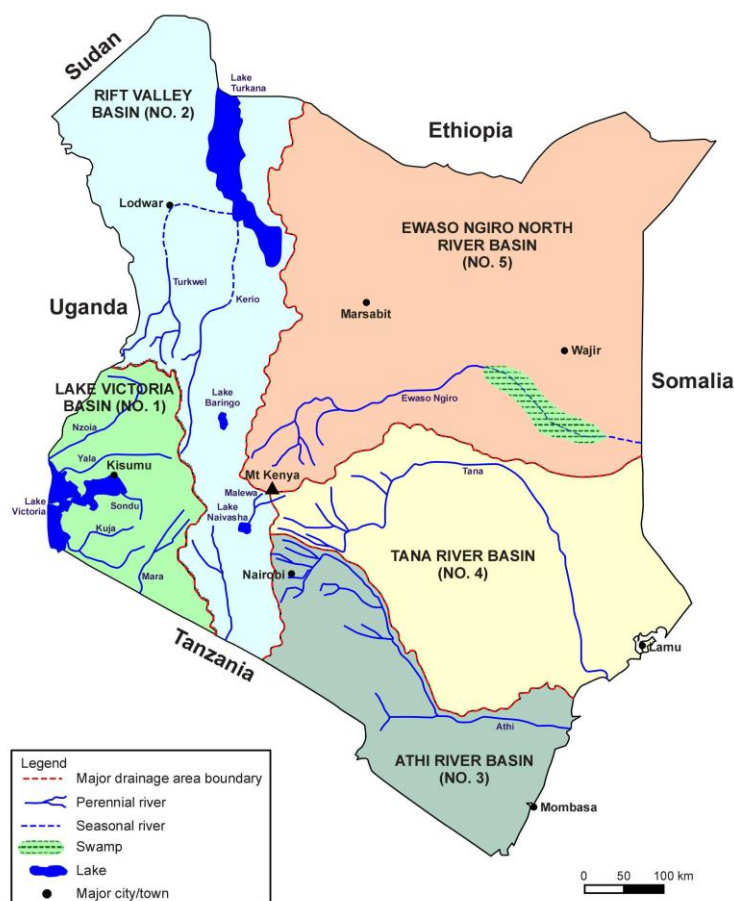
KENYA: National Agricultural and Rural Inclusive Growth Project

1. Kenya's irrigation potential is estimated at 539,000 ha based on surface water and another 800,000 ha if groundwater and water harvesting are taken into account. As of 2008, only 119,200 ha had been irrigated, however. Kenya's water resources are mainly derived from an average annual rainfall of 567 mm. Per capita water availability in Kenya is currently estimated at 647 m³ per year but is expected to fall to 235 m³ by 2025 due to population increases, depletion of the water resource, and lack of adequate storage capacity.¹⁰⁵ Kenya is thus classified as a chronically water-scarce country.
2. Despite receiving low rainfall, Kenya relies mainly on intermittent and unreliable rainfed agriculture for production. Water stored in Kenya's large dams is underutilized because it is mostly used for hydropower generation and urban water supplies. The water abstraction rate for all uses (i.e., percentage of all available water withdrawn) stands at 5.5 percent; of this, surface water constitutes 84.7 percent, the rest being underground (Vision 2030). Irrigation, the largest consumer of water (75 percent of withdrawals are imputed to irrigated agriculture), was not considered in the development of the existing reservoirs, partly due to inadequate integration of multipurpose use of water storage infrastructure and partly to an inadequacy in policy provisions. The result has been major insecurity in terms of water and food availability.
3. According to a draft Irrigation and Drainage Master Plan (2009), the country receives 358 billion cubic meters (BCM) of water in the form of rainfall, which is unreliable and poorly distributed, with 20 percent of the area in Kenya accounting for 40 percent of the streamflow. Surface water and groundwater account for 24.6 BCM and 0.65 BCM, respectively. The annual runoff coefficient of different sub-basins varies from 2 percent to 35 percent. The naturalized sub-basin outflow is estimated to add up to 24.6 BCM. Only 5.4 percent and 9.4 percent of the country's surface and groundwater resources, respectively, are utilized, indicating the need to harness their huge potential.
4. Water storage potential is largely untapped, which constrains the utilization of surface runoff for irrigation and compounds the hazard of flooding. Out of the estimated water resources, approximately 12.4 BCM of surface water and 0.2 BCM of groundwater can be allocated for irrigation use. This implies that about 12.2 BCM of surface runoff drains into the Indian Ocean and Lake Victoria. The above-mentioned groundwater potential does not take into account the yet to be confirmed groundwater resource of Turkana County.
5. Kenya is divided into five major river basins: (i) Lake Victoria; (ii) Rift Valley; (iii) Athi; (iv) Tana; and (v) Ewaso Ng'iro (Figure A10.1). The groundwater resource extraction in Athi River Basin, which includes the two highly populated cities in the country (Nairobi and Mombasa) and counties in the coastal areas suffering from saline intrusion, reached about 70 percent by 2001 (JICA Report). Unless justified by site-specific conditions, any plan for irrigation development in Athi River Basin may need to focus on surface water development. The current groundwater extraction rates in Ewaso Ng'iro Basin (mainly for pastoral activities in northeastern Kenya) are very low. But unless justified by site-specific situations, promoting the use of its groundwater resources to meet the huge demand for irrigation water may not be advisable given the small recharge rates (as low as 2 mm/year).

