

Apr
2013

TA 7762-NEP Preparation of the
Agricultural Development Strategy (ADS)

Action Plan and Roadmap

(Draft)

Prepared for

Government of Nepal

With the support of

ADB, IFAD, EU, FAO, SDC, JICA,
USAID, DANIDA, WFP, World Bank,
DfID, AusAID, and UN Women

PREFACE

This document¹ is the *Action Plan and Roadmap Report* for the Asian Development Bank’s Technical Assistance (TA) No. 7762-NEP on *Preparation of the Agricultural Development Strategy*.

The *Action Plan and Roadmap Report* draws upon the consultations and analytical work conducted by the TA Team of consultants under the guidance of the Ministry of Agricultural Development. The report takes into account the consultations held with numerous stakeholders at the central, regional, and community level.

The views presented in the report are the responsibility of the TA Team and do not necessarily reflect the view of the Government of Nepal, Asian Development Bank, IFAD, and other supporting agencies.

Francesco Goletti
TA 7762-NEP Team Leader and Policy and Institutional Specialist
Agrifood Consulting International, Inc. (ACI)

Kathmandu, 3 April 2013

¹ To be referred to as “ADB 7762-NEP (2013) Action Plan and Roadmap Report. Technical Assistance for the Preparation of the Agricultural Development Strategy, Asian Development Bank, April 2013.”

CONTRIBUTORS TO THE ACTION PLAN AND ROADMAP REPORT

1. Francesco Goletti, Team Leader and Policy and Institutional Specialist
2. Purushottam Mainali, Deputy Team Leader and Policy and Institutional Specialist
3. Chris Landon-Lane, Agriculture Economist
4. James Bolger, Eminent Person
5. John Mellor, Eminent Person
6. Jon Cook, Irrigated Agriculture and Water Resources Specialist
7. Keith Chapman, Agriculture and Agribusiness Specialist
8. Jitzchak Alster, Legislation and Regulation Specialist
9. Surya Poudel, Senior Livestock Development Officer, MOAD
10. Sabnam Shivakoti, Senior Agriculture Officer, MOAD
11. Yamuna Ghale, Research and Extension Specialist
12. Posh Raj Pandey, Trade Specialist
13. Dala Ram Pradhan, Livestock Specialist
14. Deep Swar, Fishery Specialist
15. Nav Raj Baral, Forestry Specialist
16. Ratna Dhwoj Shahi, Horticulture Specialist
17. Neeranjan Rajbhandari, Field Crops Specialist
18. Narendra Raj Khanal, Environment, Climate Change and Natural Resources Management Specialist
19. Indra Lal Kalu, Irrigation Specialist
20. Jagadish Chandra Gautam, Agri Economist
21. Deepak Lochan Adhikari, Micro Irrigation Specialist
22. Dina Mani Pokharel, Legislation and Regulation Specialist in Food Safety and Quality
23. Matrika Prasad Maraseni, Legislation and Regulation Specialist in Commerce and Trade
24. Prakash Mani Sharma, Legislation and Regulation Specialist in Natural Resources
25. Purna Man Shakya, Legislation and Regulation Specialist in Public Enterprise Reform
26. Govind Das Shrestha, Legislation and Regulation Specialist in Governance Institution and Planning
27. Madan Kumar Dahal, Tax Specialist
28. Santosh Bhattarai, Rural Infrastructure Specialist
29. Neeraj Joshi, Social Development Specialist
30. Ian Hancock, Agricultural Value Chain and Marketing Specialist
31. James Tomecko, Private Sector Development Specialist
32. Poshan KC, Agricultural Value Chain Specialist
33. Toyannath Pandey, Agricultural Insurance Specialist

TABLE OF CONTENTS

SUMMARY	1
1 INTRODUCTION	16
1.1 Objective of the Action Plan and Roadmap Report	16
1.2 Methodology	17
1.3 Organization of the Report.....	17
2 STRATEGIC FRAMEWORK AND ACTION PLAN	18
2.1 ADS and Agricultural Transformation	18
2.2 Growth and Poverty Reduction	19
2.3 Vision of the ADS	19
2.4 Strategic Framework	21
2.5 The Outcomes and Outputs of the ADS	22
2.5.1 Improved Governance	22
2.5.2 Higher Productivity	24
2.5.3 Profitable Commercialization	26
2.5.4 Increased Competitiveness.....	27
2.6 Output Indicators.....	29
2.7 ADS, Decentralization, and the new Federalist Structure	32
2.8 ADS and Agroecological Diversity.....	32
2.9 ADS and Socioeconomic Diversity of Farmers	33
2.10 ADS and Food and Nutrition Security	36
2.11 ADS and Urbanization	36
3 ACTIVITIES OF THE ADS ACTION PLAN	38
3.1 The Framework of Outcomes, Outputs, and Activities	38
3.2 Activities Related to Outcome 1: Improved Governance	39
3.2.1 Activities related to Output 1.1 on Credibility of Policy Commitment	40
3.2.2 Activities related to Output 1.2 on Improved Coordination among Institutions involved in the ADS Implementation	41
3.2.3 Activities related to Output 1.3 on Integrated Planning.....	41
3.2.4 Activities related to Output 1.4 on Effective Implementation Support.....	42
3.2.5 Activities related to Output 1.5 on Mechanisms Established for Gender Equality and Social and Geographic Inclusion in the ADS.....	43
3.2.6 Activities related to Output 1.6 on Timely and Effective Monitoring and Evaluation	44
3.2.7 Activities related to Output 1.7 on Mechanisms established for Participation of civil Society in the Planning, Implementation, and Monitoring of the ADS.....	45
3.2.8 Activities related to Output 1.8 on Enhanced Capacity of Key Institutions involved in ADS Coordination and Implementation	45
3.2.9 Activities related to Output 1.9 on Improved Food and Nutrition Security of Most Disadvantaged Groups	46
3.3 Activities Related to Outcome 2: Higher Productivity	47
3.3.1 Activities related to Output 2.1 on a Decentralized Extension System Responsive to Farmers and Agroenterprises' Need	49
3.3.2 Activities related to Output 2.2 on a Decentralized Research System Responsive to Farmers and Agroenterprises' Need	52
3.3.3 Activities related to Output 2.3 on a Strengthened Agricultural Education System	53
3.3.4 Activities related to Output 2.4 on a Farming Sector composed of adequately sized Farmers that use Land efficiently and sustainably	54
3.3.5 Activities related to Output 2.5 on Irrigation Area expanded equitably and viably, and improved Irrigation Efficiency and Management.....	56
3.3.6 Activities related to Output 2.6 on Timely Access to Quality Agricultural Inputs at Affordable Price	60

3.3.7	Activities related to Output 2.7 on Effective Implementation of Existing Seed Policies including Seed Vision 2025 through sufficient Investment in Resources and Capacity Building.	61
3.3.8	Activities related to Output 2.8 on a pragmatic Solution to Fertilizer Supply that is acceptable in the short-term, clearly indicates a Strategy for the medium and long term, and aims at Improving Productivity	62
3.3.9	Activities related to Output 2.9 on a Variety of Improved Animal Breeds Appropriate for the Nepal Farming Systems Conditions are available to Farmers	63
3.3.10	Activities related to Output 2.10 on a Range of Mechanization Options accessible to Farmers through the Private Sector	63
3.3.11	Activities related to Output 2.11 on Improved Resilience of Farmers to Climate Change, Disasters, Price Volatility, and Other Shocks	65
3.3.12	Activities related to Output 2.12 on Sustainable Farming, Good Agricultural Practices (GAP), Good Veterinary Husbandry Practices (GVAHP) are established and adopted.	65
3.3.13	Activities related to Output 2.13 on Subsistence production based forestry is developed into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement.	66
3.4	Activities Related to Outcome 3: Profitable Commercialization	68
3.4.1	Activities related to Output 3.1 on Improved Investment Climate for Agricultural Commercialization	69
3.4.2	Activities related to Output 3.2 on Contractual Arrangements for Commercial Agriculture	70
3.4.3	Activities related to Output 3.3 on Tax Policy that Supports an Efficient Commercial Agricultural Sector	71
3.4.4	Activities related to Output 3.4 on Agricultural Finance and Insurance Providers that supply a variety of competitive and demand-driven financial and agricultural Insurance Products.	72
3.4.5	Activities related to Output 3.5 on Competitive Agricultural Value Chains that Increase Value Added and Benefits to Smallholders Farmers and Agroenterprises	73
3.4.6	Activities related to Output 3.6 on Rural Roads Network Expanded.....	76
3.4.7	Activities related to Output 3.7 on Agricultural Market Information and ICT Products for Market Intelligence.....	77
3.4.8	Activities related to Output 3.8 on Rural Electrification and Renewable Energies	77
3.5	Activities Related to Outcome 4: Increased Competitiveness.....	77
3.5.1	Activities related to Output 4.1 on Market Infrastructure Developed	78
3.5.2	Activities related to Output 4.2 on Growth of Innovative Small and Medium Agroenterprises	78
3.5.3	Activities related to Output 4.3 on Growth of Food and Agricultural Products Exports	79
3.5.4	Activities related to Output 4.4 on Enhanced Food Quality and Safety	81
4	COSTS AND EXPECTED BENEFITS.....	83
4.1	Approach to Cost Estimation.....	83
4.2	The Detailed Costs	84
4.3	Flagship and Core Programs: Complement not Duplicate.....	85
4.4	Financing by Private Sector, Community, Cooperatives and Farmers	85
4.5	ADS Costs and Government Budget for Agriculture	86
5	IMPLEMENTATION ARRANGEMENTS.....	91
5.1	Introduction	91
5.2	Traditional and Innovative Approaches.....	91
5.3	Overview of the ADS Organizational Structure.....	92
5.4	The Prime Minister	95
5.5	The National Planning Commission (NPC)	95
5.6	The ADS Commission	95
5.7	NSC and its Subcommittees	96
5.8	CADIC, RADC, DADC	97
5.9	ADS Implementation Support Unit (AISU)	97
5.10	ADS Implementation Trust Fund (ATF)	98
5.11	The Ministry of Agricultural Development (MOAD)	99
5.12	Other Ministries and Agencies	99
5.13	ADS Programs	99

5.14	ADS Flagship Programs	99
5.15	Food and Nutrition Security Program (FANUSEP)	100
5.16	Decentralized Science, Technology, and Education Program (DESTEP)	100
5.16.1	Community Agricultural Extension Service Centers (CAESC)	101
5.16.2	Decentralized Research System	102
5.16.3	Integration with the Agricultural Education System	103
5.17	Value Chain Development Program (VADEP)	103
5.17.1	Value Chain Development Alliances (VCDA)	104
5.18	Innovation and Agroentrepreneurship Program (INAGEP)	104
5.19	Leading Stakeholders: Farmers, Cooperatives, and Private Sector	105
5.20	Civil Society Organizations	106
6	ROADMAP AND NEXT STEPS	107
6.1	Government Commitment	107
6.2	Policies and Regulations for ADS Implementation	107
6.3	Consensus of Key Stakeholders	108
6.4	Development Partners Support	108
6.5	Early Milestones of the ADS	109
6.6	Monitoring and Evaluation of the ADS	109
6.6.1	Linking Monitoring to Good Performance	109
6.7	ADS as a Living Strategy	109
6.8	Next Steps in the ADS TA	110
APPENDIX 1.	COST OF ACTIVITIES IN THE ADS ACTION PLAN	111

LIST OF TABLES

Table 1 Indicators and Targets for ADS Vision	2
Table 2 Targets for the Strategic Components of the ADS	3
Table 3 Outcomes, Outputs, and Programs of the ADS.....	4
Table 4 Total (10-year) Cost of the ADS and Yearly Average.....	13
Table 5 Examples of Policies and Regulations needed for Implementing the ADS	14
Table 6 Indicators and Targets for ADS Vision	20
Table 7 Targets for the Strategic Components of the ADS	21
Table 8 Outputs for Outcome 1 on Improved Governance	23
Table 9 Outputs for Outcome 2 on Higher Productivity	25
Table 10 Outputs for Outcome 3 on Profitable Commercialization	27
Table 11 Outputs for Outcome 4 on Increased Competitiveness.....	28
Table 12 Output Indicators for Outcome 1 on Improved Governance.....	29
Table 13 Output Indicators for Outcome 2 on Higher Productivity.....	30
Table 14 Output Indicators for Outcome 3 on Profitable Commercialization.....	31
Table 15 Output Indicators for Outcome 4 on Increased Competitiveness	31
Table 16 Landholdings Distribution	33
Table 17 Impact of ADS on different farm-size rural households.....	35
Table 18 Outcomes and Outputs of the ADS	38
Table 19 Activities related to Outcome 1 on Improved Governance	39
Table 20 Activities related to Outcome 2 on Higher Productivity	47
Table 21 Activities related to Outcome 3 on Profitable Commercialization	69
Table 22 Activities related to Outcome 4 on Increased Competitiveness.....	77
Table 23: ADS Action Plan 10-year Cost Summary	83
Table 24: Financing by Public and Private Sectors.....	86
Table 25: Agriculture Budget by Economic Activity - related agencies	86
Table 26: International comparison of budget orientation to agriculture	88
Table 27: ADS Action Plans Cost by Output and Proposed Implementing Agency.....	89
Table 28 Key Actors in the Implementation of the ADS	93
Table 29 Examples of Policies and Regulations needed for Implementing the ADS	108

LIST OF FIGURES

Figure 1 Strategic Framework of the Agricultural Development Strategy	3
Figure 2 The ADS Implementation and Coordination Mechanisms.....	6
Figure 3 Composition of ADS Costs.....	13
Figure 4 Growth and Poverty Reduction	19
Figure 5 Strategic Framework of the Agricultural Development Strategy	21
Figure 6 Composition of ADS Costs (\$ million, %).....	85
Figure 7: International Trend in Percent Budget Expenditure on Agriculture.....	87
Figure 8 ADS Implementation and Organization Mechanisms.....	95

LIST OF BOXES

Box 1 The New ADS Mechanisms.....	92
-----------------------------------	----

ABBREVIATIONS

ACI	AgriFood Consulting International
ADB	Asian Development Bank
ADBL	Agriculture Development Bank Limited
ADBN	Agriculture Development Bank Nepal
ADS	Agriculture Development Strategy
AEPC	Alternative Energy Promotion Centre
AGDP	Agricultural Gross Domestic Product
AIC	Agricultural Inputs Corporation Ltd
AICL	Agricultural Inputs Company Limited
AMIS	Agency managed irrigation system
AoA	Agreement on Agriculture
APP	Agriculture Perspective Plan
APP-IAP	APP Implementation Action Plan
APP-ISR	APP Implementation Status Review
APPMU	APP Monitoring and Analytical Unit
APPSP	Agriculture Perspective Plan Support Programme
AR	Agricultural Roads
ARSs	Agricultural Research Stations
ASCs	Agriculture Service Centers
ASEAN	Association of South-East Asian Nations
ASPR	Agriculture Sector Performance Review
BA	Bangkok Agreement
BIMST-EC	Bengal Initiative for Multi-sectoral Technical and Economic Co-operation
BISEP-ST	Biodiversity Sector Support Programme – Siwalik Terai
BMI	Body Mass Index
BSP	Biogas Support Programme
CADIC	Central Agriculture Development Implementation Committee
CBOM	Community Based Operation and Maintenance Program
CBOs	Community Based Organizations
CBRE	Community Based Rural Electrification Program
CBS	Central Bureau of Statistics
CDO	Chief District Officers
CDR	Central Development Regions
CF	Community Forestry
CGISP	Community Groundwater Irrigation Sector Project
CGS	Competitive Grant System
CIB	Credit Information Bureau
CIP	Community Irrigation Project
CLDP	Community Livestock Development Project
CMIASP	Community-Managed Irrigated Agriculture Sector Project (ADB)
CPI	Consumer Price Index
DADC	District Agricultural Development Committee
DADOs	District Agriculture Development Office/Officer
DANIDA	Danish International Development Agency
DDC	District Development Committee
DDCN	Dairy Development Corporation Nepal
DESTEP	Decentralized Extension, Technology and Education Program
DFCC	District Forest co-ordination Committee
DFID UK	Department for International Development
DFO	District Forest Officer
DHM	Department of Hydrology and Meteorology

DLS	Department of Livestock Services
DLSO	District Livestock Office
DOA	Department of Agriculture
DOF	Department of Forests
DOI	Department of Irrigation
DOLIDAR	Department of Local Infrastructure Development and Agricultural Roads
DOLS	Department of Livestock Services
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
DRT	Debt Recovery Tribunal
DSCW	Department of Soil and Water Conservation
DSL	Deprived sector lending
DTO	District Technical Office
DTWs	Deep Tube Wells
DWIDP	Department of Water Induced Disaster Prevention (of MOI)
DWRDC	District Water Resources Development Committee
EA	Executing Agency
EDR	Eastern Development Regions
EIA	Environmental Impact Assessment
EIRR	economic internal rate of return
ESAP	Energy Sector Assistance Programme
EU	European Union
FANUSEP	Food and Nutrition Security Program
FAO	Food and Agriculture Organization
FCO	Fertiliser Control Order, 1999
FECOFUN	Federation of Community Forestry User Groups Nepal's
FFE	Food for Education
FFS	Farmer field School
FFW	Food for Work
FG	Farmer's Group
FIs	Fertilizer Inspectors
FMIS	farmer managed irrigation system
FMS	Farmer marketing school
FNCCI	Federation of Nepalese Chambers of Commerce and Industries
FSN	Food Security and Nutrition
FTA	Free Trade Area
FU	Fertilizer Unit
FWDR	Far Western Development Regions
FY	Fiscal Year
GAP	Government Action Plan
GATT	General Agreements on Tariffs and Trade
GBB	Grameen Bikas Bank
GDP	Gross domestic product
GEED	Gender Equity and Environment Division
GESI	Gender equity and social inclusion
GI	Geographical Identification
GIZ	Gesellschaft für Internationale Zusammenarbeit, GmbH
GO	Government Organizations
GON	Government of Nepal
GVP	Good veterinary practices
ha	hectare
HARP	Hill Agriculture Research Project
HIMALI	High Mountain Agribusiness and Livelihood Improvement Project

HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HLTF	High Level Task Force
HMGN	His Majesty Government of Nepal
HRD	Human resources development
HRM	Human resources management
HRP	Hill Research Programme
HVCA	Hazard, Vulnerability and Capacity Assessment
HVCs	High Value Commodities
IAPP	Interim Agriculture Perspective Plan
IAU	Independent Analytical Unit
IBT	inter-basin transfer
ICIMOD	International Centre for Integrated Mountain Development
ICT	Information and communication technology
IDA	Iron Deficiency Anemia
IDD	Iodine Deficiency Disorder
IDD/IDSD	Irrigation Development Division/Irrigation Development Subdivision
IEE	Initial Environmental Examination
IFAD	International Fund for Agriculture Development
IMD	Irrigation Management Division of DOI
IMT	irrigation management transfer
INAGEP	Innovation and Agro-Enterprise Program
INGO	International Non Government Organizations
IP	Irrigation Policy
IPC	Integrated Food Security Phase Classification
IPM	Integrated Pest Management
IPNMS	Integrated Plant Nutrient Management Systems
IPP	Independent Power Producers
ISF	irrigation service fee
IWRM	integrated water resources management
IWRMP	Irrigation and Water Resources Management Project (World Bank)
JICA	Japan International Cooperation Agency
JT/A	junior (agricultural) technician/assistant (of DOA)
km	kilometer
LF	Leasehold Forestry
LFP	Livelihoods and Forestry Programme
LSC	Livestock Service Centre
LSGA	Local Self Governance Act
M&E	Monitoring and Evaluation
MDG(s)	Millennium Development Goal(s)
MFDB	Microfinance development bank
MFI	Microfinance institution
MFN	Most Favored Nation
MFSC	Ministry of Forest and Soil Conservation
MGSP	Mini-Grid Support Programme
MGSP	Mini-Grid Support Programme
MOAC	Ministry of Agriculture and Cooperatives (renamed May 2012)
MOAD	Ministry of Agriculture Development (from May 2012)
MOE	Ministry of Environment
MOEN	Ministry of Energy
MOF	Ministry of Finance
MOFSC	Ministry of Forestry and Soil Conservation
MOH	Ministry of Health
MOI	Ministry of Irrigation

MOI	Ministry of Irrigation
MOLD	Ministry of Local Development
MOLRM	Ministry of Land Reform and Management
MoST	Ministry of Science and Technology
MoU	Memorandum of Understanding
MoWR	Ministry of Water Resources
MRL	maximum residue limit
mt	Metric ton
MTEF	Medium Term Expenditure Framework
MWDR	Mid Western Development Region
NADC	National Agriculture Development Committee
NAP	National Agricultural Policy
NAPA	National Adaptation Programme of Action to Climate Change
NARC	Nepal Agriculture Research Council
NARDEF	Nepal Agriculture Research and Development Fund
NARDF	National Agriculture Research and Development Fund
NASDP	National Agriculture Sector Development Priority
NBL	Nepal Bank Limited
NBS	National Bio-Diversity Strategies
NBTI	National Banking Training Institute
NCI	Non-conventional irrigation
NDAC	National Development Action Committee
NEA	Nepal Electricity Authority
NEPAP	Nepal Environmental Protection Action Plan
NFIWUAN	National Federation of Irrigation Water Users Association of Nepal
NFP	National Fertilizer Policy 2002
NGO	Non-Governmental Organization
NGO	Non-Governmental Organization
NITP	New Irrigation Technology Projects
NLSS	National Living Standard Survey
NPC	National Planning Commission
NPL	Non-performing loan
NPV	net present value
NRB	Nepal Rastra Bank (central bank)
NRM	Nepal Resident Mission of ADB
NRREP	National Rural and Renewable Energy Program
NSC	National Support Committee
NSC	National Seed Company Private Limited
NTFPs	Non Timber Forest Products
NTP	Non-tariff barriers to trade
NWP	National Water Plan
NWRS	National Water Resources Strategy
O&M	Operation and Maintenance
OFMP	Operational Forest Management Plan
OFWM	on-farm water management
OVOP	One Village One Product
PACT	Project for Agriculture Commercialization and Trade
PF	Private Forests
PIM	participatory irrigation management
PPP	Public Private Partnership
PPP	Prioritized Productivity Package
PPS	Pocket Package Strategy
PRA	Participatory Risk Assessments

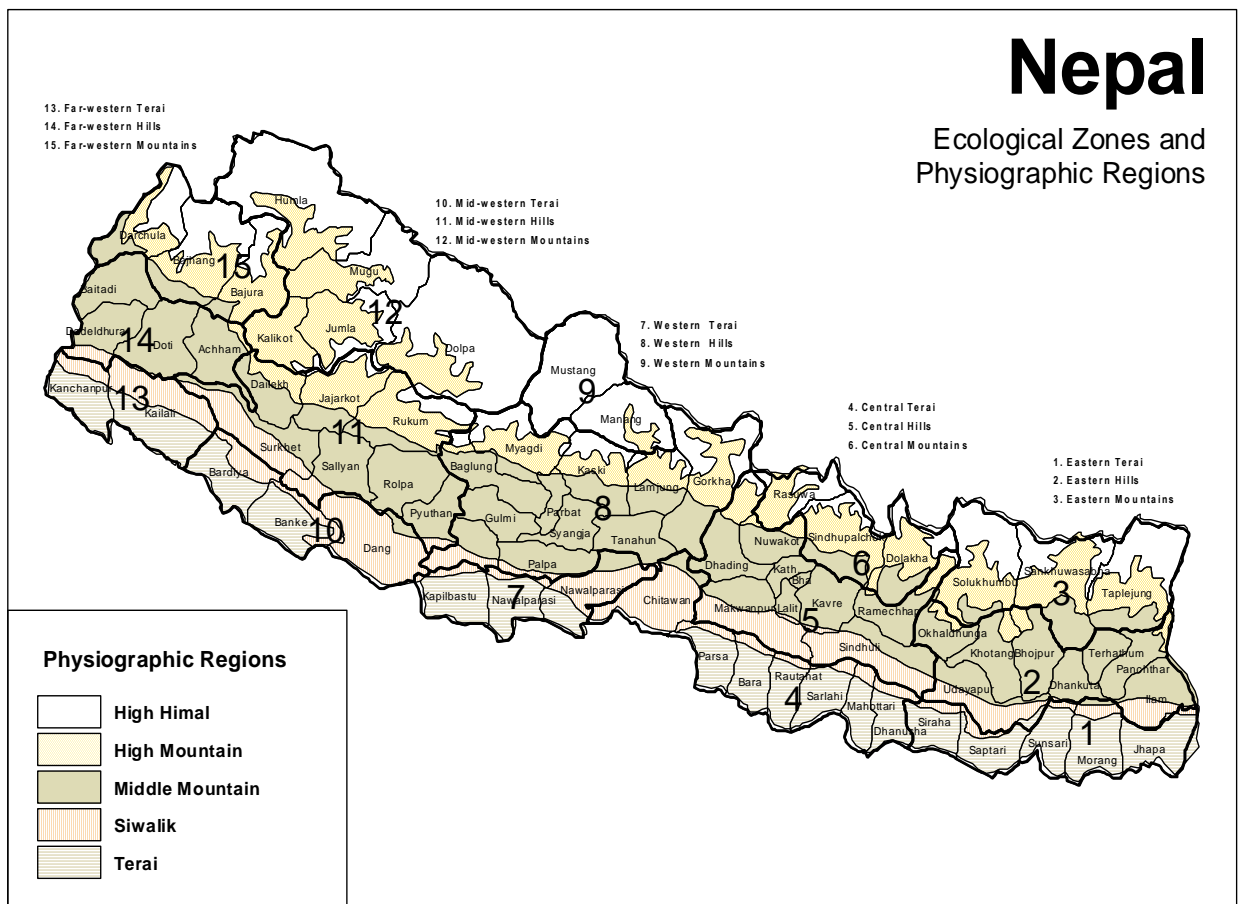
PRSP	Poverty Reduction Strategy Paper
PTA	Preferential Trade Agreement
RADC	Regional Agriculture Development Committee
RAP	Rural Access Programme
RARS	Regional Agricultural Research Station
RBB	Rastriya Baniya Bank
RCA	Root-cause analysis
RE	Renewable Energy
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDP	Rural Energy Development Programme
RFSDCP	Rural Finance Sector Development Cluster Program (Subprogram 2)
RFTG	Rural Finance Thematic Group
RID	Regional Irrigation Directorate
RIO	Regional Irrigation Office
RIP	Rural Infrastructure Development Policy
RISMP	Raising Incomes of Small and Medium Farmers Project
RMDC	Rural Microfinance Development Centre
RO	Rural Organization
Rs	Nepal Rupee
RSRF	Rural Self Reliance Fund
RTAs	Regional Trading Agreements
SAFTA	South Asian Free Trade Area
SAPL	Second Agriculture Programme Loan
SAPTA	South Asian Preferential Trading Arrangement
SC	Service Centers
SCC	Savings and credit cooperative
SDC	Swiss Agency for Development and Cooperation
SFCL	Small Farmers Cooperative Limited
SFDB	Small Farmers Development Bank (Sana Kisan Bikas Bank in Nepali)
SME	Small and medium enterprise
SOP	Standard Operations Procedures
SPS	Sanitary and Phyto-Sanitary Measures
SRI	System of Rice Intensification
SSC	Service Sub Centers
SSN	Social Safety Nets
STWs	Shallow Tube Wells
t	Metric ton
TA	Technical assistance
TLDP	Third Livestock Development Project
TRIPs	Trade Related Intellectual Property rights
TU	Tribhuvan University
TWT	Technical Working Team
UN	United Nations Entity for Gender Equality and the Empowerment of Women
Women	
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Program
USAID	United States Agency for International Development
VAD	Vitamin A Deficiency
VADEP	Value Chain Development Program
VAM	Vulnerability Assessment Map
VARG	Vulnerability and Adaptation Resource Group
VAT	Value Added Tax
VCA	Value Chain Analysis

VDC	Village development committee
WB	World Bank
WDO	Women Development Office
WDR	Western Development Regions
WFP	World Food Programme
WTO	World Trade Organization
WUAs	Water User Associations
WUG	Water users' group

CURRENCY EQUIVALENTS

(as of 20 March 2013, Nepal Rastra Bank)

Nepal Rupees	–	United States dollars
Rs1.00	=	\$ 0.01163
\$1.00	=	Rs 86



SUMMARY

1. The *Action Plan and Roadmap Report* for the Technical Assistance (TA) 7762-NEP on *Preparation of the Agricultural Development Strategy* (henceforth, the TA will be referred as simply “ADS”) is the fifth deliverable of the TA funded by Government of Nepal (GON) with support by Asian Development Bank (ADB), International Fund for Agricultural Development (IFAD), European Union (EU), Food and Agriculture Organization (FAO), Swiss Agency for Development and Cooperation (SDC), Japan International Cooperation Agency (JICA), Denmark Agency for International Development (DANIDA), World Food Program (WFP), United States Agency for International Development (USAID), Department for International Development (DfID), the World Bank, the Australia Agency for International Development (AusAID), and the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). Previous deliverables included the *Inception Report*, the *Assessment Report*, the *Vision Report*, and the *Policy Options Report*.

2. The *Action Plan and Roadmap Report* objective is to present the plan for the implementation of the ADS consistently with the policy recommendations and strategic framework of the *Policy Options Report*. The *Action Plan and Roadmap Report* will provide details about the activities required to achieve the outputs leading to the desired outcomes of the ADS. The activities are costed for the initial 10-year period of the ADS. A roadmap with the key milestones of the ADS will be introduced for the first 5-year period of the ADS. The report will also give the institutional framework proposed for implementing the ADS.

3. The recommendations of the *Action Plan and Roadmap Report* are based on the analysis of the constraints identified during the previous phases of the ADS preparation and extensive consultations at the national and regional level.

ADS AND THE PROCESS OF AGRICULTURAL TRANSFORMATION

4. The Agricultural Development Strategy will guide the agricultural sector of Nepal over the next 20 years. Over the course of this period, the structure of the agricultural sector in Nepal is expected to change considerably and agribusiness to grow relatively to agriculture. The linkages between agriculture and other sectors in the economy will be critical to the reduction of poverty particularly in rural areas where the development of non-farm activities based on agriculture will be fundamental for the growth of an overall robust economy, a more balanced rural economy, and employment generation.

5. In this context, it is worth emphasizing that the ADS looks at the agricultural sector in its complexity, and encompasses not only the production sectors (crops, livestock, fisheries, forestry) but also the processing sector, trade and other services (storage, transportation and logistics, finance, marketing, research, extension).

6. The ADS is formulated taking into account the conceptual framework of agricultural transformation of Nepal from a society primarily based on agriculture to one that derives most of its income from services and industry. This process will have profound implications for the ways the Nepali population will shape their food production and distribution systems, the development of rural areas including the rural non-farm sector, labor and land productivity, trade balance, employment and outmigration of the youth, the role of women in agriculture, and management of natural resources in the context of increasingly more severe climate change

events. The ADS will ensure that the process of agricultural transformation is accelerated and molded according to the aspirations and constraints of Nepali society.

VISION OF THE ADS

7. The ADS action plan and roadmap are formulated in order to move towards the ADS vision formulated by stakeholders as follows: “A self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security.” Various indicators and targets to monitor progress towards the vision during implementation of the ADS are reported in Table 1.

Table 1 Indicators and Targets for ADS Vision

Vision Component	Indicators	Current Situation (2010)	Target Short Term (5 years)	Target Medium Term (10 years)	Target Long Term (20 years)
Self-reliant	Self-sufficiency in foodgrains	5% trade deficit in foodgrains	0% trade deficit	0-5% trade surplus	0-5% trade surplus
Sustainable	Year-round irrigation	18% coverage	30%	60%	80%
	Soil organic matter	1%	2%	4%	4%
	Ha degraded land	3.2 million ha	2.88 m ha	2.56 million ha	1.6 million ha
	Forest cover	39%	39%	39%	39%
	Agricultural land productivity (AGDP/ha)	\$1,804	\$2,302	\$2,938	\$4,787
	Agribusiness as % AGDP	30%	40%	50%	100%
Competitive	Agricultural trade balance	Trade deficit \$350 million	Trade deficit \$310 million	Trade deficit \$181 million	Trade surplus \$690 million
	Agricultural Exports	\$248 million	\$400 million	\$700 million	\$2000 mil
Inclusive	GDI (Gender Dev Index)	0.499	0.550	0.675	0.750
	% of land owned by women or joint ownership	10%	15%	30%	50%
	% of farmers reached by ag programs	12%	17%	25%	50%
Growth	Average annual growth of AGDP	3%	4%	5%	6%
Livelihood	AGDP/ Agricultural labor	\$794	\$979	\$1206	\$1833
	Poverty in Rural Areas	35%	28%	20%	10%
Food and Nutrition Security	Food Poverty	16%	12%	8%	1%
	Nutrition	41.5% stunting 31.1% underweight 13.7% wasting	Reduction Consistent with MSNP and FNSPA	Reduction Consistent with MSNP and FNSPA	Reduction Consistent with MSNP and FNSPA

Note: MSNP = Multisector Nutrition Plan. FNSPA = Food and Nutrition Security Plan of Action.

STRATEGIC FRAMEWORK

8. In order to achieve its vision the ADS will accelerate agricultural sector growth through four strategic components related to governance, productivity, profitable commercialization, and competitiveness while promoting inclusiveness (both social and geographic), sustainability (both natural resources and economic), development of private sector and cooperative sector, and connectivity to market infrastructure (eg agricultural roads, collection centers, packing houses, market centers), information infrastructure and ICT, and power infrastructure (eg rural electrification, renewable and alternative energy sources). The acceleration of inclusive, sustainable, multi-sector, and connectivity-based growth is expected to result in increased food and nutrition security, poverty reduction, agricultural trade surplus, higher and more equitable income of rural households, and strengthened farmers’ rights. Figure 1 provides an illustration of the strategic framework of the ADS and **Table 2** indicates the targets for the ADS.