¹⁰⁵ National Water Master Plan, 1992; MWI Reports, 2008.

Nevertheless, in addition to the challenges of encroachment by other uses and users,¹⁰⁶ mainly livestock, developing surface reservoirs requires thorough consideration of design to address siltation hazards due to degraded upstream watersheds and the high rate of evaporation. Given the relatively better endowment of natural resources in the counties within the remaining river basins (Lake Victoria, Rift Valley, and Tana River), however, both surface and groundwater could be considered (as appropriate)¹⁰⁷ as a source of water for irrigation.

Figure A10.1: Major River Basins in Kenya



6. Water storage infrastructure is relatively underdeveloped and poorly distributed in Kenya, as shown in Figure A10.2. The major reservoirs include Masinga and Turkwel, which are mainly for hydropower generation. Small dams have been constructed in many parts of the country, including in coastal counties.

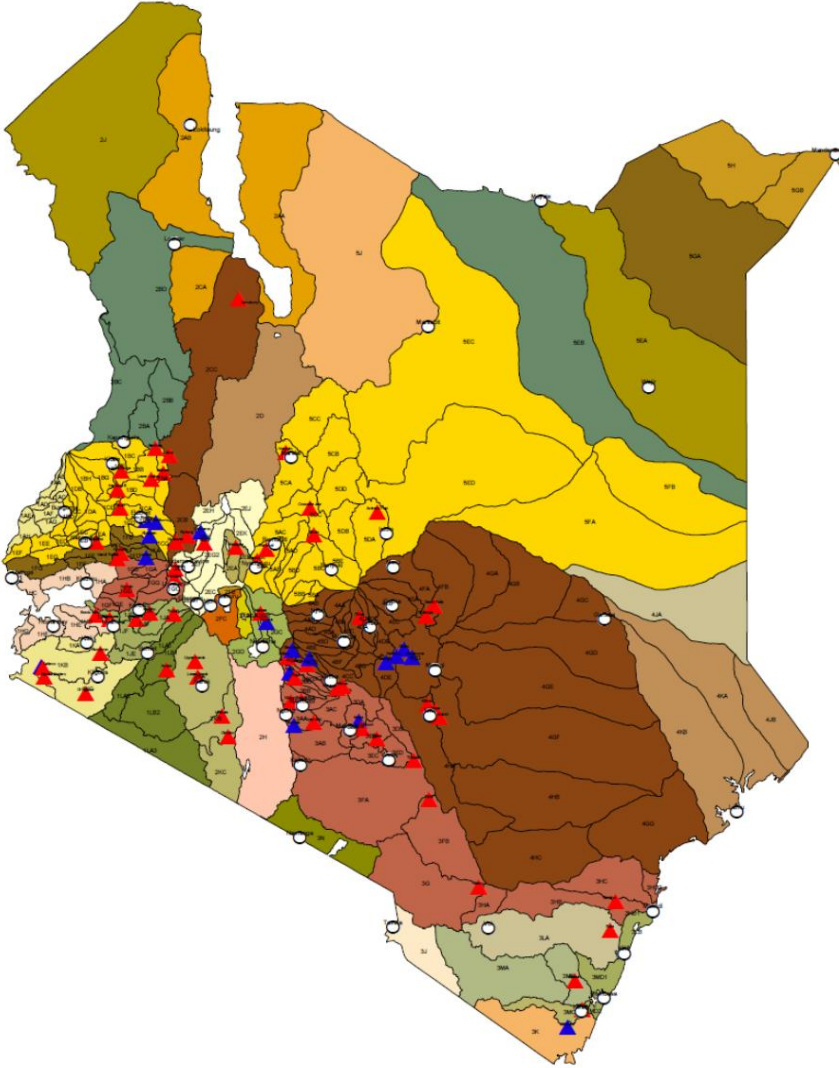
7. According to the draft National Irrigation Policy (NIP 2015), Kenya's irrigation subsector falls into two categories: publicly owned and privately owned by either a private sector entity or a community. Publicly owned irrigation schemes have been developed by public institutions on government-owned land. Collectively, they occupy 24,240 ha (18 percent of Kenya's irrigated area), with individual scheme areas ranging from 800 ha to over 12,000 ha. Public schemes are generally managed by the public sector (e.g., National

¹⁰⁶ Construction of a large storage dam in pastoral/agro-pastoral areas, even though intended for irrigation, may attract large livestock populations for a period longer than what can be provided in terms of biomass to sustainably feed them, and hence may lead to major environmental degradation.

¹⁰⁷ Given the huge volume of water required for irrigation, use of groundwater for irrigation requires careful studies, among others, regarding its quantity and quality, as well its recharge potential to avoid the risk of over-extraction.

Irrigation Board (NIB), regional development authorities, National Youth Service, etc.), sometimes in association with farmers’ organizations such as IWUAs (Irrigation Water Users’ Associations) through irrigation management transfer programs. Schemes Listed by the National Irrigation Board are presented in Table A10.1.

Figure A10.2: Distribution of Existing (blue) and Proposed (red) Dams



8. Community-based smallholder irrigation schemes belong to individuals or groups of farmers who share a common irrigation system and operate as IWUAs, cooperatives, or self-help groups. About 3,600 smallholder irrigation schemes cover 57,760 ha, employing over 2 million people. They produce the bulk of horticultural produce consumed in Kenya and appreciable amounts of export crops, staple grains, and tubers. These schemes have been developed with the support of GoK and its development partners (DPs), as well as NGOs.