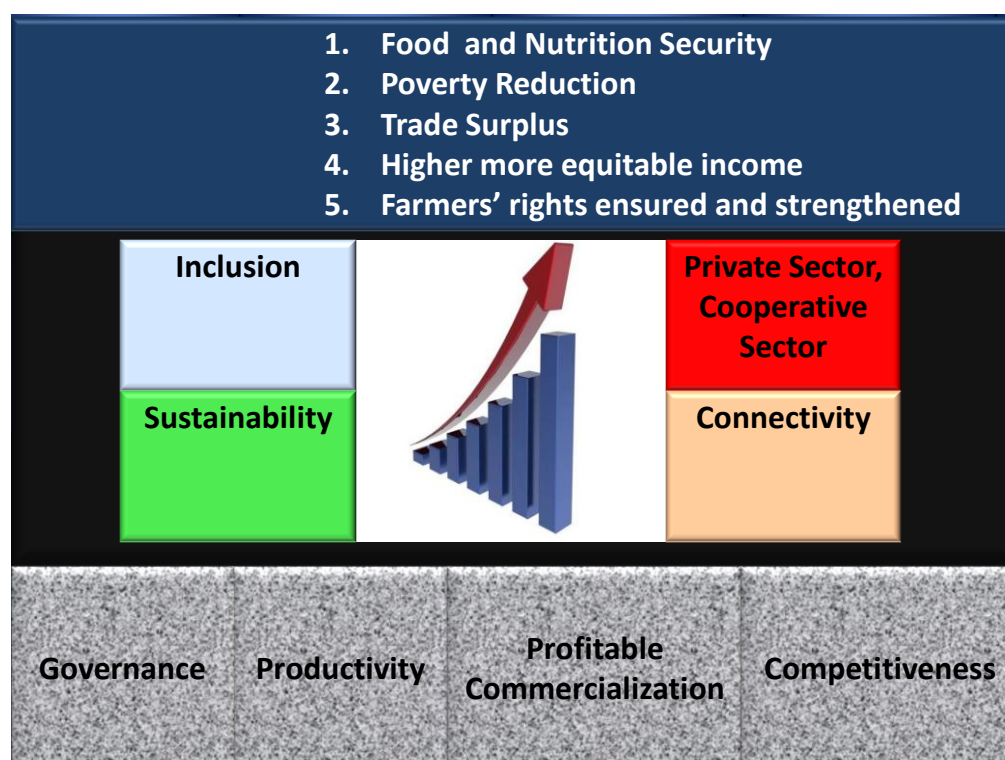


Figure 1 Strategic Framework of the Agricultural Development Strategy

Table 2 Targets for the Strategic Components of the ADS

Component	Indicator	Current Situation	Target
Governance	Agricultural Growth	3% average annual growth	5% average annual growth
Productivity	Land productivity	\$1,804/ha	\$4,787/ha
	Labor productivity	\$794/agricultural labor	\$1,833/agricultural labor
Commercialization	Marketed surplus	Less than 50% of agricultural production	More than 80% of agricultural production
	Agribusiness GDP	30% of Agricultural GDP	100% of Agricultural GDP
Competitiveness	Agri-food exports	\$248 million	\$2,000 million

IMPLEMENTATION OF THE ADS

9. Implementation of the ADS implies knowing what to do, how to do it, and doing it. The “what” of implementation is the content of the ADS, specifically the outcomes, outputs, and activities needed to achieve the targets embedded in the ADS vision. The “how” of implementation is the set of mechanisms needed to ensure that things are done according to plan.

THE WHAT OF THE ADS

10. The ADS includes 4 outcomes, 34 outputs, and 197 activities. Table 3 lists the outcomes and the outputs. The report contains the details of each activity. The outputs and activities of the ADS will be organized into programs (Core programs and Flagship programs as explained in paragraph 329).

Table 3 Outcomes, Outputs, and Programs of the ADS

Outcome	No	Output	Program
1. Improved Governance	1.1	Credibility of policy commitment	CORE
	1.2	Improved coordination among institutions involved in the ADS implementation	CORE
	1.3	Integrated planning	CORE
	1.4	Effective implementation support	CORE
	1.5	Mechanisms established for gender equality and social and geographic inclusion in the ADS	CORE
	1.6	Timely and effective monitoring and evaluation of the ADS	CORE
	1.7	Mechanisms established for participation of civil society in the planning, implementation, and monitoring of the ADS	CORE
	1.8	Enhanced capacity of key institutions involved in ADS coordination and implementation	CORE
	1.9	Improved food and nutrition security of the most disadvantaged groups	FANUSEP
2. Higher Productivity	2.1	A decentralized extension system responsive to farmers and agroenterprises' needs	DESTEP
	2.2	A decentralized research system responsive to farmers and agroenterprises' needs	DESTEP
	2.3	A strengthened agricultural education system	DESTEP
	2.4	A farming sector composed of adequately sized farms that use land efficiently and sustainably	CORE
	2.5	Irrigated area expanded equitably and viably, and improved irrigation efficiency and management.	CORE
	2.6	Timely access to quality agricultural inputs at affordable price.	CORE
	2.7	Effective implementation of existing seed policies including Seed Vision 2025 through sufficient investment in resources and capacity building.	CORE
	2.8	A pragmatic solution to fertilizer supply that is acceptable in the short-term, clearly indicates a strategy for the medium and long term, and aims at improving productivity.	CORE
	2.9	A variety of improved animal breeds appropriate for the Nepal farming systems conditions are available to farmers.	CORE
	2.10	A range of mechanization options accessible to farmers through the private sector.	CORE
	2.11	Improved resilience of farmers to climate change, disasters, price volatility and other shocks.	CORE
	2.12	Sustainable farming, good agricultural practices (GAP), good veterinary animal husbandry (GVAHP) are established and adopted.	CORE
	2.13	Subsistence production based forestry is developed into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement.	CORE
3. Profitable	3.1	Improved investment climate for agricultural commercialization	CORE

Outcome	No	Output	Program
Commercialization	3.2	Contractual arrangements for commercial agriculture	CORE
	3.3	Tax policy that supports an efficient commercial agricultural sector	CORE
	3.4	A variety of competitive and demand-driven financial and agricultural insurance products.	CORE
	3.5	Competitive agricultural value chains that increase value added and benefits to smallholder farmers and agroenterprises	VADEP
	3.6	Rural roads network expanded.	CORE
	3.7	Agricultural market information and ITC products for market intelligence.	CORE
	3.8	Expanded rural electrification and renewable energies.	CORE
4. Increased Competitiveness	4.1	Market infrastructure developed	CORE
	4.2	Growth of innovative small and medium agribusiness enterprises	INAGEP
	4.3	Growth of food and agricultural products exports	CORE
	4.4	Enhanced food safety and quality	CORE

THE HOW OF THE ADS

11. The implementation of the ADS will entail the combination of existing mechanisms and some new mechanisms. The traditional way of implementing strategies and plans for the agricultural sector envisages an institutional framework whereby the National Planning Commission (NPC) provides overall policy coordination, the Ministry of Agricultural Development (MOAD) provides leadership in implementing agricultural programs, and related agencies support the implementation. For example, Department of Irrigation (DOI) would be in charge of irrigation development, Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR) is in charge of agricultural road, Department of Agriculture (DOA) and Department of Livestock Services (DLS) is in charge of agricultural and livestock extension and Nepal Agricultural Research Council (NARC) is in charge of agricultural research.

12. The traditional way of implementing programs and plans has its own logic and rationale. However, in the traditional way coordination has been weak, partly because of the weak capacity of implementation agencies in policy formulation, integrated planning, policy monitoring, procurement, and financial management; and partly due to new dynamics arising during the process of agricultural transformation and the changing global context such as migration, global value chains, and new technologies requiring continuous innovation and adaptation.

13. In the traditional way of implementing agricultural programs in Nepal, the key stakeholders of the agricultural sector, namely farmers, cooperatives, and private agroenterprises have often been left in the backstage of development, with the front stage taken by government agencies.

14. The traditional mechanisms offer useful lessons and guidance for the future; clearly NPC, MOAD, and other line agencies have an important role to play in the ADS and this role has to be acknowledged and strengthened. However, the traditional mechanisms are also limited in their implementation capacity and their relegation of key stakeholders (farmers, cooperatives, and private sector) in the back stage. More fundamentally, the traditional way of implementing agricultural policies and programs in Nepal has not produced the desired results of accelerated growth and poverty reduction.

NEW MECHANISMS

15. The ADS proposes new mechanisms to improve implementation. The new mechanisms build upon the existing mechanisms and complement them, support them, and strengthen them. Specifically, in addition to the NPC, MOAD and other related agencies, the ADS implementation will rely on the combination of four new institutions, prioritized national programs, and key stakeholders. Linkages among the existing and new mechanisms are illustrated in Figure 2.

Institutions

1. ADS Commission
2. Coordination Committees
3. ADS Implementation Support Unit (AISU)
4. ADS Implementation Trust Fund (ATF)

Flagship and Core Programs

1. Food and Nutrition Security Program (FANUSEP)
2. Decentralized Science, Technology, Education Program (DESTEP)
3. Value Chain Development Program (VADEP)
4. Innovation and Agro-entrepreneurship Program (INAGEP)
5. Core Programs

Key Stakeholders

1. Farmer Organizations
2. Cooperative Organizations
3. Private Sector Organizations

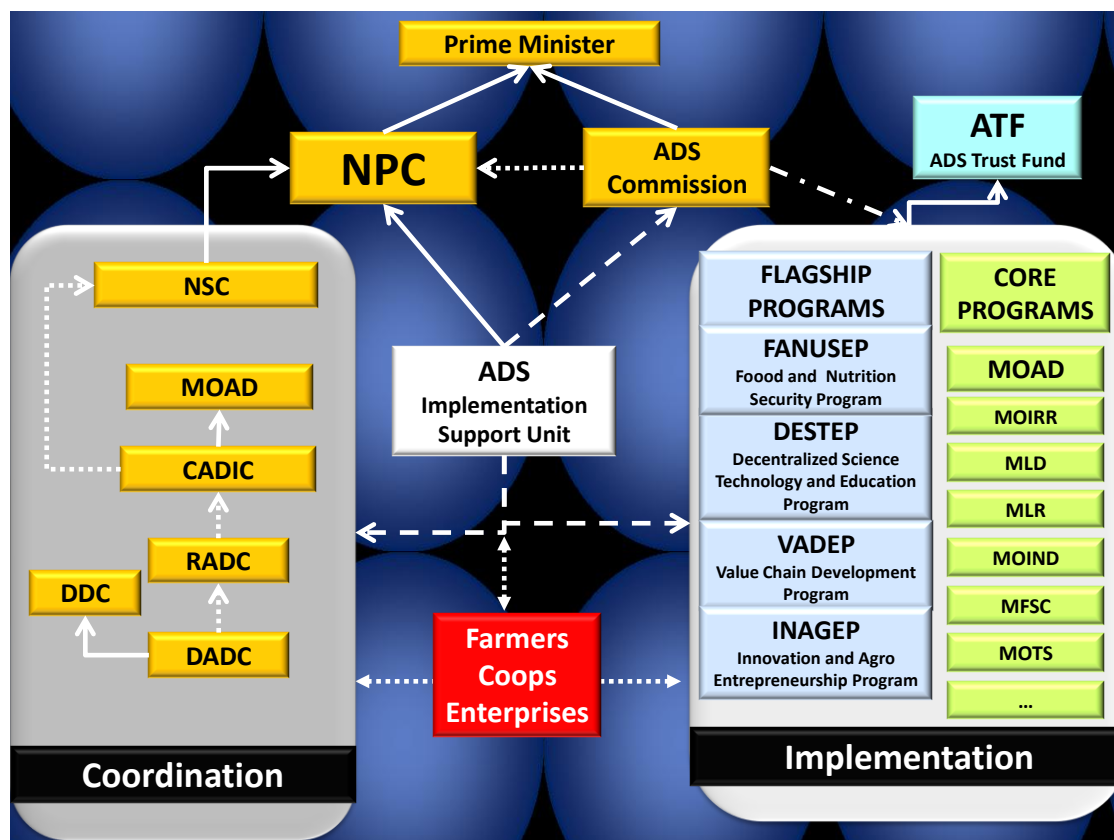


Figure 2 The ADS Implementation and Coordination Mechanisms

ADS COMMISSION

16. While the NPC is providing overall policy coordination and integrated planning, the ADS Commission will be following up the specifics of the ADS implementation on a more regular and detailed manner. The ADS Commission is a high level commission that will promote implementation of the ADS through existing agencies and institutions by fostering policy, administrative, and legislative changes in responsible institutions, and facilitating resources mobilization through an ADS Implementation Trust Fund. The ADS Commission will complement rather than substitute the work of NPC in the agricultural sector and ensure high visibility of the ADS.

17. The ADS Commission will consist of five (5) members including: the Vice Chair of NPC as Commission Member, three (3) Commissioners at Minister Level, and the Secretary MOAD as Commission Member Secretary ex-officio. The ADS Commission will report to the PM. The ADS Implementation Support Unit (AISU) will provide Secretariat services to the ADS Commission. The three commissioners will be eminent persons nominated with renewable tenure of at least 5 years.

18. ADS Commissioners will (i) meet responsible agencies to monitor and assess progress of the ADS; (ii) highlight issues for coordination and solution at the highest level; (iii) identify policy, administrative, and regulatory changes required to assure progress in the implementation of the ADS; (iv) request relevant agencies to make the necessary changes; and (v) facilitate resource mobilization for implementation of national programs through the ADS Implementation Trust Fund (ATF).

COORDINATION COMMITTEES (NSC AND SUBCOMMITTEES, CADIC, RADC, DADC)

19. The National Support Committee (NSC) is the national coordination committee of line agencies under the chairmanship of Vice Chairman (VC) of National Planning Commission. NSC will be strengthened through secretariat service provided by the ADS Implementation Support Unit (AISU) and will be enhanced with the establishment of the following NSC sub committees charged with improving the coordination of ADS relevant issues such as:

- a. Coordination between agriculture and irrigation extension (specifically between DOA and DOI)
- b. Coordination among public sector, private sector (e.g. Federation of Nepal Chambers of Commerce and Industry or FNCCI, Agroenterprise Center or AEC, agribusiness associations, associations of small and medium enterprises), cooperative sector (e.g. National Federation of Cooperatives), and farmer organizations (e.g. Peasants' Coalition)
- c. Coordination between government sector and non-governmental organizations/international non-governmental organizations (NGOs/INGOs)
- d. Coordination between government and development partners
- e. Coordination among Research-Extension-Education organization (NARC - DOA, DLS, DFTQC - University of Agriculture and Forestry, Colleges of Agriculture, Center of Vocation Education and Training)
- f. Coordination between Agricultural Development and Food Nutrition Security and Food Safety (MOAD and Ministry of Health-MOH, National Nutrition and Food Security Steering Committee-NNFSSC)

20. Central Agriculture Development Implementation Committee (CADIC) chaired by Secretary MOAD will periodically convene agencies involved in the implementation of

agricultural programs and coordinate activities. CADIC will be strengthened through capacity building of the ADS Implementation Support Unit (AISU). Similar coordination mechanisms exist at the regional level - Regional Agricultural Development Committee (RADC) coordinated by Regional Director Agriculture – and at the district level - District Agricultural Development Committee (DADC) chaired by District Development Council (DDC) Chairman. All these mechanisms need to be strengthened and revitalized with support of the ADS Agricultural Support Unit and coordination with the ADS Commission.

21. Effective communication among DADCs, RADCs, and CADIC should be assured through periodic briefings from DADCs to the RADCs and CADIC. CADIC will coordinate with NSC. Annual ADS Report will be prepared by CADIC and submitted to NPC with the assistance of the ADS Implementation Support Unit.

ADS IMPLEMENTATION SUPPORT UNIT (AISU)

22. The implementation of the ADS requires coordination among different agencies and stakeholders; implementation also requires capacity in policy analysis and formulation, monitoring, and legislation and regulatory skills that are currently dispersed. A unit responsible to the National Planning Commission, endowed with policy, legal and analytical capacity, and assured of continuity at least over the first 7 years of the ADS will greatly contribute to bridging the gap between policy and implementation and enhancing the capacity of the ADS implementation agencies.

23. Functions of the AISU include:
- i. Provide capacity building in policy analysis and policy monitoring and integrated planning
 - ii. Support formulation and amendment of policies and regulations for implementation of the ADS
 - iii. Support formulation of integrated periodic plans (annual and 5-year plans, and revisions /updates of ADS plans)
 - iv. Support coordination mechanisms (CADIC, RADC, DADC) and provide secretarial services to the ADS Commission and NSC
 - v. Support policy monitoring of the ADS
 - vi. Facilitate implementation of national programs such as the ADS Flagship programs through contribution in the preparation of guidelines and monitoring systems
 - vii. Support harmonization of sector policies with international commitments and guidelines.
 - viii. Help to develop and institutionalize a performance-based management system for ADS
 - ix. Collect and analyze data of strategic importance to ADS implementation as needed and in synergy with existing data collection systems
 - x. Coordinate development partner investments and programs to be in line with implementation of the ADS.

ADS IMPLEMENTATION TRUST FUND (ATF)

24. A fund established to support the implementation of ADS. Its Board is headed by vice Chair of NPC and includes Secretary of MOF, Secretary MOAD, Joint Secretary Budget of MOF, Joint Secretary of IECCD at MOF, and Joint Secretary Planning MOAD (Member Secretary). Representatives of the ADP (ADS Development Partners Support Group) will be invitees to the

Board meetings. The Board decides the allocation of funds available in the ATF to the implementation of ADS programs.

25. The ATF Technical Committee will review ADS national programs proposal submitted by the agencies and managers of either core or flagship programs and assess whether the programs are in line with the overall ADS formulation. The Committee will submit the programs found consistent with the ADS to the Board for approval. The Committee is headed by Secretary of MOAD and includes the Joint Secretary of Planning of MOAD (as Member Secretary), and Joint Secretaries or related agencies such as NPC, MOI, MLD, and MOFSC. Technical experts from other agencies, including Development Partners may be invited to join specific committee meetings.

26. Once approved by the Board of ATF, funds will be channeled to core programs and flagship programs as follows. In the case of core programs, the funds will be channeled to the respective ministries responsible for the core programs; in the case of flagship programs, the funds will be channeled through MOAD which in turn will authorize the respective flagship program managers.

27. Funds will be disbursed, managed, and monitored by development results and consistently with reforms promoted by MOF in public financial management, public procurement, human resource management, and mutual accountability.

ADS PROGRAMS

28. The ADS will be implemented through two different types of programs: the Core Programs and the Flagship Programs. Both are essential to the success of the ADS. However, the mode of implementation of the two programs is different. The Core Programs are implemented mostly through existing agencies already in place at the ministry levels or department levels of agencies. The Flagship Programs on the other hand require different structure in view of the innovative and multisector nature of their activities.

FLAGSHIP PROGRAMS

29. The ADS envisages some prioritized programs around which could be mobilized sufficient consensus, resources, and effective management. These prioritized programs will be referred to as “ADS Flagship Programs”. The flagship programs of the ADS are:

- i. Food and Nutrition Security Program (FANUSEP)
- ii. Decentralized Science, Technology, and Education Program (DSTEP)
- iii. Value Chain Development Program (VADEP)
- iv. Innovation and Agro-entrepreneurship Program (INAGEP)

FOOD AND NUTRITION SECURITY PROGRAM (FANUSEP)

30. FANUSEP aims at improving food and nutrition security of the most disadvantaged. It will consist of three subprograms: the National Food Security Project (NAFSP), currently been finalized as part of the Global Agriculture and Food Security Program (GAFSP); the Food and Nutrition Security Plan of Action (FNSP), currently been finalized with assistance of FAO; and a new national food and nutrition security project to be designed and implemented to complement NAFSP and FNSP.

31. The commonality of the subprograms of FANUSEP is to target the poor, the disadvantaged groups and the geographically disadvantaged areas (eg. Karnali). The program will promote interventions that improve productivity, livelihoods, and nutritional practices of targeted beneficiaries including pregnant and lactating women farmers.

DECENTRALIZED SCIENCE, TECHNOLOGY, AND EDUCATION PROGRAM (DESTEP)

32. DESTEP aims at decentralizing the extension and research system while fostering coordination of research, extension, and education in order to enhance responsiveness of extension, research, and education institutions to farmers' and agroenterprises' needs.

33. The program will be implemented through a Program Manager selected through national competitive process. The DESTEP Manager will ensure coordination among related ministries and the departments, NARC, DOA, DLS, Department of Food Technology and Quality Control (DFTQC), agricultural education institutions such as Agricultural Universities and Colleges and facilitate implementation of the activities related to the outputs of the decentralized extension and research system, and strengthened agricultural education system.

34. The decentralized extension system will include three main measures: (i) establishment of Community Agricultural Extension Service Centers (CAESC) in each Village Development Committee (VDC); (ii) strengthening capacity of existing and planned agricultural and livestock extension stations that will provide backstopping services to the CAESCs; and (iii) promoting a voucher system to empower farmers to access the best available agricultural input and extension service providers.

35. The decentralized research system will require decentralization of NARC, establishment of new national research institutes (eg a National Horticultural Research Institute, National Animal Health Research Institute, and National Aquaculture and Fisheries Research Institute), establishment of a National Agricultural Research Fund (NARF) under NARC, and the establishment of research stations in all regions, including the far western region.

36. The integration with the agricultural education system will include support to the Agricultural University, creation of a Department of Agribusiness, capacity building of vocational schools and support to the establishment of regional agricultural colleges.

37. The funds required for implementation of the DSTEP will be pooled into a fund, the DSTEF (Decentralized Science, Technology, and Education Fund) that will be replenished through contribution of GON and Development partners. The DSTEP Manager will be responsible for disbursements of funds from the DSTEF to the related implementation agencies such as NARC, DOA, DLS, Agricultural University, and Agricultural Colleges.

VALUE CHAIN DEVELOPMENT PROGRAM (VADEP)

38. VADEP aims at developing prioritized value chains (initially only 5 such value chains will be selected - maize, dairy, vegetables, lentils, and tea) through comprehensive and integrated measures along the value chain that result in strengthened value chain linkages, increased public private partnership (PPP) investment and value added with sector impact. Differently from other ongoing or past value chain interventions in Nepal, the VADEP will have the following innovative features: (i) will be looking at and developing all the stages of the value chain, from seeds to final products, from production to processing, from market infrastructure to access roads and connectivity, from postharvest technology to quality assurance and exports; (ii) will be based on

associations of farmers, traders, processors, input providers and other value chain stakeholders in order to strengthen the linkages and ensure effective investment; (iii) will aim at replication and linkages beyond the district and achieve national impact; and (iv) will work not only with one district or department but across districts, departments, and value chain actors.

39. The Manager of VADEP will be recruited through national competitive process. S/he will coordinate with the chief executive officers (CEOs) of specific Value Chain Development Alliances (VCDAs) to implement specific value chain sub-programs. The VADEP Manager will facilitate the flow of funds from GON, development partners, and other investors (eg through the support of the Investment Board) to the VCDAs and will assure overall monitoring and evaluation of the program.

40. The Value Chain Development Alliances (VCDA) are societies registered according to the law, owned by farmers and their associations, entrepreneurs, input providers, logistics operators, warehouse managers, cooperatives, and other value chain actors. The commonality of all these VCDA actors is that they are all engaged commercially on a specific value chain and are interested in promoting its commercial development.

41. Each VCDA will have access to a Value Chain Development Fund (VCDF). The members of the VCDA will nominate a Board according to the law and the Board will select the CEO to manage the operations of the program. The Board of each VCDA will include 6 elected members and 5 non-elected members. The non-elected members will be nominated by GON and include representatives from MOAD, Ministry of Industry (MOI), Ministry of local Development (MLD), FNCCI, and financial institutions (eg Nepal Rastra Bank). The Board will be chaired by one of the elected members. The Management of each alliance will prepare a business plan and an investment plan, to be approved by the Board of the alliance. The operations of the VCDA will be audited according to the law of Nepal and according to regulations of the Development Partners supporting the VCDF.

INNOVATION AND AGROENTREPRENEURSHIP PROGRAM (INAGEP)

42. INAGEP aims to foster agricultural innovation and agroentrepreneurship through the combination of tax incentives, agribusiness incubators, and matching grants. The main beneficiaries of this program will be private enterprises including micro, small and medium enterprises, cooperatives, and targeted groups including the youth, women, and disadvantaged groups.

43. The program will be implemented through a Program Manager selected through a national competitive process. The INAGEP Manager will facilitate the growth of innovative small and medium agroenterprises through improved tax incentives, establishment of agribusiness incubators, and matching grants.

44. The funds required for implementation of the INAGEP will be pooled into a fund, the INAGEF (Innovation and Agroentrepreneurship Fund) that will be replenished through contribution of GON and Development partners. The INAGEP Manager will be responsible for disbursements of funds from the INAGEF to the agribusiness incubators and the matching grant fund managers.

THE LEADING STAKEHOLDERS: FARMERS, COOPERATIVES, AND PRIVATE SECTOR

45. The leading stakeholders in the ADS will be farmers, cooperatives, private agroenterprises, and their organizations (eg the Peasants' Coalition, the National Cooperatives Federation, the Seed Entrepreneurs Association, the Dairy Industry Association). There are similar organizations at the district level and in the case of farmers and cooperatives at the VDC level. Moreover, there are national and local commodity organizations or trade organizations. Farmers in the ADS include both commercial farmers and subsistence farmers; smallholders and marginal farmers; agroenterprises include micro, small, and medium enterprises.

46. The ADS recognizes that its success depends on the participation and the ownership of farmer organizations, cooperative organizations, and private sector organizations. Differently from previous strategies for the agricultural sector, the ADS has involved farmer organizations in the formulation stage and will continue to involve them during implementation, monitoring, evaluation, and periodic reviews.

47. The leading ADS stakeholders have the rights to:

- Participate and influence the ADS policy and investment decisions
- Participate in the monitoring of the ADS
- Access to information related to ADS planning, implementation, and monitoring

48. At the same time, the leading ADS stakeholders have the duty to:

- Contribute to the solution of the problems encountered during formulation and implementation of the ADS
- Contribute to accelerating the process of decision making regarding the ADS

49. The rights of leading stakeholders in the ADS are institutionalized as follows. Representatives of Farmer Organizations (FO), Cooperative organizations (COO), and Private Sector Agroenterprise Organizations (PSO) will be members of the ADS key decision and coordination bodies that oversee the formulation, planning, implementation, and monitoring of the ADS including:

- i. NSC and CADIC
- ii. NSC Subcommittees related to the ADS
- iii. Steering Committee of the ADS Implementation Support Unit
- iv. DADC and RADC
- v. NARC Board
- vi. Governing Body of the CAESC
- vii. Policy Review Panels organized to review the formulation of new policies under the proposed new Policy Analysis Division at MOAD
- viii. Steering Committee for the periodic 5-year Review, Evaluation, and Updating Committee of the ADS.
- ix. Technical Committee of the ATF

COST OF THE ADS

50. The initial evaluation of the ADS program cost over a period of 10 years is presented in Table 4.

Table 4 Total (10-year) Cost of the ADS and Yearly Average

Cost	US million	Rs billion	Rs billion/year	%
Total	\$3,301	284	28.4	100%
Govt/Donors	\$2,707	233	23.3	82%
Private/Community	\$594	51	5.1	18%

51. The Flagship Programs will represent about 50% of the total program cost. Among the Core programs, the main costs are irrigation (20%), fertilizer subsidy (12%), and infrastructure (9%). It should be noted that investment in value chain infrastructure related to the 5 prioritized value chains is included in the Flagship program on value chains (VADEP). It should also be noted that the ADS is promoting a voucher system for inputs (including fertilizer) and extension services. The voucher system will empower farmers to make decisions regarding extension services and inputs. Initially this system will be promoted on a pilot basis. Based on the review of performance of the pilot, the system might be expanded and progressively replace the direct subsidies such as fertilizer subsidies.

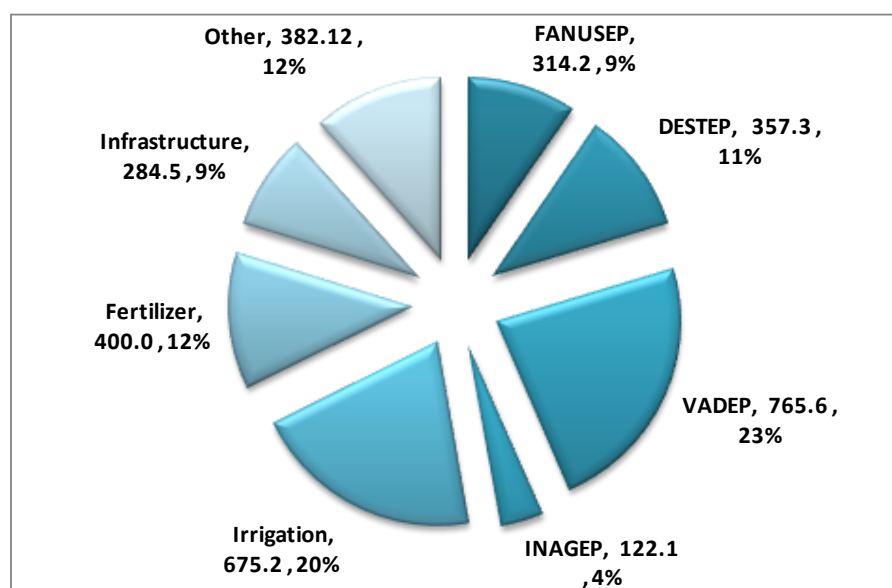


Figure 3 Composition of ADS Costs

Roadmap of the ADS

52. For the ADS to be implemented successfully, some conditions have to be satisfied. These include:

- i. Government commitment
- ii. Policy and Regulations for ADS Implementation in place
- iii. Consensus of key stakeholders
- iv. Development partners support

53. These conditions need to be validated as follows:

- i. Government commitment

- Medium term budget commitment
- Tenure of key positions
- Establishment of ADS Commission, ADS Implementation Trust Fund (ATF), Coordination sub-committees of NSC, and ADS Implementation Support Unit (AISU)
- ii. Policies and Regulations for ADS Implementation
 - Formulation and Approval
- iii. Consensus of key stakeholders
 - Pledge consensus over the key agreement points
- iv. Development partners support
 - Medium term resource commitment

Table 5 Examples of Policies and Regulations needed for Implementing the ADS

Governance	Productivity	Commercialization	Competitiveness
1. Tenure of key positions	1. CAESC	1. Contract	1. Innovation Funds
2. Composition of NSC and Subcommittees	2. NARC restructuring	2. Value Chain Programs	2. Quality and Safety regulations
3. Composition of CADIC, RADC, DADC	3. Dept Agribusiness Agricultural University and Ag Colleges	3. Insurance	3. Food safety law
4. ADS Information desks	4. Vouchers for extension and input	4. New Financial Products	...
5. ADS Implementation Support Unit (AISU)	5. Land Leasing	...	
6. ADS Commission	...		
7. ADS Implementation Trust Fund (ATF)			
...			

Early Milestones of the ADS

- Before GON Approval
 - Finalize ADS document
 - Extension awareness campaign about the ADS at the central and local level
 - Pledged consensus of key stakeholders
 - Indicative support by development partners
- During First Year of Implementation
 - Commitment by GON to mid-term support of the ADS
 - Acts for Coordination Committees, ADS Commission, ATF and Flagships
 - Establish AISU, ADS Commission, ATF, Coordination Committee
 - Guidelines for Implementation
 - Recruit Program Managers for ADS Flagships
 - Budget allocations to ATF

Monitoring and Evaluation of the ADS

54. The ADS needs to be monitored regularly, professionally, and in a participative manner. Monitoring divisions and units will be established at the Ministry level and department levels and will be provided support and capacity building by the ADS Implementation Support Unit. In addition to project and program monitoring, the ADS will require regular policy monitoring. Monitoring will need to go beyond inputs and output monitoring but include outcomes and impact monitoring according to the targets and design monitoring framework of the ADS programs. Monitoring reports should be publicly available both in Nepali and English and discussed regularly at national and local events. Monitoring should also identify good performance and link performance to reward.

55. ADS is a living strategy. Through regular monitoring and periodic review and evaluation, the details of the ADS will continuously evolve and improve. An external 5-year review of the ADS will be commission and widely discussed by government and civil society.

1 INTRODUCTION

56. This document is the *Action Plan and Roadmap Report* for the Technical Assistance (TA) 7762-NEP on *Preparation of the Agricultural Development Strategy* (henceforth, the TA will be referred as simply “ADS”). The TA is funded by Government of Nepal (GON) with support by Asian Development Bank (ADB), International Fund for Agricultural Development (IFAD), European Union (EU), Food and Agriculture Organization (FAO), Swiss Agency for Development and Cooperation (SDC), Japan International Cooperation Agency (JICA), Denmark Agency for International Development (DANIDA), World Food Program (WFP), United States Agency for International Development (USAID), Department for International Development (DfID), the World Bank, the Australia Agency for International Development (AusAID), and the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women).

57. The report is the *fifth* main deliverable of the ADS Preparation Team, after the *Inception Report*², the *Assessment Report*³, the *Vision Report*⁴, and the *Policy Options Report*⁵. The *Assessment Report* presented the current situation of the Agricultural Sector, identified issues and constraints, and discussed the policy context. The *Vision Report* presented the stakeholders’ view of the Agricultural Sector over the next 20 years, taking into consideration likely trends of factors exogenous to the agricultural sector and lessons from experience of agricultural transformation in other countries. The *Policy Options Report* presented the recommendations of the TA Team to accelerate the process of agricultural transformation of Nepal from the current situation of low agricultural development to the desired situation envisaged in the ADS vision⁶.

1.1 Objective of the Action Plan and Roadmap Report

58. The *Action Plan and Roadmap Report* objective is to present the plan for the implementation of the ADS consistently with the policy recommendations and strategic framework of the *Policy Options Report*. The *Action Plan and Roadmap Report* will provide details about the activities required to achieve the outputs leading to the desired outcomes of the ADS. The activities will be costed for the initial 10-year period of the ADS. A roadmap with the key milestones of the ADS will be introduced for the first 5-year period of the ADS. The report will also give the institutional framework proposed for implementing the ADS.