9. Private commercial farms cover 53,000 ha and account for 40 percent of irrigated land. Most of them utilize high levels of technology and produce high-value crops for the local and export market, especially flowers and vegetables. These farms employ a workforce of about 82,500 people.

Table A10.1: Schemes Listed by the National Irrigation Board

County	Scheme Name
Embu	Kagaari- Gaturi Irrigation Scheme, Gachoka Clusters (greenhouses), Thuci Dam
Kitui	Usueni/ Wikithuki Irrigation Project, Kalundu Irrigation Project (Kitui clusters), Ngomano Irrigation Project, Kavisuni Irrigation Project, Wingo Irrigation Project, Mandalwa Irrigation Project, Thua Model Farm
Machakos	Mutuyu Irrigation Project, Kondo Irrigation Project, Kamuthambya Irrigation Project, Kalama Clusters (Lumbwa water pan), Kayatta Irrigation Project, Kwa Kiluli Irrigation Project, Kivaa Irrigation Project
Makueni	Kwa Majee Irrigation Project, Kyeni Kya Musyi/ Kakuswi Irrigation Project, Iviani Irrigation Project, Kambi ya mawe Irrigation project, Kauti clusters, Kiboko Irrigation Project, Mukuku Irrigation Project, Kwa Miui Dam
Meru	Mitunguu Irrigation Project, Kimachia Irrigation Project, Marega Irrigation Project Iraru Irrigation Project, Thware Karethani Irrigation Project, Kunati Irrigation Project, Ugoti Marega Irrigation Project, Mwithaga Irrigation Development Project
Tharaka-Nithi	Muringa Banana Irrigation Scheme, Rwatha Karethani Irrigation Project
Kilifi	None listed on the NIB website
Kwale	Mwache Irrigation Development Project, Kinango water harvesting (Mabesheni)
Kiambu	Rwambura Irrigation Project, Kamuka Irrigation Project
Kirinyaga	Mwea Irrigation Development Project (Thiba Dam), Kii/Njoga Irrigation Project, Kiangai/Ngando Irrigation Project
Muran'ga	Mirichu-Murika irrigation Project, Nyanjigi Irrigation Project
Nakuru	Ihindu irrigation project
Narok	Naroosura Dam
Bungoma	None listed on the NIB website
Kakamega	None listed on the NIB website
Nandi	Keben Dam, Meteitei irrigation projects
Trans Nzoia	None listed on the NIB website
Kisii	None listed on the NIB website
Migori	Lower Kuja Irrigation Project
Nyamira	None listed on the NIB website

10. The draft NIP reports that governance and management of public schemes are often weak, with poor recurring cost recovery and political interference being cited as reasons for poor O&M and unnecessarily low physical water use efficiencies. Typical publicly promoted community-based smallholder schemes suffer from poor farmer mobilization and participation, weak users' organizations, poor governance, resources that are often insufficient for scheme finalization, poor recurring cost recovery, inadequate legal and regulatory frameworks and limited support from the government and other service providers.

11. Despite this backdrop, privately owned schemes do employ modern and efficient irrigation technology, with high levels of value addition and a specific market orientation. The combination of size, financing arrangements, capacity building, and value addition assumptions for the kind of scheme anticipated under NARIGP is such that they will fall into this more successful category—i.e., small, privately owned schemes supplying value chains (VCs) in which farmers have some interest. Thus it is reasonable to assume that their

sustainability and productivity will be aligned more with the commercial sector than the public sector.¹⁰⁸

12. **Flagship projects under Vision 2030.** The overall objective of the Irrigation and Drainage Master Plan (2009) is to identify and map out Kenya’s irrigation and drainage potential and to formulate a plan to guide and facilitate quick development potential in line with Vision 2030. Vision 2030 recognizes the critical role that irrigation and drainage are expected to play and states that “to promote agricultural productivity, the area under irrigation and drainage will increase from 140,000 to 300,000 hectares.”

13. Although irrigation and drainage development is expected to contribute in the attainment of Vision 2030, many constraints could prevent Kenya from achieving its target of expanding irrigation and drainage to 300,000 ha. The main constraints are: (i) securing resources to develop an average of 32,000 ha of new irrigation and drainage and to rehabilitate 8,000 ha per year and (ii) low implementation capacity of the subsector. Given the multifaceted challenges faced by the irrigation and drainage subsector, a more modest rate of expansion is required. In addition, the priority in constructing storage facilities should be to first meet the increasing demand for domestic water supply, tourism, and industry, and then irrigation.

Irrigation and Infrastructure Development in CIDPs of Participating NARIGP Counties

14. **Irrigation schemes:** CIDPs describe a wide range of opportunities, from the rehabilitation, upgrade, or construction of large public schemes covering several thousand hectares on which staple foods would be produced, down to micro-schemes serving no more than around 20 households with drip irrigation on plots sometimes as small as 400 m². In some cases, reference is made to urban and peri-urban irrigation of high-value horticulture for which such small plot sizes would make some sense. Although in some cases the scale of irrigation expansion proposed is considerably in excess of the budgets available under NARIGP—especially given its multi-purpose concept—small, locally manageable schemes involving water-saving technologies to produce high-value crops for urban markets or value addition would be highly appropriate for the project. That said, it is somewhat surprising that in some cases, even small schemes with small plot sizes are proposed for primary food production. As such, they would be of questionable benefit, at least in terms of “inclusive growth,” and hence would be unlikely to qualify for support under the project—especially if, as intended, the schemes are debt financed. Water sources for irrigation schemes range from large dams, river/stream diversion, groundwater, subsurface/sand dams, and small water harvesting installations. Although the project will encourage gravity systems as much as possible, the use of pumped water could also be justified. The average investment cost required to develop one hectare is assumed to be US\$6,500 for both small-scale and large-scale irrigation schemes.¹⁰⁹ Based on the available data on the costs of irrigation development, a regression analysis was carried out to determine indicative unit costs¹¹⁰ for different scheme sizes (hectares) as follows:

$$\begin{aligned} \text{Cost (US\$/ha)} &= 17.26 * \text{Area} + 844 && \text{for area less than 10 ha} \\ \text{Cost (US\$/ha)} &= 41.29 * \text{Area} + 711 && \text{for area between 10 and 60 ha} \\ \text{Cost (US\$/ha)} &= 95 * \text{Area} - 2827 && \text{for area between 60 and 180 ha} \end{aligned}$$

¹⁰⁸ As is the case with the irrigation schemes successfully operated by Swaziland’s “farmer businesses.”

¹⁰⁹ World Bank (2013): “Towards a Strategic Analysis of Water Resources Investment in Kenya.”

¹¹⁰ Draft Kenya Irrigation Master Plan (2009).

15. **Flood control:** The approaches proposed in the CIDPs include flood protection works (such as dykes to protect key flood-prone areas), removal of water from regularly flooded land, and storm water sewerage systems. Typical CIDPs also include watershed/watercourse rehabilitation strategies intended to prevent rapid erosive run-off and enhance groundwater recharge to increase the base flow to ensure a sustained supply of water to downstream areas where irrigation is needed during dry seasons. Measures intended to achieve this include terracing, contour plowing, and growing fruit trees, fuelwood, and other financially remunerative trees, some of which themselves represent significant potential value addition upstream of agricultural/irrigation areas.

16. **Roads and bridges:** The emphasis is largely on maintaining and upgrading existing infrastructure rather than extending rural roads for the “last mile,” although some CIDPs do include bridges. Where new roads or bridges are proposed, they seem to be predicated on increasing access for tourism or road transport, rather than for improving social connectivity.

17. **Agricultural storage facilities:** Most plans acknowledge the need to include proposals for various levels of storage. Such proposals include general community-level, non-specific stores; stores targeted at the outputs of specific greenhouse initiatives; and specialist facilities, such as cold stores for fish and the like.

18. **Market centers:** Although there are references to the underutilization of existing facilities, many CIDPs recognize the need to modernize existing markets, provide new state-of-the-art market centers, and improve producers’ access to them (although this is not articulated specifically in terms of the “last mile”). Some CIDPs also include specific proposals for building producers’ capacity with respect to market knowledge and readiness.

19. **Primary processing centers:** A wide range of possibilities can be found in the CIDPs. They could include fish processing centers; milk cooling and other milk processing facilities; and grading, packaging, ripening, and bulking centers for high-value crops for the fresh food market. Others concern processing and juicing plants, and even tanneries.

20. Other items included in CIDPs that would qualify for rural infrastructure support include the repair of cattle dips, the provision of small-scale greenhouse technology, fishponds, abattoirs, artificial insemination centers, and grid connections for small enterprises, such as coffee mills and milk cooling facilities.

Eligibility Criteria for Irrigation Financing Under NARIGP

21. Any irrigation scheme implemented with NARIGP support should be commercially oriented in terms of concept and organization, as well as being consistent with NARIGP’s inclusive growth agenda. This suggests the need for six eligibility criteria:

- (i) Demand for the scheme must originate from the community.
- (ii) The size should be no larger than can be implemented with minimal public assistance and operated entirely by farmers themselves.
- (iii) The scheme should supply a VC, ideally one owned entirely by farmers.
- (iv) The owners must agree to full capital¹¹¹ and recurring cost recovery.
- (v) The county must demonstrate its commitment for O&M of infrastructures traversing many communities.

¹¹¹ With the assistance of innovative financial support from subcomponent 2.4. It is understood that precedents for this kind of finance already exist in Kenya.

- (vi) Any financing must be conditional on the preparation by the owners of a sound business plan, which itself may require robust capacity building.

Assessment of County Capacities for Water Resource Management and Small-Scale Irrigation Development

22. County-level capacity for water resource management (including flood management) remains limited in terms of human resources, data (in some cases), geo-referencing, and finances. Despite these constraints, in most cases an adequate understanding exists of the issues at stake and a desire for capacity building. For instance, Kisumu County, which has a known flooding problem, has a county catastrophe and disaster management initiative. Although very preliminary at present, it already has financing of US\$1 million. The relationship between poor land use practices and hydrological problems, such as floods and droughts, and with soil erosion and sedimentation, are well understood. In some counties, governments are successfully engaging with communities with respect to community-based watershed rehabilitation activities. Also, good relationships with the national government were reported (in Vihiga County), especially with respect to the selection of contractors for work in the county water sector.

23. With respect to irrigation, however, relationships with the NIB are somewhat variable. Where counties have been dependent on national government funding for small irrigation schemes, incomplete schemes due to funding shortfalls and interruptions have led to disappointment. And even where there is general satisfaction with the NIB, there is an equally general wish for more independence, especially in counties (such as Kisumu) that would like to catalyze expansion of their irrigation sector.