² ADB 7762-NEP (2011) Inception Report. Technical Assistance for the Preparation of the Agricultural Development Strategy, Asian Development Bank, September 2011

³ ADB 7762-NEP (2011) Assessment Report. Technical Assistance for the Preparation of the Agricultural Development Strategy, Asian Development Bank, April 2012

⁴ ADB 7762-NEP (2011) Vision Report. Technical Assistance for the Preparation of the Agricultural Development Strategy, Asian Development Bank, December 2012

⁵ ADB 7762-NEP (2011) Policy Options Report. Technical Assistance for the Preparation of the Agricultural Development Strategy, Asian Development Bank, February 2013

⁶ The Vision Statement presented in the Vision Report is: *A self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth, and contributes to improved livelihoods and food and nutrition security.*

1.2 Methodology

59. The *Action Plan and Roadmap Report* builds upon the *Policy Option Report* and adopts a logical framework approach whereby vision, outcome, outputs, and activities are identified. Outcomes will contribute to the achievement of the vision; outputs will contribute to the achievement of the outcomes; and activities will contribute to the achievement of the outputs. The identified plan of action is then further developed institutionally. The key agencies involved in the implementation, their role, and their inter-relationships are specified. The plan of action for the first 10-year of the ADS is costed and compared to existing sector budget and put in international context. A roadmap identifying the critical conditions and initial steps for the plan of action is then presented. The measures and approaches proposed in this report have been discussed with several stakeholders both at the central and at the regional level. The current report reflects most of the comments and suggestions received so far.

1.3 Organization of the Report

60. The report is organized into 6 chapters as follows:

Chapter 1	Introduction
Chapter 2	Strategic Framework and Action Plan
Chapter 3	Activities of the ADS Action Plan
Chapter 4	Costs of the ADS
Chapter 5	Implementation Arrangements
Chapter 6	Roadmap and Next Steps

2 STRATEGIC FRAMEWORK AND ACTION PLAN

2.1 ADS and Agricultural Transformation

61. The Agricultural Development Strategy (ADS) will guide the agricultural sector of Nepal over the next 20 years. Over the course of this period, the structure of the agricultural sector in Nepal is expected to change considerably and agribusiness to grow relatively to agriculture. The linkages between agriculture and other sectors in the economy will be critical to the reduction of poverty particularly in rural areas where the development of non-farm activities based on agriculture will be fundamental for the growth of an overall robust economy, a more balanced rural economy, and employment generation.

62. In this context, it is worth emphasizing that the ADS looks at the agricultural sector in its complexity, and encompasses not only the production sectors (crops, livestock, fisheries, forestry) but also the processing sector, trade and other services (storage, transportation and logistics, finance, marketing, research, extension).

63. The strategy is formulated taking into account the conceptual framework of agricultural transformation of Nepal from a society primarily based on agriculture to one that derives most of its income from services and industry. This process will have profound implications for the ways the Nepali population will shape their food production and distribution systems, the development of rural areas including the rural non-farm sector, labor and land productivity, trade balance, employment and outmigration of the youth, the role of women in agriculture, and management of natural resources in the context of increasingly more severe climate change events. The ADS will ensure that the process of agricultural transformation is accelerated and molded according to the aspirations and constraints of Nepali society.

64. In this process of transformation, several things take place at the same time⁷. Agricultural GDP and labor share of agriculture decline, but at the same time agricultural productivity and agricultural GDP increase. So, in spite of being less as a share of total GDP, agricultural GDP is still growing bigger.

65. Four lessons⁸ from the process of agricultural transformation are relevant to the formulation of ADS's vision. The lessons can be summarized as follows;

- (i) Total Factor Productivity (TFP) growth is the main source of future agricultural growth.
- (ii) At early stage of development, agricultural growth is the main engine of poverty reduction. Lower inequality enhances the impact of growth on poverty reduction.
- (iii) Integration of smallholder farmers with modern value chains is critical to responding to the challenges of growing urbanization.
- (iv) As the economy moves closer to middle income status, the development of the rural non-farm sector becomes increasingly important in closing the gap between rural and urban areas.

66. The implications for the ADS can be summarized as follows:

- (i) Accelerate investment in Science and Technology. Invest in the Knowledge Triangle – research, education, and extension (REE).
- (ii) Ensure broad-based and inclusive agricultural growth. Invest in programs to moderate social and geographic inequalities.

⁷ Timmer 2007.

⁸ Goletti 2011.

- (iii) Integrate smallholder farmers with competitive value chains that are able to meet the more demanding requirements of growing urban population in Nepal and abroad.
- (iv) Promote rural infrastructure and rural agro-enterprises that energize the economic texture of rural Nepal.

2.2 Growth and Poverty Reduction

67. In resource-poor low income countries, a given rate of GDP growth due to agricultural growth reduces poverty 5 times more than does an identical dose of GDP growth due to non-agricultural growth⁹ and investment in agricultural capital stock has been found to reduce hunger¹⁰. Agricultural investment is crucial for agricultural growth. A scenario of “business as usual” like the relatively low growth of agriculture in Nepal at 3% will have repercussion on the time needed to reduce poverty. If the low growth of the past continues, it will take more than 20 years to halve the current poverty rate of 25% (see Figure 4). With an accelerated growth of 5%, the time needed to halve poverty will be less than 10 years. ADS will promote increased investment in the agricultural sector leading to faster agricultural growth and faster poverty reduction.

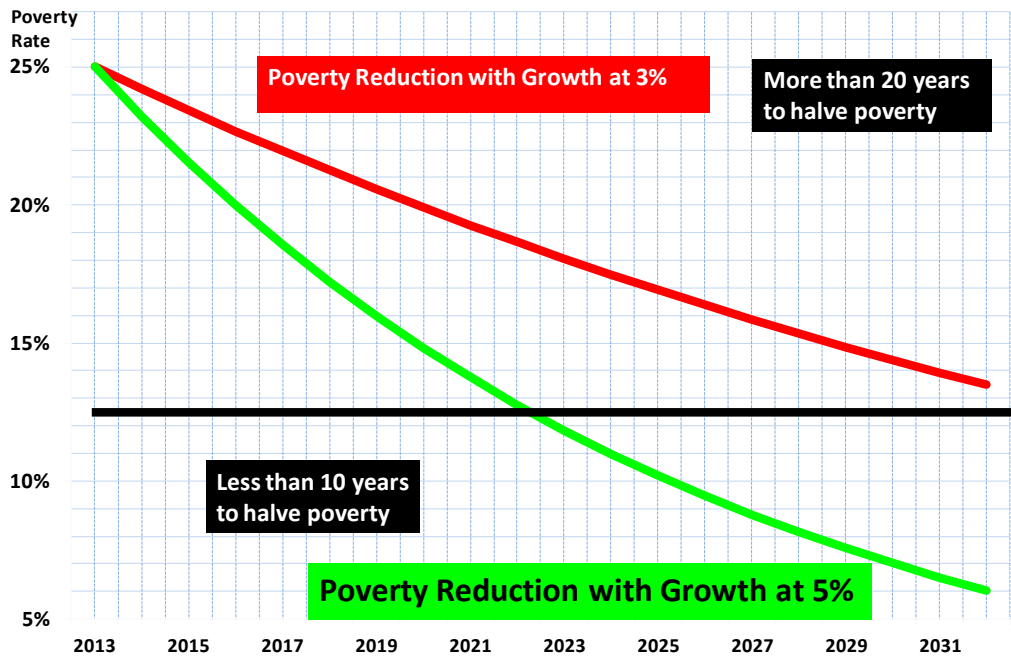


Figure 4 Growth and Poverty Reduction¹¹

2.3 Vision of the ADS

A self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security.

⁹ Christiansen, L., Demery, L., and Kuhl, J. 2010 The evolving role of agriculture in poverty reduction: an empirical perspective, *Journal of Developing Economics*, 96:239-254.

¹⁰ FAO 2012. *The State of Food and Agriculture*.

¹¹ Based on growth poverty elasticity of -2.

Table 6 Indicators and Targets for ADS Vision

Vision Component	Indicators	Current Situation (2010)	Target Short Term (5 years)	Target Medium Term (10 years)	Target Long Term (20 years)
Self-reliant	Self-sufficiency in foodgrains	5% trade deficit in foodgrains	0% trade deficit	0-5% trade surplus	0-5% trade surplus
Sustainable	Year-round irrigation	18% coverage	30%	60%	80%
	Soil organic matter	1%	2%	4%	4%
	Ha degraded land	3.2 million ha	2.88 m ha	2.56 million ha	1.6 million ha
	Forest cover	39%	39%	39%	39%
	Agricultural land productivity (AGDP/ha)	\$1,804	\$2,302	\$2,938	\$4,787
	Agribusiness as % AGDP	30%	40%	50%	100%
Competitive	Agricultural trade balance	Trade deficit \$350 million	Trade deficit \$310 millio)	Trade deficit \$181 million	Trade surplus \$690 million
	Agricultural Exports	\$248 million	\$400 million	\$700 million	\$2000 mil
Inclusive	GDI (Gender Dev Index)	0.499	0.550	0.675	0.750
	% of land owned by women or as joint ownership	10%	15%	30%	50%
	% of farmers reached by ag programs	12%	17%	25%	50%
Growth	Average annual growth of AGDP	3%	4%	5%	6%
Livelihood	AGDP/ Agricultural labor	\$794	\$979	\$1206	\$1833
	Poverty in Rural Areas	35%	28%	20%	10%
Food and Nutrition Security	Food Poverty	16%	12%	8%	1%
	Nutrition	41.5% stunting 31.1% underweight 13.7% wasting	Reduction Consistent with MSNP and FSNPA	Reduction Consistent with MSNP and FSNPA	Reduction Consistent with MSNP and FSNPA

2.4 Strategic Framework

68. In order to achieve the vision the ADS will accelerate agricultural sector growth through four strategic components including governance, productivity, profitable commercialization, and competitiveness while promoting inclusiveness (both social and geographic), sustainability (both natural resources and economic), development of private sector and cooperative sector, and connectivity to market infrastructure (eg agricultural roads, collection centers, packing houses, market centers), information infrastructure and ICT, and power infrastructure (eg rural electrification, renewable and alternative energy sources). The acceleration of inclusive, sustainable, multi-sector, and connectivity-based growth is expected to result in increased food and nutrition security, poverty reduction, agricultural trade surplus, higher and more equitable income of rural households, and strengthened farmers’ rights. Figure 5 provides an illustration of the strategic framework of the ADS. Selected targets for each component of the strategy are presented in **Table 7**.

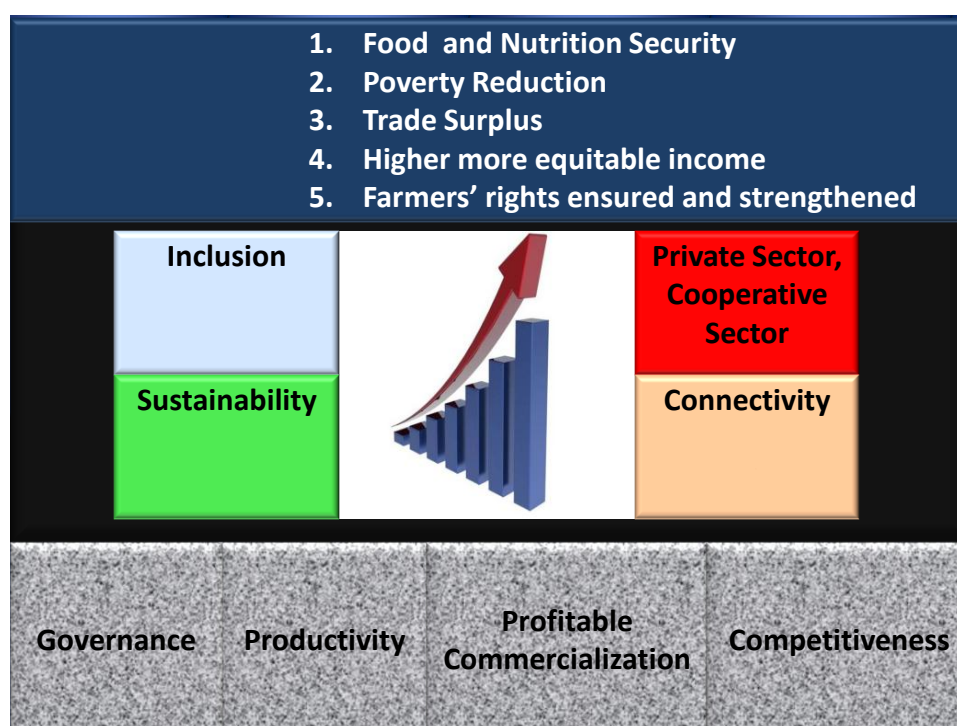


Figure 5 Strategic Framework of the Agricultural Development Strategy

Table 7 Targets for the Strategic Components of the ADS

Component	Indicator	Current Situation	Target
Governance	Agricultural Growth	3% average annual growth	5% average annual growth
Productivity	Land productivity	\$1,804/ha	\$4,787/ha
	Labor productivity	\$794/agricultural labor	\$1,833/agricultural labor
Commercialization	Marketed surplus	Less than 50% of agricultural production	More than 80% of agricultural production
	Agribusiness GDP	30% of Agricultural GDP	100% of Agricultural GDP
Competitiveness	Agri-food exports	\$248 million	\$2,000 million

2.5 The Outcomes and Outputs of the ADS

69. The ADS has four main outcomes:

- Outcome 1 - Improved governance
- Outcome 2 - Higher productivity
- Outcome 3 - Profitable commercialization
- Outcome 4 - Increased competitiveness

2.5.1 Improved Governance

70. Governance in the ADS refers to¹² “the capacity of government to design, formulate and implement policies and discharge functions.” In the absence of such capacity the ADS will not be implemented successfully. Key elements of governance include¹³: accountability, participation, predictability, and transparency.

71. In spite of frequent pronouncements in support of the agricultural sector, policies to support the sector have either not been formulated or have not been implemented. Compounding the problem are the frequent changes in tenure of the key leaders for policy, program, and project implementation and also issues of consistency of policy itself. The result has been a loss of credibility in policy that is responsible in part for the failure of previous programs. In order to avoid this situation the ADS sets clear targets for the outputs of improved credibility of policy commitment and will monitor appropriately. The ADS also recognizes the complexity of the agricultural sector requiring coordination and effective planning among different agencies, different levels (central and local), and different stakeholders (government, civil society, development partners). Effective coordination and planning will key outputs to achieve the governance outcome. An implementation support unit will facilitate various institutions to implement the ADS. At the same time, the inclusion aspects of the ADS (gender, disadvantaged groups, geographically disadvantaged) will be taken into account through appropriate mechanism that also ensure participation and accountability in the planning, implementation, and monitoring of the ADS. Capacity of human resources both within the government and selected organizations in civil society (eg farmer organizations and cooperative organizations) will contribute to the overall strengthening of the governance of the ADS.

72. Without credible programs to alleviate the food and nutrition security conditions of the most disadvantaged groups, there could be hardly any credibility in the ADS and its contribution to food and nutrition security. One of the overall goals of the ADS is to improve food and nutrition security of its population. This is a long term goal towards which all the components of the ADS contribute. However, in the short term the test of governance of the ADS is the capacity of the government to meet the most urgent needs of the most disadvantaged groups. In order to respond to this governance test, a national flagship program on food and nutrition security has been included in the ADS under the governance component.

73. The overall outcome of improved governance in the ADS is achieved through 9 outputs as follows:

¹² World Bank 1992, “Governance and Development”, the World Bank

¹³ ADB 1995, “Governance: Sound Development Management”, Asian Development Bank, October 1995

Table 8 Outputs for Outcome 1 on Improved Governance

No.	Area	Output	Description
1.	Policy Credibility	Credibility of policy commitment	Credible and consistent policy and greater continuity in the program leadership and implementation of programs and projects.
2.	Coordination	Improved coordination among institutions involved in the ADS implementation	Strengthen the capacity of existing coordination institutions and establish new mechanisms within the existing coordination institutions to address emerging needs to coordinate government agencies programs and projects with cooperative sector, private sector, farmer organizations, NGOs, and development partners.
3.	Planning	Integrated planning	Assign to NPC the responsibility to oversee the implementation of multi-sector plans and policies, including the assurance that policies and plans are adequately budgeted.
4.	Implementation Support	Effective implementation support	Establish an ADS Support Technical Assistance Unit under NPC to facilitate the implementation of the ADS through analytical services, monitoring and evaluation, and technical assistance.
5.	Gender Equality and Social and Geographic Inclusion	Mechanisms established for gender equality and social and geographic inclusion in the ADS	Establish a comprehensive set of mechanisms at the policy, planning, and implementation levels to assure gender equity, social inclusion, and geographical inclusion in the ADS through capacity building of relevant institutions at the central and local level.
6.	Monitoring and Evaluation	Timely and effective monitoring and evaluation of the ADS	Support various government units with capacity building and resources in order for them to carry out monitoring and evaluation on a timely and professional manner.
7.	Participation and Accountability	Mechanisms established for participation of civil society in the planning, implementation, and monitoring of the ADS	Ensure that civil society including farmer organizations, cooperatives organizations, and trade/industry organizations are engaged in the ADS, have access to information, and provide comments and recommendations throughout the process of planning, implementation, and monitoring of the ADS.
8.	HRD and Capacity Building	Enhanced capacity of key institutions involved in ADS coordination and implementation	Focused plan of capacity building and human resource development of targeted institutions to improve ADS coordination and implementation.
9.	Food and Nutrition Security	Improved food and nutrition security of the most disadvantaged groups	Set of measures targeted to the most disadvantaged groups (socially and geographically) who are food and nutritionally insecure.