24. That said, the kind of irrigation schemes intended for NARIGP will require a different kind of approach. Instead of designing, financing, and implementing public schemes, counties will instead be required to assist common interest groups (CIGs) and vulnerable and marginalized groups (VMGs) to prepare scheme proposals satisfying criteria i-v above, prepare business plans, and (with assistance from Component 2) avail themselves of financing with which to have their scheme designed and installed by commercial suppliers. This approach is already working well elsewhere in Kenya.¹¹²

25. Although this approach will require significant capacity building of county officials under Component 3, it will avoid the difficulties associated with the implementation of larger, traditional public irrigation schemes. There is also a capacity-building imperative in terms of irrigation water management, addressed below under the section on the irrigation scheme O&M manual.

Irrigation Water Users' Association Guidelines

26. Irrigators sharing a common irrigation system in Kenya are usually grouped together into formal and informal organizations, such as IWUAs, cooperatives, or self-help groups. These organizations operate at scheme level and play various roles, such as the development of irrigation infrastructure, O&M, irrigation water management, marketing of produce, and acquisition of inputs and credit. The major challenge with these farmers' organizations is their low capacity to undertake their respective mandates. Furthermore, the legal status of most of these organizations is a problem, despite legal requirements that they register with the relevant government institutions and observe legal instruments that have been developed

¹¹²This comment was based on conversations with the Deputy Governor of Elgeyo-Marakwet County during an international conference July 10-14, 2015.

to enforce accountability and transparency. Their roles and activities therefore need streamlining for the realization of their full potential in irrigation development.

27. The guidelines for establishing IWUAs are not cited in the draft NIP. Nonetheless, their need is acknowledged and operational expectations are included. These are more concerned with schemes that provide an irrigation service as a utility for individual members, however (see Box A10.1). But the approach intended for NARIGP irrigation schemes is predicated more on farmer businesses for which an irrigation facility will be jointly operated as a VC component rather than as a service to individual members. Accordingly, with limited exceptions, existing IWUA expectations will be of limited relevance to NARIGP irrigation schemes.

28. It will thus be necessary to draft specific guidelines under NARIGP that are more relevant to farmer businesses that own irrigation facilities among other VC assets. The guidelines should be rolled out on a platform of robust capacity building, in terms that include not only issues of scheme installation, commissioning, and O&M, but also: (i) possible institutional arrangements (cooperatives, limited companies, partnerships, etc.); (ii) the formulation of sound business plans; and (iii) the use of commercial credit and the responsibilities that it entails.

Irrigation Scheme Design and Installation

29. As already noted, the preferred approach to the implementation of small-scale irrigation schemes intended under NARIGP will be for equipment suppliers to design and install them. Nonetheless, consultant support to CIGs will be necessary for scheme specification, tendering, bid evaluation, installation supervision, and commissioning. Preparation of generic, and perhaps even specific, ToRs will be an essential component of the start-up phase of NARIGP. Therefore NARIGP will support county governments to undertake this aspect.

Environmental and Social Impact Assessment and Management Plans

30. The kind of scheme intended for NARIGP will not require resettlement. These schemes will be too small to require large water storage facilities if any, while any service requirements will be minor and largely situated on land occupied by the scheme's owners. For the same reasons, negative social impacts are unlikely to result from the schemes; any need to mitigate environmental risks associated with implementation will be very minor. Nonetheless, there will be environmental impacts in terms of water and agricultural chemical

Box A10.1: Expectations for Kenyan IWUAs

- Mobilize resources from members for the installation, maintenance, and sustainable management of their irrigation or drainage facilities.
- Organize and/or manage the O&M of the irrigation facility for maximum benefits to members.
- Facilitate access and ensure effective management of resources for sustainability of the irrigation scheme.
- Provide equitable access to irrigation water and drainage to members.
- Facilitate access to inputs, financial services, value addition, and marketing.
- Develop and promote group cohesiveness.
- Participate in the tendering/contracting process.
- Develop and enforce scheme bylaws and strategies to ensure participatory and representative decision making and management.
- Establish mechanisms for conflict resolution.
- Develop AWP&Bs based on actual needs, water acquisition, fees, and other charges for O&M.
- Build members' capacity.

Source: Draft National Irrigation Policy 2015.

use. Water use (in both irrigation and VCs) will be subject to the relevant national permit system in force, with any permits granted on the basis of how much water can be spared from the national system without compromising the interests of other users. The effects of agricultural run-off, as well as any pollution risks arising from processing along VCs, must also be identified and any threats mitigated. On the assumption that environmental impact assessments (EIAs), if required, will be undertaken by consultants, generic ToRs will have to be prepared during the start-up phase of NARIGP.

Irrigation Scheme O&M Manuals

31. Although O&M manuals will be needed for NARIGP irrigation schemes, given the nature of the schemes, the manuals will be simple documents that could be supplied by equipment suppliers as part of the sales contract. Even so, to be effective irrigators, scheme owners will need to know about more than just the O&M of their irrigation system. For the equipment to be used in the most productive and cost-effective manner, farmers must also be provided with information concerning irrigation scheduling and on-farm water management. This information is likely to be scheme-specific, meaning that suitable expertise should be available at the county level to work with producer groups. Capacity building for O&M should be incorporated into Components 2 and 3 and could comprise training in irrigation water management at a national institution for no more than two suitable qualified county officials per county.

32. In addition, farmers should know from the very onset of the project that they will be responsible for the O&M costs of community-level irrigation schemes. This information should be explained in an explicit and transparent manner.

Annex 11: ICT-based Agricultural Information Platform for M&E and Impact Evaluation

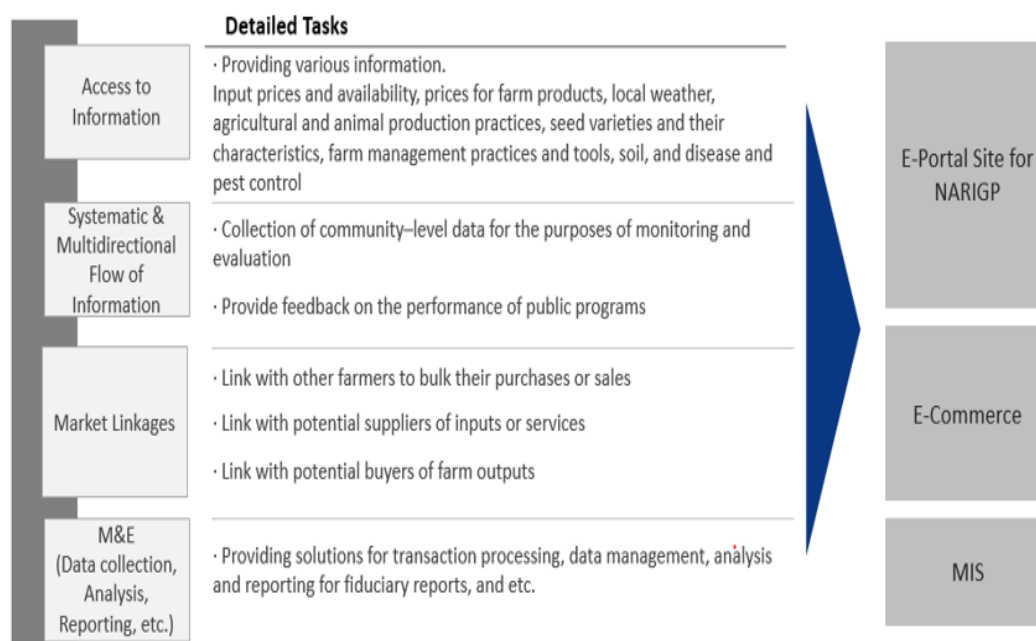
KENYA: National Agricultural and Rural Inclusive Growth Project

1. A key premise of NARIGP is the importance of using ICT, where practical, to achieve project objectives, including linking farmers and vulnerable and marginal groups (VMGs) to markets and value chains (VCs), increasing community participation, strengthening transparency and accountability, and enhancing project management. Kenya has a vibrant ICT sector, comparatively high cell phone penetration nearing 80 percent,¹¹³ widespread (highest in the world) and convenient use of mobile money (e.g., M-Pesa), an active open government data portal, and multiple ICT-based agricultural extension services (e.g., Frontline SMS), as well as significant experience in supporting ICT in World Bank-financed development programs. Furthermore, a variety of mobile application platforms for agriculture have entered the Kenyan market to address different aspects of agricultural VCs. This project will take advantage of existing platforms, and where gaps exist, customize and/or scale them up to establish a coherent management information system (MIS) for effectively information collection, storing, and sharing.

2. The use of ICT-based platforms will cut across the three technical components and will support overall project management in four main functions, including: access to information, multi-directional flow of information, market linkages, and M&E. These functions will be designed into three interfaces—e-Portal, e-Commerce, and MIS (Figure A11.1).

Figure A11.1: Functions and Interfaces of NARIGP’s Agricultural Information Platform

The NARIGP Information Platform will be comprised of three interfaces serving four key functions



¹¹³ According to the Communications Authority of Kenya.

3. **NARIGP will develop an ICT-based Agricultural Information Platform to enhance agricultural productivity and market access of smallholders, M&E, and impact evaluation.** Under subcomponent 4.2, the project will finance activities related to: routine M&E functions (e.g., data collection, analysis and reporting); establishment of an MIS/ICT platform for sharing technical information (e.g., technical advisory services, business and market-oriented information, and agro-weather information, among others); and facilitation of networking between smallholder farmers and POs across all components. It will also finance the baseline, mid-point, and end-of-project impact evaluations. The overall responsibility for establishing, managing, using, and maintaining ICT platforms will require the recruitment of technical expertise by the project. The platforms developed will provide MoDP and other stakeholders with the ability to: (i) capture data from ongoing programs and projects using electronic devices connected to mobile networks and (ii) upload information from manually collected data and geospatially aggregate the data, including agricultural statistics, from community, county, and national levels (Figure A11.2 illustrates the platforms' ICT environment). The platforms will also enable email, file sharing, and creation of dashboards and will provide benefits to M&E functions.