2.5.2 Higher Productivity

74. Improved productivity of land and labor is at the cornerstone of the ADS. Agricultural productivity requires the adoption of appropriate technologies and know-how to increase efficiency and sustainability of agricultural production consistently with market demand. The measures to raise agricultural productivity include those related to (i) effective agricultural research and extension; (ii) efficient use of agricultural inputs; (iii) efficient and sustainable practices and use of natural resources (land, water, soils); and (iv) increased resilience to climate change and disasters.

75. In the ADS, the government sector will be one among other actors including private sector, cooperative sector, NGOs, leading farmers, and farmer field schools involved in the generation and dissemination of technology. The government sector however has a key role in coordinating the efforts of other actors, facilitating implementation of policies and plans, monitoring performance, and enforcing regulations.

76. The ADS recognizes that already a number of actors are involved in agricultural extension and over time their presence will become even more important. Rather than advocating a massive increase of human resources in the public extension service, the ADS promotes capacity building of existing government human resources and the transformation of their role from delivery of extension services to overall facilitator of agricultural extension services. This role change will be accompanied by a greater emphasis on the delivery at the VDC level, where Community Agricultural Extension Service Centers (CAESC) will be established.

77. The ADS also recognizes the critical importance that farmers' access and control of the means of production – primarily land – has for the success of the strategy. Critical land issues such as tenancy, fragmentation, degradation, land use planning need to be resolved over the course of the ADS and their resolution will require the participation of the farmers' organizations, cooperatives, and private sector in order to find equitable and efficient mechanisms for enhancing land productivity. Land productivity increases should be reflected in increased benefits for the farmers and the livelihoods of the rural households. Moreover, given the dominance of smallholder farmers in the agrarian structure of Nepal, promotion of farmer organizations and cooperatives will be fundamental to achieve economies of scale in marketing, finance, and logistics.

78. Productivity enhancement will also depend on timely availability of quality inputs. The ADS recognizes that in the long term productivity and competitiveness of the agricultural sector depend on the access and adoption to improved technology and effective management of natural resources and other inputs to achieve total factor productivity increase. While subsidies may be an expedient approach in the short term to address targeting issues or market failures, in the long term they are not a viable, efficient, or effective solution to sustainable improvement of productivity. The ADS will focus on generation and adoption of sustainable technologies and practices and will pilot a voucher system to empower farmers in their choice of inputs and extension services.

79. The overall outcome of improved productivity in the ADS is achieved through 13 outputs as follows:

Table 9 Outputs for Outcome 2 on Higher Productivity

No.	Area	Output	Description
1.	Extension	A decentralized extension system responsive to farmers and agroenterprises' needs	Promote participation of private sector, cooperative sector, NGOs, and public sector in agricultural extension and adopt of a pro-poor decentralized extension system approach to dissemination and adoption of innovative and demand-oriented technology and know-how.
2.	Research	A decentralized research system responsive to farmers and agroenterprises' needs	Restructure NARC with focus on decentralization and responsiveness to research needs of farmers and agroenterprises while fostering linkages within the Research-Education-Extension triangle.
3.	Education	A strengthened agricultural education system	A comprehensive package of measures to ensure closer integration with research and extension, improved capacity of the university, agricultural colleges, and vocational schools, and better response to the needs of farmers and agroenterprises.
4.	Land	A farming sector composed of adequately sized farms that use land efficiently and sustainably	Improve land use management and planning to promote a farming sector composed of adequately sized owner-operated, larger-size cooperatives and agro-business farms that use land efficiently and sustainably.
5.	Irrigation	Irrigated area expanded equitably and viably, and improved irrigation efficiency and management.	Expand irrigable area by the most economic and equitable means while increasing irrigation efficiency and intensity, and improving irrigation management.
6.	Agricultural Inputs	Timely access to quality agricultural inputs at affordable price.	Formulate and adopt consistent policies for input supply and distribution.
7.	Seeds	Effective implementation of existing seed policies including Seed Vision 2025 through sufficient investment in resources and capacity building.	Ensure effective implementation of existing policies through sufficient investment in resources and capacity building.
8.	Fertilizer	A pragmatic solution to fertilizer supply that is acceptable in the short-term, clearly indicates a strategy for the medium and long term, and aims at improving productivity.	Maintain fertilizer and other subsidies at 2011 level in the short term, review them in the medium term and remove them in the long term while initiating a number of measures to improve productivity and fertilizer use efficiency, promote organic/biofertilizer as supplementary and complementary to chemical fertilizer, and facilitate effective distribution and supply to meet demand.
9.	Animal breeds	A variety of improved animal breeds appropriate for the Nepal farming systems conditions are available to farmers.	Ensure the desired level of improved breeds of livestock, poultry, and fish.
10.	Mechanization	A range of mechanization options accessible to	Support private sector led mechanization with awareness creation, demand stimulation,

No.	Area	Output	Description
		farmers through the private sector.	concessionary financing arrangements, capacity building, and taxation.
11.	Farmers' Resilience	Improved resilience of farmers to climate change, disasters, price volatility and other shocks.	Increase resilience of farmers to climate change events, disasters, and idiosyncratic shocks through the combination of measures such as adoption of stress tolerant crop and animal species, establishment of early warning systems (EWS), access to Farmers' Welfare Fund, and food reserves system.
12.	Sustainable farming and GAP	Sustainable farming, good agricultural practices (GAP), good veterinary animal husbandry (GVAHP) are established and adopted.	Establish Good Agricultural and Veterinary Practices standards and promote adoption of good practices in integrated soil fertility, plant nutrients, pest management, and herd management while promoting renewable energies based on biogas and biomass utilization.
13.	Forestry	Subsistence production based forestry is developed into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement.	Develop subsistence production based forestry into a competitive, agriculture friendly and inclusive forest management practices in line with a holistic and community based landscape approach to natural resource management and livelihoods improvement.

2.5.3 Profitable Commercialization

80. The outcome of profitable commercialization in the ADS is part of the overall process of transforming the agricultural sector from a substantial proportion of farming carried out solely for subsistence, and by default (i.e. no other livelihood or household food security options are available to the household), into a sector in which the vast majority of farming is carried out for commercial purposes and is connected to the local, national, and international markets.

81. This transformation towards a more commercialized agriculture requires a set of measures that focus not only on farmers, but, fundamentally on agroenterprises involved in the commercialization of agricultural products and services. These enterprises include input providers, producer companies, marketing cooperatives, storage operators, logistic companies, agroprocessors, importers and exporters of agricultural and food products, distributors, traders, and agricultural service providers (including financial service providers, insurance providers, business service providers).

82. Profitable commercialization requires the combination of a number of measures such as an enabling investment climate and a number of reforms to strengthen contractual arrangements, taxes, and financial services to promote an efficient commercial agriculture. The ADS also emphasizes the need of prioritizing a number of value chains to ensure they achieve scale economies and therefore have national income and employment impact. Finally, the ADS

supports the improvement of physical and institutional infrastructure to promote commercial agriculture (agricultural roads, market information and market intelligence systems).

83. The overall outcome of profitable commercialization in the ADS is achieved through 8 outputs as follows:

Table 10 Outputs for Outcome 3 on Profitable Commercialization

No.	Area	Outputs	Description
1.	Investment Climate	Improved investment climate for agricultural commercialization	Improved investment climate for agricultural commercialization through structured dialogues of the government with farmer organizations, trade organizations, cooperative organizations, and other private sector organizations.
2.	Contracts	Contractual arrangements for commercial agriculture	Contractual arrangements for commercial agriculture, including contract farming, land leasing, equipment leasing, and secured transactions for warehouse receipts.
3.	Taxes	Tax policy that supports an efficient commercial agricultural sector	Tax policy that supports an efficient commercial agricultural sector with the long term objective of agricultural sector providing the government with an additional source of revenues.
4.	Finance and insurance	A variety of competitive and demand-driven financial and agricultural insurance products.	Diverse agricultural finance and insurance providers that supply a variety of competitive and demand-driven financial and agricultural insurance products.
5.	Value Chains	Competitive agricultural value chains that increase value added and benefits to smallholder farmers and agroenterprises	A prioritized group of 5 value chains leading to national program to development competitive agricultural value chains that increase value added and benefits to smallholder farmers
6.	Roads	Rural roads network expanded.	Rural roads network expanded.
7.	Market Intelligence	Agricultural market information and ITC products for market intelligence.	Agricultural market information and ITC products for market intelligence.
8.	Rural Electrification	Expanded rural electrification and renewable energies.	Rural electrification and renewable energies (water, solar, wind, biomass, biogas).

2.5.4 Increased Competitiveness

84. Accelerated agricultural growth represents the best way out of poverty for the millions in Nepal still living below the poverty line. Agricultural-based growth is 2 to 3 times more effective at reducing poverty than similar level of growth originating from other economic sectors. Experience from Asian economies has demonstrated that one of the most successful ways to stimulate growth in agriculture is by creating an enabling investment climate for agricultural entrepreneurs and by creating increased access to the critical knowledge and inputs

needed to achieve higher levels of productivity. For growth to be sustainable it needs to be rooted in structural changes and improvements that do not evaporate with fluctuations in global prices, disappear after a bad monsoon or depend on concessional external funding. The ADS has consequently placed its core focus on *competitiveness*. Competitiveness is founded on: a competent, hard-working and efficient work force; a clear understanding of what makes Nepal unique in the global market place; and, the determination and entrepreneurship to maximize productivity and innovate with new products and processes based on the country's natural endowments.

85. To achieve this vision, the energy and inventiveness of the private sector is essential. Since the design of the APP, many years ago, the private sector in Nepal has made considerable investments in agriculture and created thousands of sustainable jobs and incomes; the poultry sector “leapfrogged” Indian technology and now outcompetes them in its cost of production, nursery investors in Banepa reach out to 20,000 farmers and collectors of medicinal herbs, commercial milk production is gradually replacing subsistence dairy, and the dramatic expansion of the vegetable sector is the product of small and medium investments in sustainable supply chains that link primary producers with viable markets. This emergence of the private sector in agriculture is no casual accident; it is happening on a global stage as well as in India, Bangladesh and Pakistan. The age of communications and better education has enabled Nepali producers to learn better practices and access market information, while stability, rising market prices for land and remittances have created the disposable cash to make these investments.

86. These changes demand an approach to agricultural promotion and competitiveness that acknowledges the vital role of the private and cooperative sector, without conceding the critical function of the government to oversee, regulate and facilitate growth that is both competitive and pro-poor. This blending of private and cooperative sector energy and innovation with the steady hand of government to ensure positive public outcomes is often called public-private partnerships. The essence of these partnerships is to create some form of “*additionality*” that would not have been possible without the other's involvement. From the public point of view it affords the opportunity to leverage its funds and channelize outcomes while for the private and cooperative sector the addition of public funds reduced the perceived exposure to investing in high-risk high-potential projects.

87. The overall outcome of increased competitiveness in the ADS is achieved through 4 outputs as follows:

Table 11 Outputs for Outcome 4 on Increased Competitiveness

No.	Area	Output	Description
1.	Market Infrastructure	Market infrastructure developed	Market infrastructure developed through the combination of public investment, PPP and community participation, focused on the development of prioritized value chains
2.	Innovation	Growth of innovative small and medium agribusiness enterprises	Growth of innovative small and medium agribusiness enterprises through the combination of tax incentives, innovation matching grant funds, and agribusiness incubators.
3.	Export Promotion	Growth of food and agricultural products exports	Growth of food and agricultural products exports through stronger trade negotiation capacity; capacity to apply and comply with SPS, AD, and CVD measures;

No.	Area	Output	Description
			reduced/eliminated pro-manufacturing bias in tariff structure; and the policy of pegged exchange rate with India and its impact on the agricultural sector reviewed and assessed.
4.	Quality and Safety	Enhanced food safety and quality	Enhanced food safety and quality standards, effective regulations and institutions.

2.6 Output Indicators

88. Outcome indicators have been presented in Table 7. The following Table 12 to Table 15 present output indicators that will be a basis for the elaboration of a more in depth ADS monitoring system.

Table 12 Output Indicators for Outcome 1 on Improved Governance

Output	Indicators
1.1 Credibility of policy commitment	<ul style="list-style-type: none"> Quarterly press releases from GoN on ADS Section on Policy Credibility in the Annual ADS M&E report Regulation on tenure of key positions approved and enforced Independent review of ADS every 5 years
1.2 Improved coordination among institutions involved in the ADS implementation	<ul style="list-style-type: none"> Amendments of NSC and CADIC approved and enforced Quarterly meetings of NSC, CADIC held and minutes available on ADS website Subcommittees of NSC established Subcommittees of NSC held meetings quarterly and minutes available on ADS website RADC and DADC meetings held quarterly Section on coordination in the Annual ADS M&E report CADIC Annual Report on ADS
1.3 Integrated planning	<ul style="list-style-type: none"> Regulation on NPC and multisector plans Report by NPC on consistency of periodic plans and budgets with ADS MDAC report covering ADS produced annually NDA report covering ADS produced annually
1.4 Effective implementation support	<ul style="list-style-type: none"> ADS implementation guidelines and implementation manual ADS implementation monitoring reports (biannual) Number of officials trained in policy analysis and policy monitoring Policy performance reports (annual) Draft Annual Report on ADS Policy workshops and presentation of ADS implementation Policy studies Briefings to NPC, CADIC, NSC, and NSC subcommittees
1.5 Mechanisms established for gender equality and social and geographic inclusion in the ADS	<ul style="list-style-type: none"> GEED staff trained on GESI GESI statistics consolidated by GEED staff GESI staff at district level GESI staff at other agencies involved in the ADS Reports on GESI-responsiveness of Extension and Research GESI strategy developed GESI section on the ADS annual report
1.6 Timely and effective monitoring and evaluation of the ADS	<ul style="list-style-type: none"> ADS monitoring system established ADS monitoring reports published quarterly
1.7 Mechanisms established for participation of civil society in the planning, implementation, and	<ul style="list-style-type: none"> ADS website ADS information desk at Planning Division of ADS ADS information desks at Departments, Regions and Districts

Output	Indicators
monitoring of the ADS	<ul style="list-style-type: none"> Annual ADS conference
1.8 Enhanced capacity of key institutions involved in ADS coordination and implementation	<ul style="list-style-type: none"> Capacity needs assessment and capacity plan of key institutions Monitoring report on capacity building plan
1.9 Improved food and nutrition security of most disadvantaged groups	<ul style="list-style-type: none"> Number of beneficiaries from disadvantaged groups Income of beneficiaries Nutritional outcomes (stunting, wasting, undernutrition)

Table 13 Output Indicators for Outcome 2 on Higher Productivity

Output	Indicators
2.1 A decentralized extension system responsive to farmers and agroenterprises' needs	<ul style="list-style-type: none"> Establishment of CAESC Farmers reached by extension services Number of demonstrations Adoption of improved technologies Joint programs with Education and Research organizations
2.2 A decentralized research system responsive to farmers and agroenterprises' needs	<ul style="list-style-type: none"> Establishment of new NRI Establishment of Research Stations Generation of new technologies Joint programs with Extension and Education organizations
2.3 A strengthened agricultural education system	<ul style="list-style-type: none"> Establishment of Department of Agribusiness Improvement in Facilities of Agricultural and Forestry University Establishment of New Regional Agricultural Colleges Improved capacity of vocational school Joint programs with Extension and Research organizations
2.4 A farming sector composed of adequately sized farms that use land efficiently and sustainably	<ul style="list-style-type: none"> Land leasing regulations and practices expanded Larger commercial farms managed by cooperative or agroenterprises Completion of cadastral surveys Land tenancy disputes reduced
2.5 Irrigated area expanded equitably and viably, and improved irrigation efficiency and management.	<ul style="list-style-type: none"> Area under year round irrigation increased Increased cropping intensity Increased water productivity Increased cropping intensity
2.6 Timely access to quality agricultural inputs at affordable price.	<ul style="list-style-type: none"> Vouchers policy to access agricultural inputs and extension established Policy for gradual transformation of subsidy system into market based system
2.7 Effective implementation of existing seed policies including Seed Vision 2025 through sufficient investment in resources and capacity building.	<ul style="list-style-type: none"> Seed replacement rate increased. Public and private sector investment in seed sector increased
2.8 A pragmatic solution to fertilizer supply that is acceptable in the short-term, clearly indicates a strategy for the medium and long term, and aims at improving productivity.	<ul style="list-style-type: none"> Market system insures fertilizer supply on time Quality of fertilizer available in the market Efficiency of fertilizer use increased
2.9 A variety of improved animal breeds appropriate for the Nepal farming systems conditions are available to farmers.	<ul style="list-style-type: none"> Population of improved animal breeds increased
2.10 A range of mechanization options accessible to farmers through the private sector.	<ul style="list-style-type: none"> Mechanization in agriculture Labor productivity increased
2.11 Improved resilience of farmers to climate change, disasters, price volatility and other shocks.	<ul style="list-style-type: none"> Resilient crops varieties released Number of farmers covered by agricultural insurance Food reserves system in place

Output	Indicators
	<ul style="list-style-type: none"> Farmer welfare fund operational Improved early warning system Crop and weather forecasting available to farmers on mobile
2.12 Sustainable farming, good agricultural practices (GAP), good veterinary animal husbandry (GVAHP) are established and adopted.	<ul style="list-style-type: none"> GAP/GVAHP standards formulated Adoption of good practices by farmers Number of farmers and ha certified
2.13 Subsistence production based forestry is developed into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement.	<ul style="list-style-type: none"> Forestry NTFP output Leasehold forestry output Forestry timber output Value of forestry products captured by women and disadvantaged groups

Table 14 Output Indicators for Outcome 3 on Profitable Commercialization

Output	Indicators
3.1 Improved investment climate for agricultural commercialization	<ul style="list-style-type: none"> Private and cooperative investment in commercial agricultural production and agribusiness
3.2 Contractual arrangements for commercial agriculture	<ul style="list-style-type: none"> Number of ha or herds under contract farming
3.3 Tax policy that supports an efficient commercial agricultural sector	<ul style="list-style-type: none"> Consistent tax policy to promote investment in agribusiness and agriculture greed and implemented
3.4 A variety of competitive and demand-driven financial and agricultural insurance products.	<ul style="list-style-type: none"> Agricultural credit volume and outreach Number of financial products available to farmers Agriculture/livestock insurance coverage
3.5 Competitive agricultural value chains that increase value added and benefits to smallholder farmers and agroenterprises	<ul style="list-style-type: none"> Value of the production and postrproduction in each prioritized value chain Value added by stakeholder
3.6 Rural roads network expanded.	<ul style="list-style-type: none"> Section on agricultural roads under District Technical Office established Road length (km) constructed Quality of roads after 2, 4, 6 years of construction
3.7 Agricultural market information and ITC products for market intelligence.	<ul style="list-style-type: none"> Number of farmers with access to ICT market information products Number of farmers with access to ICT market intelligence products
3.8 Expanded rural electrification and renewable energies.	<ul style="list-style-type: none"> Section on Power development at MOAD established MW of renewable energy available to farmers

Table 15 Output Indicators for Outcome 4 on Increased Competitiveness

Output	Indicators
4.1 Market infrastructure developed	<ul style="list-style-type: none"> Total value of investment in market infrastructure
4.2 Growth of innovative small and medium agribusiness enterprises	<ul style="list-style-type: none"> Number of agroenterprises developed by different groups Value of output of agroenterprises developed by different groups
4.3 Growth of food and agricultural products exports	<ul style="list-style-type: none"> Value of exports of food and agricultural exports Value of imports of food and agricultural exports
4.4 Enhanced food safety and quality	<ul style="list-style-type: none"> Percentage of exports that are certified Percentage of domestic production that is certified Occurrences of food safety incidents Rejections of exported products due to SPS compliance issues

2.7 ADS, Decentralization, and the new Federalist Structure

89. The emphasis of the strategic approach on inclusion and the governance pillar of the ADS have implications for two key dimensions which subsume the implementation of the ADS, namely decentralization and agroecological diversity.