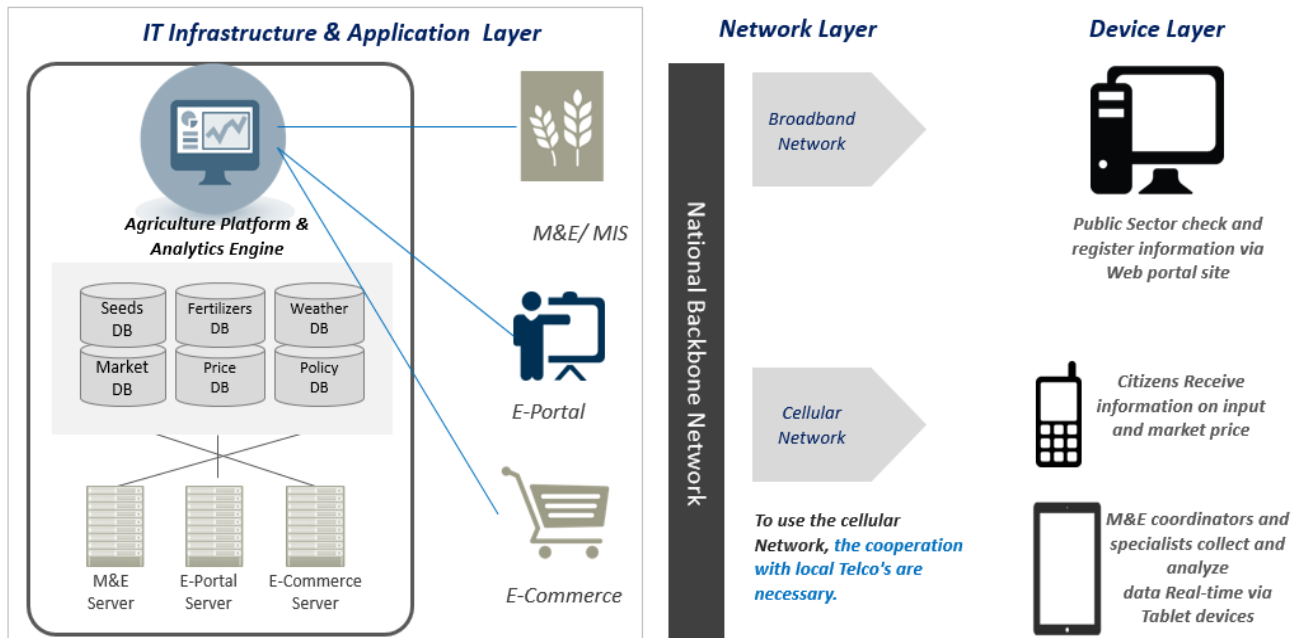
4. **NARIGP will strengthen the use of ICT-based market information and extension services by participating community/farmers' groups and producer organizations (POs).** ICT tools and mobile application platforms will be used to help participating farmers and agricultural producers to more easily access relevant and timely market information—from the acquisition of quality inputs (improved seed and fertilizer), credit and insurance, to market prices—as well as to access reliable and feasible ICT-enabled agriculture extension services. Specifically, ICT will help farmers to: (i) better access practical information, knowledge, and technical advice to improve farm management and farming practices and (ii) find and establish marketing linkages with input suppliers and output purchasers. The project will review existing platforms (e.g., iCow, M-farm, e-dairy, e-soko, nafis, AGIN, etc.), identify useful and feasible platform(s), and incorporate them into micro-project implementation and capacity building for targeted communities, farmers' groups (CIGs/VMGs), POs, and counties. Kenya has multiple existing platforms that, *inter alia*, use ICT to enhance access to market information and extension services. Building on existing platforms and customizing such platforms to project needs will help standardize and streamline agricultural knowledge sharing and capturing, as well as reduce resource wastage.

5. **NARIGP will deploy ICT-based tools** (such as AGIN) that farmers and POs can use to track and record outputs and sales, enhance visibility of smallholders, develop records of smallholder production, make them available to larger commercial agricultural entities and POs, and reduce transaction costs. Building on emerging lessons on the importance of private sector-driven ICT solutions in agriculture for sustainability, the project will competitively identify a private sector-provided Agricultural Information Platform with capabilities to capture and update farmers' information on their personal and farming enterprises (including production) and interface it with various trading partners—input suppliers, service providers, financial institutions, and buyers. It is envisaged that POs will be the main entry point for installation of the farmer information platform, cascading down to member CIGs/VMGs and their individual smallholder farmers. It is here that sustainability mechanisms will be built and linkages with the various trading partners made.

6. **The Agricultural Information Platform** will support the development and implementation of new ICT tools and information knowledge management assistance to MoDP and farmers to help them: (i) better access practical information, knowledge, and

technical advice to improve farm management and farming practices; (ii) provide feedback and information to SPs and project staff; (iii) find and establish marketing linkages with input suppliers and output purchasers; and (iv) generate periodic reports on HR management, fiduciary management, and M&E.

Figure A11.2: ICT Environment for NARIGP’s Agricultural Information Platform



7. A firm will be contracted by MoDP through the NPCU to help MoDP staff establish and operate the Agricultural Information Platform. The project will support: (i) contracting of the firm; (ii) training for MoDP staff; (iii) development and implementation of the Agricultural Information Platform (inclusive of an agricultural market information system) for MoDP; (iv) equipment and training of agricultural advisors in selected areas with ICT tools and methodologies with which to provide greater access by farmers to information and networks relevant to farm management and practice; and (v) administrative and recurring costs involved in keeping the system operational.

8. **Develop a robust and integrated MIS** that: (i) provides up-to-date reports on project finances, activities, and performance across project components and subcomponents, providing needed information to project managers and simplifying project reporting; (ii) compares performance between counties and communities on key project results, outputs, and financing; (iii) geo-maps key project interventions under each component (including name of activity, financing, results, name and contacts of responsible persons); and (iv) provides a fixed asset register of project assets. Importantly, the MIS will need to enable inputs from different levels of project implementation using easily available technology (e.g., smartphone forms). The MIS will build on the experience of other projects that have implemented web-based and geotagged platforms and websites that include basic data on each micro-project, photos, and responsible contact persons. The focus will be on monitoring the inputs and outputs of micro-projects under each subcomponent. For example, for Component 1 the MIS will include modules to track volume of distribution, number of beneficiaries per community and county, and specific monitoring of outcomes for a sample of grant beneficiaries (yield/household, production/household, and income/household). For Component 2 the MIS will support PO and VC interventions, including number of

beneficiary farmers and communities. The MIS will help provide clear procedures for county investments, financing, status of implementation, and responsible parties for investment areas of Component 3. The MIS will be managed under subcomponent 4.2 and will provide overall project management and M&E.