90. The ADS will strongly support the implementation of the Local Self-Governance Act of 1999. Participatory planning at the local level will be essential to ensure identification of investments that are responsive to the local needs and accountability to the local communities. The new guidelines by the Ministry of Finance in Budget Speech 2011/2012 indicating a 15% investment in agriculture provide a new impetus for the involvement of the local government in agricultural investment.

91. A new administrative structure of Government Nepal, envisaging the possibility of a Federalist Structure is still under discussion by political forces. The formulation that is being prepared by the ADS Team is based on the existing administrative structure and might require some modification in the new administrative structure that will emerge in the future. In which case, the ADS Implementation Support Unit will be in charge of making the necessary revisions and submit to GON for approval.

92. The ADS current formulation is in harmony with the principles of decentralization, local self-governance, and participatory planning that are likely to remain present in the future. For example, the ADS is promoting the establishment of community-based and management agricultural extension centers or CAESC (see section 5.16.1); moreover, the ADS supports capacity building of regional and district agricultural development committee (see section 3.2.2).

2.8 ADS and Agroecological Diversity

93. Given the rich agroecological diversity of Nepal, investment programs will need to be tailored not only to the needs and potential of different communities but also to their different agroecological conditions. For example, in the design of irrigation projects, the conditions of terai, hills, and mountainous areas differ markedly and technological solutions will need to be adapted. Similarly, the approach to value chain development will require taking into consideration the geographical nature of the supply chain, from production areas to consumption or export destinations. Even though the ADS will be one national strategy, its implementation at the local level will take into consideration specific agroecological and socioeconomic conditions. The presence of Community (VDC-based) Agricultural Extension Service Centers (CAESC) and the various value chain development programs proposed under the commercialization component will ensure that the local conditions and agroecological conditions are taken into account.

94. The national programs of the ADS will coexist with local programs that are funded by local agencies (eg VDC, community based organization), private sector and cooperatives and integrated with national programs. The ADS will encourage local government to establish and fund local programs that address the specific local needs that cannot be addressed by national programs. In addition to the funding from the local agencies, additional sources of funding to local programs could be raised through application to various funds such as the Nepal Agricultural Research Fund (see section 3.3.2) and various funds for innovation and

agroentrepreneurship of enterprises, youth, women, and disadvantaged groups (see section 3.5.2).

2.9 ADS and Socioeconomic Diversity of Farmers

95. A simple way¹⁴ to classify rural population is to consider three groups: (i) small commercial farmers; (ii) subsistence farmers; and (iii) landless or near landless. The first group of **small commercial farmers** includes those with holdings of 1.0 to 5.0 hectares, selling more than 30 percent of their output, ready for high intensity and high input agriculture, and also ready to participate in value chain development. These rural households concentrate on farming, have some capital, are a good risk for lenders, and are willing to take risks to increase their incomes. This set of farmers comprises 25 percent of rural families¹⁵, farming 54 percent of the land and presumably a somewhat higher proportion of output. If we add the one percent of families with more than five hectares of land and commanding seven percent of the land, then we have a total of 61 percent of the land. That comprises approximately 843,000 families for the ADS to concentrate on for small commercial production. It is from these 843,000 small commercial farmers that the engine of growth of the agricultural sector comes, driving rural non-farm employment, food supplies, and national income.

Table 16 Landholdings Distribution

Size of holding	Holdings			Area of Holdings		
	Number ('000)	Percent	Cumulative percent	Area ('000 ha)	Percent	Cumulative percent
less than 0.5 ha	1578.9	47.3%	47.3%	390.2	14.7%	14.7%
0.5 ha and under 1 ha	915.7	27.4%	74.7%	641.7	24.2%	38.9%
1 ha and under 5 ha	817.4	24.5%	99.2%	1428.2	53.8%	92.7%
5 ha and over	25.4	0.8%	100.0%	194	7.3%	100.0%
Total	3337.4	100.0%		2654.1	100.0%	

Source. TA Team's calculations based on Agricultural Census 2001, Central Bureau of Statistics

96. The second category includes the **subsistence farmers** commanding from 0.5 to 1.0 hectares in size. They comprise 27 percent of rural families (roughly the same in numbers as the small commercial farmer. They farm one-half as much land – 24 percent of the total. Some keep enough livestock to be small commercial farmers. But as a group they are mostly subsistence producers with inadequate land for survival as purely subsistence farmers. They must find substantial rural non-farm employment to survive. They are more risk averse than farmers with more than one hectare of land and the higher incomes that go with that. They are very short of capital and need some kind of loans but will be seen as risky to all lenders, and they spend considerable time in non-farm employment and in search for such employment.

97. The third category includes the **landless and near landless**. They comprise nearly half of the rural population, 1.6 million families in number but command only 15 percent of the land.

¹⁴ The farm size thresholds considered in the simple classification should be adjusted for different agroecological zones and soil characteristics. Without going into considerable detail, the main point driven in the discussion is that different types of farmers, broadly classified in terms of farm size, require different approaches in the ADS.

¹⁵ This is based on Agricultural Census figures for land distribution in 2001. More recent comprehensive data are not available. However, the main arguments presented in this section will still be robust to slight changes in the land distribution.

Half are landless and half have less than 0.5 hectares of land. Very little can be done to raise the incomes of this group through increased agricultural productivity. Of course a few at the upper end of the range will be able to prosper in horticulture or other high value production – but with great increase in risk in that they will have to put essentially all their land into horticulture. The contribution of ADS to the landless and most of 0.1 to 0.5 hectare holdings will be largely through the indirect effects of rapid growth in the rural non-farm sector stimulated by income growth of the small commercial farmer.

98. Those farmers with half to one hectare of land could achieve a substantial increase in family income from improved farming practices. However this group, compared to the small commercial farmer (those with more than one hectare) is more risk averse, focused less on farming relative to search for and performing off farm work, and more deficit in capital and ability to obtain loans.

99. **The ADS recognizes the need of adapting approaches to different agroecological areas and different farm categories.** The promotion of community extension service centers in each VDC of Nepal will assure that the localized needs of farmers and agroenterprises are met by the extension system. At the same time, even within the same agroecological zone, the needs of commercial, subsistence, and landless farmers will be different. While the commercial development of value chains will involve primarily small commercial farmers, cooperative farming could be a favored approach for subsistence farming. Vouchers for extension services might be primarily used by commercial farmers, whereas vouchers for input will be targeted primarily to subsistence farming. Commercial banking will be more appropriate for commercial farmers and microfinance more appropriate for subsistence farming.

100. The ADS promotes a decentralized approach to science and technology and empowers communities to reorient the extension, research, and education system to meet their needs. The services covering the small commercial farmer will be generally inappropriate to the subsistence farmer, and in the context of institutions keyed to the small commercial farmer (eg value chains) the subsistence farmer will be left out except for those very few who can respond to the approaches suitable for the small commercial farmer. Therefore the ADS through its community based extension service centers (the CAESC) will promote approaches suitable to both subsistence and commercial farmers. The landless rural households will be benefiting from the ADS indirectly, through the employment opportunities expanded in the rural non-farm sector and the growth of agriculture-based enterprises.

101. Eventually, over the course of the ADS twenty-year implementation, the process of agricultural transformation will proceed and an increasing number of rural households will find employment either in the rural non-farm sector or in the urban sector; a considerable number of rural household will also continue to migrate outside the country pulled either by higher income opportunity or pushed by the lack of profitable employment and attractive livelihood in the rural areas. Through either processes, the commercialization of the agricultural sector in Nepal will increase but commercial agricultural in Nepal will remain primarily a smallholder activity (namely farmers with less than 2 ha of land). Subsistence farming will continue to coexist with commercial farming for a long time, but its share of the total farming population will decline. The ADS will accelerate the process of commercialization, improving the income of the small commercial farmers and the livelihoods of the subsistence farmers, while generating growth and employment in the non-farm sector to absorb the increasing number of landless/marginally landless.

102. Table 17 shows the impact of different outputs of the ADS on the three groups of farmers (commercial, subsistence and landless). Commercial farmers are directly affected by most of the ADS measures and in some cases, the impact is direct and very strong, for example in the case of irrigation, mechanization, value chain development, and exports. Subsistence farmers are also directly affected by most ADS measures. The direct effect is very strong in the case of the ADS measures related to gender, social, and geographical inclusion; land (eg addressing the issues of tenancy, land leasing, cooperative farming, reversing the trend towards degraded land); access to quality and timely inputs (eg vouchers targeted to subsistence farmers, improved resilience); and access to microfinance and agricultural insurance. Landless or near landless will benefit from the ADS measures related to gender and social/geographic inclusion; access to forestry products; and growth of small and medium enterprises.

Table 17 Impact of ADS on different farm-size rural households

OUTCOME/Output	Commercial Farmers	Subsistence Farmers	Landless or near landless
GOVERNANCE			
Credibility of policy commitment	*	*	*
Improved coordination in ADS implementation	*	*	*
Integrated planning	*	*	*
Effective implementation support	*	*	*
Mechanisms established for gender equality and social and geographic inclusion	*	***	***
Timely and effective monitoring and evaluation	*	*	*
Mechanisms established for participation of civil society	*	*	*
Enhanced capacity of key institutions involved in ADS coordination and implementation	*	*	*
Improved food and nutrition security of disadvantaged groups	*	**	***
PRODUCTIVITY			
Decentralized agricultural extension services	**	**	*
Decentralized agricultural research system	**	**	*
Strengthened agricultural education system	**	**	**
Adequately sized farms that use land efficiently and sustainably	**	***	*
Expanded and improved irrigation	***	**	*
Access to agricultural inputs	**	***	*
Implementation of seed policies	**	***	*
Fertilizer supply	**	***	*
Improved animal breeds	**	***	**
Mechanization options accessible	***	**	*
Improved resilience of farmers	**	***	*
Sustainable farming, GAP, and GVAHP adopted	**	**	*
Forestry development	*	**	***
PROFITABLE COMMERCIALIZATION			
Improved investment climate	*	*	*
Contract arrangements for commercial agriculture	**	**	*
Tax policy to support commercial agriculture	**	*	*
Agricultural finance and insurance	**	***	*
Competitive agricultural value chains	***	**	*
Rural roads network expanded	**	**	**

OUTCOME/Output	Commercial Farmers	Subsistence Farmers	Landless or near landless
Agricultural market information	**	**	*
Rural electrification and renewable energies	**	**	**
COMPETITIVENESS			
Market infrastructure developed	**	**	*
Growth of small and medium agro-enterprises	**	**	***
Growth of food and agricultural products exports	***	**	*
Enhanced food quality and safety	**	**	**

Note: * Indirect impact; ** Direct impact; *** Direct impact – Very high

2.10 ADS and Food and Nutrition Security

103. All outcomes, outputs, and activities of the ADS will contribute to improve food and nutrition security either directly or indirectly. Food and Nutrition Security is clearly one of the main impacts of the ADS as indicated in the strategic framework (see Figure 1). At the same time, the ADS will address the food and nutrition security needs of the most disadvantaged rural population including lactating and pregnant women, janajatis, dalits, and groups in disadvantaged regions such as the Karnali. One output under the Governance Component is entirely dedicated to the improved food and nutrition security of disadvantaged groups. That output will be organized a national flagship programs that includes subprograms on National Agricultural and Food Security Project (NAFSP), Food and Nutrition Security Plan of Action (FNSP), and a new comprehensive program on food and nutrition security that will be developed and started over the course of the first 5-year period of the ADS (see section 3.2.9).

2.11 ADS and Urbanization

104. Nepal urban population reached 17% of the total in 2011 and was increasing at a annual rate of 3.38%, more than three times the growth (1.03%) of the rural population. Over the next 20 years, this demographic change will have enormous repercussions for Nepalese society and the agricultural sector in particular. If current trends continue, by the end of ADS period, more than a quarter of the Nepal population will be living in urban areas.

105. Increasing urban population translates not only in increasing urban food demand, but also in growing demand for a more diversified diet (away from grains), more stringent requirements for food safety, an increasing awareness and expectation of quality nutrition, and the need of large investments for the food logistics necessary to move food from rural areas around the world to the cities.

106. The ADS address these challenges through the development of competitive value chains that are better able to meet the diversified demand of an urban population and also the development of value chain infrastructure to reduce postharvest losses. The ADS is also promoting the enhancement of quality and safety assurance system that are needed not only to penetrate foreign markets but also to protect the domestic population from a number of food safety hazards. Albeit focused primarily on the of the food insecurity of the rural population, some of the interventions in nutrition awareness will also have a positive spillover effect on urban areas.

107. At the same time, urban poverty and inequality between rural and urban income might become more pronounced. Urban poverty often is associated with food poverty and

undernutrition; increasing inequality often leads to social tension and puts pressure on providing quick solutions such as food subsidies and public food distribution to the urban poor.

108. Rapid urbanization results in the loss of some of the most fertile agricultural land found in periurban areas throughout Nepal (“land plotting”); solutions to promote urban food production through land use planning and zoning to preserve agricultural land around the cities face enormous opportunity costs. Because of rising urban population and the loss of periurban agricultural land, food security becomes an additional challenge for urban planning.

109. The ADS has recognized the issue of land plotting and loss of fertile agricultural land in peri-urban areas and will strongly support the implementation of the recent policy on Land Use Planning.

110. Food safety events due to a number of foodborne zoonotic and non-zoonotic diseases can rapidly spread in urban environments. At the same time, nutritional unbalances are more pronounced in urban areas where undernutrition, particularly of the poor, coexists with malnutrition (associated to a sedentary lifestyle and resulting in obesity and a number of non communicable diseases) of the non-poor.

111. The ADS will help improve surveillance system for zoonotic diseases, improved diagnostic capacity and testing, and improved response capacity.

3 ACTIVITIES OF THE ADS ACTION PLAN

3.1 The Framework of Outcomes, Outputs, and Activities

112. In the ADS logical framework, the sets of activities are those which are required to achieve the desired outputs. In ADS there are 34 outputs (see **Table 18**) under 4 outcome groups, and there are 197 individual actions required to achieve the outputs.