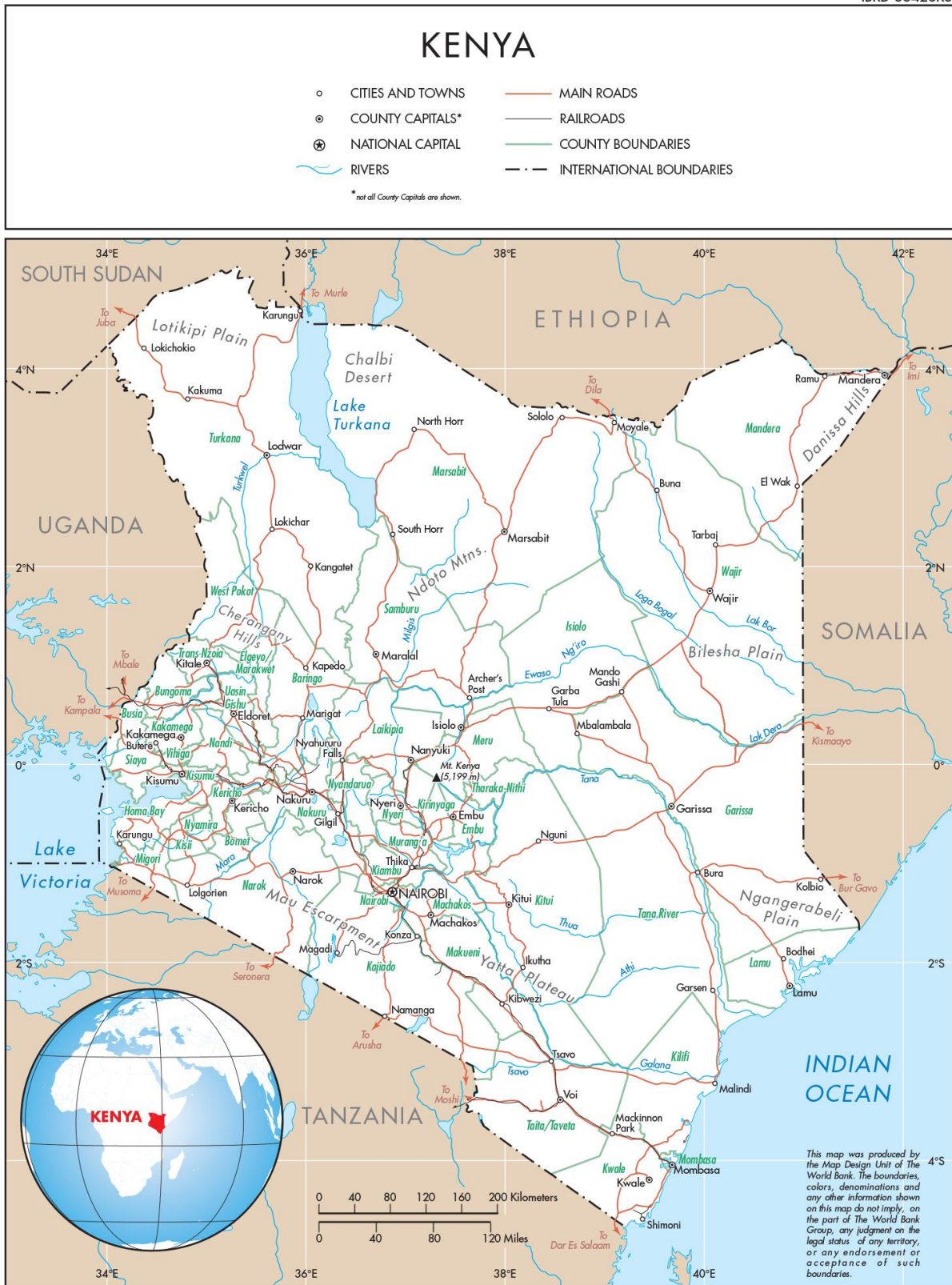
9. The MIS will include specific modules to monitor: activities based upon the AWP&B, disbursements, and procurement; outcomes of micro-projects implementation at community and county levels; and the results framework. Some data will be captured from partners' databases and directly inserted in NARIGP's MIS. In particular, the MIS will be developed to generate reports that: (i) compare implementation performance across components, counties, POs, and target communities; (ii) simplify and enable project reporting internal and external to the World Bank; (iii) enable project proponents at various levels of the project to input relevant information using mobile phone-based inputs, while providing for security and vetting functions; and (iv) are web-based/enabled, so that key reports including micro-project information, financing, and progress are made available and regularly updated on the web.

10. Three levels of MIS control are established with administrator access to the system: (i) at the community level, by the M&E focal point in charge of quarterly and annual reporting; (ii) at the county level, by the M&E assistant in CPCU; and (iii) at the national level, by the M&E coordinator in NPCU.

Annex 12: MAP

KENYA: National Agricultural and Rural Inclusive Growth Project

IBRD 33426R3



NOVEMBER 2015