Table 18 Outcomes and Outputs of the ADS

Outcome	No	Output
1. Improved Governance	1.1	Credibility of policy commitment
	1.2	Improved coordination among institutions involved in the ADS implementation
	1.3	Integrated planning
	1.4	Effective implementation support
	1.5	Mechanisms established for gender equality and social and geographic inclusion in the ADS
	1.6	Timely and effective monitoring and evaluation of the ADS
	1.7	Mechanisms established for participation of civil society in the planning, implementation, and monitoring of the ADS
	1.8	Enhanced capacity of key institutions involved in ADS coordination and implementation
	1.9	Improved food and nutrition security of most disadvantaged groups
2. Higher Productivity	2.1	A decentralized extension system responsive to farmers and agroenterprises' needs
	2.2	A decentralized research system responsive to farmers and agroenterprises' needs
	2.3	A strengthened agricultural education system
	2.4	A farming sector composed of adequately sized farms that use land efficiently and sustainably
	2.5	Irrigated area expanded equitably and viably, and improved irrigation efficiency and management.
	2.6	Timely access to quality agricultural inputs at affordable price.
	2.7	Effective implementation of existing seed policies including Seed Vision 2025 through sufficient investment in resources and capacity building.
	2.8	A pragmatic solution to fertilizer supply that is acceptable in the short-term, clearly indicates a strategy for the medium and long term, and aims at improving productivity.
	2.9	A variety of improved animal breeds appropriate for the Nepal farming systems conditions are available to farmers.
	2.10	A range of mechanization options accessible to farmers through the private sector.
	2.11	Improved resilience of farmers to climate change, disasters, price volatility and other shocks.
	2.12	Sustainable farming, good agricultural practices (GAP), good veterinary animal husbandry (GVAHP) are established and adopted.
	2.13	Subsistence production based forestry is developed into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement.
3. Profitable Commercialization	3.1	Improved investment climate for agricultural commercialization
	3.2	Contractual arrangements for commercial agriculture
	3.3	Tax policy that supports an efficient commercial agricultural sector
	3.4	A variety of competitive and demand-driven financial and agricultural insurance products.
	3.5	Competitive agricultural value chains that increase value added and benefits to smallholder farmers and agroenterprises
	3.6	Rural roads network expanded.
	3.7	Agricultural market information and ITC products for market intelligence.
	3.8	Expanded rural electrification and renewable energies.
4. Increased Competitiveness	4.1	Market infrastructure developed
	4.2	Growth of innovative small and medium agribusiness enterprises
	4.3	Growth of food and agricultural products exports
	4.4	Enhanced food safety and quality

3.2 Activities Related to Outcome 1: Improved Governance

113. Outcome 1 of the ADS is Improved Governance. The outcome is achieved through 9 outputs and 42 activities illustrated in Table 19 and detailed in the following sections.

Table 19 Activities related to Outcome 1 on Improved Governance

Outcome	Output	Action
1		Improved Governance
	1.1	Credibility of policy commitment
		1.1.1 Conduct awareness campaigns on ADS
		1.1.2 Ensure ADS monitoring covers issues of policy consistency and program continuity
		1.1.3 Formulate and enact regulations to facilitate longer tenure for key ADS positions
		1.1.4 ADS 5-yearly review
		1.1.5 Promote policy and legislation changes to ensure implementation of the ADS
	1.2	Improved coordination in ADS implementation
		1.2.1 Formulate amendments of the regulations for the establishment of NDC and CADIC
		1.2.2 Strengthen the capacity of National Support Committee (NSC)
		1.2.3 Establish subcommittees of NSC and ensure they meet regularly
		1.2.4 Strengthen the capacity of Central Agricultural Development Implementation Committee (CADIC)
		1.2.5 Promote similar meetings of the RADC and DADC
		1.2.6 Prepare Annual Sector Report
		1.2.7 Develop ADS Implementation Guidelines and Monitoring System
	1.3	Integrated planning
		1.3.1 Ensure integration of multi-ministry plans
		1.3.2 Ensure integration of long-term plans with annual workplans and budget
		1.3.3 Ensure regular monitoring of plans
	1.4	Effective implementation support
		1.4.1 ADS Implementation Support TA under NPC to facilitate implementation
	1.5	Mechanisms established for gender equality and social and geographic inclusion
		1.5.1 Strengthening of the Gender Equity and Environmental Division (GEED)
		1.5.2 Generation and maintenance of national level GESI-based and geographic inclusion-based statistics
		1.5.3 Establishment and strengthening of GESI staff at central department and at district level agencies
		1.5.4 Enhancement of qualitative and quantitative aspects of participation of men and women farmers
		1.5.5 Making the agricultural extension service GESI responsive in all districts
		1.5.6 Improvement in access of farmers
		1.5.7 Promotion of GESI responsiveness in agricultural research
		1.5.8 Develop a GESI strategy
	1.6	Timely and effective monitoring and evaluation
		1.6.1 Strengthen the capacity of Monitoring and Evaluation units of central and district level
		1.6.2 Establish an appropriate methodology and system to carry out systematic ADS monitoring and evaluation
		1.6.3 Pilot a system to link good performance to monitoring
		1.6.4 Monitoring and Evaluation of Food and Nutrition Security
		1.6.5 Conduct Agricultural and Livestock Census
	1.7	Mechanisms established for participation of civil society
		1.7.1 Establish and maintain an ADS website both in Nepali and English
		1.7.2 Establish an ADS Information Desk under the Planning Division
		1.7.3 Establish similar ADS information desks at regions and districts
		1.7.4 Periodic presentation of ADS Monitoring and Evaluation Report to civil society
	1.8	Enhanced capacity of key institutions involved in ADS coordination and implementation
		1.8.1 Capacity needs assessment
		1.8.2 Formulate a plan of capacity building of key institutions
		1.8.3 Implementation and monitoring of capacity building
	1.9	Improved food and nutrition security of most disadvantaged groups
		1.9.1 Design targeted food and nutrition security program
		1.9.2 Implement targeted national food and nutrition security program
		1.9.3 Implement NAFSP
		1.9.4 Implement FNSP
		1.9.5 Coordinate with ongoing food and nutrition security projects (eg Feed the Future) and multisector initiatives on nutrition and poverty alleviation
		1.9.6 Review of NAFSP, FNSP, and other food and nutrition security projects

3.2.1 Activities related to Output 1.1 on Credibility of Policy Commitment

114. **Conduct awareness campaigns about ADS.** The campaigns will be intensive during the initial period of the ADS (say the first 2 years) and more regular during the remaining period of the ADS. The campaigns will include:

- a. Preparation and widely distribution of ADS Report (in Nepali and English).
- b. Preparation and widely distribution of ADS newsletters.
- c. Presentations about the ADS at the central level and at the district level (1 presentation per quarter over the first 2 years and 1 presentation every 6 months in the following years).
- d. Conduct regular (quarterly) press/media releases from MOAD on ADS.

In all the material and information disseminated throughout these campaigns, the message of policy credibility, including consistency and continuity, will be highlighted as a critical factor to the success of ADS.

115. **Ensure that the annual monitoring of ADS covers the issues of policy consistency and policy/program continuity** that might have arisen during ADS implementation. Make monitoring reports widely available through internet, annual ADS conference, reports dissemination, etc. Whenever major breaches in policy consistency and policy/program continuity are detected, proposals for remedial actions should be proposed by the ADS Implementation Support Unit and other stakeholders and discussed in the CADIC and NSC subcommittees related to the ADS.

116. **Formulate and enact regulations that facilitate longer tenure for key positions in the ADS implementation.** Such positions might include Secretary MOAD, Joint Secretary Planning MOAD, DG of departments (DOA, DLS, DFTQC), Program/Project Directors. The length of tenure for these positions should be at least 3 years. The length of the tenure of these positions should be monitored to ensure that staff assigned to these positions could complete their expected tenure. The Policy Division of MOAD will formulate a draft of the regulation and then submit it to NPC for review and endorsement.

117. **Review, assess, and update (if necessary) ADS every 5 years.** The review and assessment will be led by NPC chairing the ADS Implementation Support Steering Committee that includes representatives of relevant agencies and civil society stakeholders. The review and evaluation will be conducted by an independent panel selected by the ADS Implementation Support Steering Committee. The review and assessment will include a section on policy credibility, and highlight the two issues of consistency of policy implementation with the ADS and continuity in policy and program implementation. The recommendations of the review and evaluation panel will be evaluated by the ADS Implementation Support Steering Committee who will make the final decisions regarding the need of updating or adjusting specific parts of the ADS.

118. **Promote policy and legislation changes to ensure implementation of the ADS.** The ADS Commission consisting of three selected commissioners and 2 ex-officio commissioners will be charged with following up the implementation of the ADS and to promote changes to ensure implementation of the ADS (see section 5.6) consistency with policy commitments. The three selected commissioner will receive remuneration consistent with their seniority level (proposed to be at the Minister Level). In addition to their remuneration, the commission will have an operational budget for travel, meetings, communication, and secretarial services.

3.2.2 Activities related to Output 1.2 on Improved Coordination among Institutions involved in the ADS Implementation

119. **Formulate amendments of the regulations for the establishment of NDC and CADIC** to ensure that: (i) subcommittees of NSC are established; (ii) the MOAD Secretary is elected as NSC Secretary ex-officio; and (iii) representatives of the farmer organizations and cooperatives are among the members of NSC, CADIC, RADC, and DADC.

120. **Strengthen the capacity of National Support Committee (NSC).** Provide a Secretariat through the ADS Implementation Support Unit to organize meetings, prepare agenda and minutes, and distribute documents. Also ensure that quarterly meetings are held and allocate resources for participants to the meetings. Put announcement of meetings on the ADS website and publish minutes of the meetings on the website as well.

121. **Establish subcommittees of NSC and ensure they meet regularly** (at least quarterly). Provide a Secretariat through the ADS Implementation Support Unit to organize meetings, prepare agenda and minutes, and distribute documents. Also ensure that quarterly meetings are held and allocate resources for participants to the meetings. Put announcement of meetings on the ADS website and publish minutes of the meetings on the website as well. The subcommittees will include:

- a. Subcommittee between agriculture and irrigation
- b. Subcommittee between government sector, private sector, cooperative sector, and farmer organizations
- c. Subcommittee between government sector and NGOs/INGOs
- d. Subcommittee between government and development partners
- e. Subcommittee between Research-Extension-Education institutions
- f. Subcommittee between Food Security, Nutrition, and Food Safety initiatives

122. **Strengthen the capacity of Central Agricultural Development Implementation Committee (CADIC).** Provide a Secretariat through the ADS Implementation Support Unit to organize meetings, prepare agenda and minutes, and distribute documents. Also ensure that quarterly meetings are held and allocate resources for participants to the. Put announcement of meetings on the ADS website and publish minutes of the meetings on the website as well.

123. **Promote similar meetings of the RADC and DADC and ensure that the outcome of the regional and district meetings reach the central committee of CADIC for further action.** Assign a staff of the Implementation support Unit to follow up with the outcomes of the RADC and DADC.

124. **Prepare Annual Sector Report** on ADS by CADIC to NPC with assistance of Implementation Support Unit. Ensure the report is on the ADS website.

125. **Develop ADS Implementation Guidelines and Monitoring System** with the support of the ADS Implementation Support Unit to be widely disseminated and adopted by central, regional, and district agencies and organizations.

3.2.3 Activities related to Output 1.3 on Integrated Planning

126. **Ensure integration of multi-ministry plans,** through amending the National Planning Commission Formation and Operation Order, 2067 (2010) by stipulating that:

- i. The NPC has the primary responsibility to coordinate and integrate sector plans and budgets of one Ministry that have an impact on or are impacted by the programs of another sector.
- ii. The NPC shall present a report to the Parliament, together with the budget proposal of the Government on the manner in which sectoral plans that impact more than one Ministry are synchronized and impacted in the workplans and budget requests of the Ministries.

127. **Ensure integration of long-term plans with annual workplans and budget** through amending the National Planning Commission Formation and Operation Order, 2067 (2010) to the effect that NPC is assigned with responsibility also for:

- i. The verification that 5-year plans are compatible with national and regional long-term strategies policies and plans;
- ii. The verification that annual plans and budget allocation are compatible with the 5 year plans; and,
- iii. The obligation to notify Government and Parliament of any deviation thereof.

128. **Ensure regular monitoring of plans** through effective use of existing policy level coordination forums of the Ministerial Development Action Committee (MDAC) chaired by the Minister of MOAD for projects that are primarily implemented by the MOAD and the National Development Action Committee (NDAC) chaired by the PM – by:

- i. Convening the MADC and NDAC as per regulations (every 2 and 4 months respectively at least);
- ii. Establish by Government Order under the Good Governance (Management and Operation) Regulations, 2009 that MDAC and NDAC annually report on the implementation of plans to the Government.

3.2.4 Activities related to Output 1.4 on Effective Implementation Support

129. **An ADS Implementation Support TA under NPC to facilitate implementation of the ADS** through (i) capacity building in policy analysis, policy harmonization, and regulatory framework; (ii) monitoring the ADS implementation status and helping to adjust the strategy as per the developmental stage of the sector; (iii) reviewing and evaluating the concept of sector wide approach (SWAP¹⁶) for Agricultural Sector to enhance better coordination and increase flow of investment in the sector; (iv) developing and institutionalizing performance-based management system; and (v) assisting various coordinating mechanisms (NSC, CADIC, DADC) with analytical information and advisory services, including preparation of annual ADS report by CADIC to NPC.

130. The Agricultural Development Strategy (ADS) Implementation Support Program (AISP) aims to provide continuity of technical support to Government of Nepal (GON) during the early years of implementation of the ADS. Its objectives are:

1. To facilitate the implementation of the ADS through technical assistance, advisory services and capacity building

¹⁶ Sector-Wide Approach (SWAp) is an approach to international development that "brings together governments, donors and other stakeholders within any sector. It is characterized by a set of operating principles rather than a specific package of policies or activities. The approach involves movement over time under government leadership towards: broadening policy dialogue; developing a single sector policy (that addresses private and public sector issues) and a common realistic expenditure program; common monitoring arrangements; and more coordinated procedures for funding and procurement."

2. To improve coordination, planning, and policy monitoring and evaluation of the ADS
3. To facilitate harmonization of donors' programs with the implementation of the ADS

131. The implementation of the ADS will require coordination among different agencies and policy, legal and analytical skills that are currently dispersed. Effective coordination in turn is the basis for effective planning and policy formulation and monitoring. A unit responsible to the NPC and providing secretarial services for the National Support Committee (NSC) and subcommittees, and providing technical inputs into the Central Agriculture Development Implementation Committee (CADIC), endowed with policy, legal and analytical capacity, and assured of continuity at least over the first 7 years of the ADS will greatly contribute to bridging the gap between policy and implementation.

3.2.5 Activities related to Output 1.5 on Mechanisms Established for Gender Equality and Social and Geographic Inclusion in the ADS

132. **Strengthening of the Gender Equity and Environmental Division (GEED)** under the Ministry of Agriculture and Development (MOAD) for formulating and implementing agriculture policies, plans and programs from GESI and geographical inclusion perspectives. The activity will require at least 2 full time professional staff undertaking a number of capacity building activities (training, study tour, workshops) to allow them to contribute to the formulation and implementation of ADS from a GESI perspective. Additional capacity building could be provided by UN Women during the preparation of a GESI strategy for the ADS.

133. **Generation and maintenance of national level GESI-based and geographic inclusion-based statistics** at MOAD/GEED within the monitoring and evaluation system as 'built-in mechanism' and providing feed-back for formulating plans and policies. In coordination with national statistics offices and development partners, build a database of GESI-based and geographic inclusion-based statistics to be maintained at MOAD/GEED. The activity will require the services of statistician and appropriate software and hardware. Periodic reports highlighting the key trends and issues emerging from analysis of data should be generated and disseminated by the GEED and contribute to the formulation of policies and plans.

134. **Establishment and strengthening of GESI staff with clearly defined responsibilities at central department and at district level agencies** for effective planning including budgeting, implementation and monitoring and evaluation/auditing of agricultural programs from GESI perspective. Ensure that in each related department (DOA, DLS, DFTQC, DOI, DOFSC) and district there is a staff with assigned responsibility and with capacity in GESI analysis and GESI-program implementation. Initial and follow up periodic training on GESI perspective and tools of analysis, planning, budgeting, and planning and evaluation will be provided to the GESI staff at the district level.

135. **Enhancement of qualitative and quantitative aspects of participation of men and women farmers** from all gender and social groups in agricultural development programs implemented by district, sub-district and community level entities. This activity implies that both in the design and implementation of agricultural program benefits accrue to women and socially excluded groups. Central level staff at GEED and GESI staff at the district level will alert if deviations from the inclusion principle occur during planning or implementation of ADS programs.

136. **Making the agricultural extension service GESI responsive in all districts.** GESI staff at the district level will ensure that at the planning and implementation stage, extension programs

are GESI responsive. ADS will support cost of regular visits to project and program sites (e.g. once per month in each district) of GESI staff to monitor GESI-responsiveness of extension activities.

137. **Improvement in access of farmers** (from all gender and socio-economic groups in all geographical regions) to means of agriculture production (land, credit, inputs such as seeds, fertilizer, improved technology, irrigation, and market). This will require well functioning markets, extension system, infrastructure, and input delivery systems as already highlighted in other sections of the ADS. The GESI-perspective is to ensure that access of farmers to means or production includes different social groups, particularly disadvantaged ones. The GESI-staff will ensure that at project design and during implementation, this GESI-perspective is incorporated. The ADS will support technical assistance implemented by the Farmers' Coalition.

138. **Promotion of GESI responsiveness in the agricultural research** and technology development process in all geographical regions. GESI staff at NARC and GESI-staff at the central level and at district level should promote GESI-responsiveness in program design and implementation.

139. **Develop a GESI strategy** as part of the ADS to ensure GESI perspective in planning, implementation, and monitoring of ADS activities. The strategy might be formulated with the support of specialized agencies such as the UN Women. This will involve specialized technical assistance input.

3.2.6 Activities related to Output 1.6 on Timely and Effective Monitoring and Evaluation

140. **Strengthen the capacity of Monitoring and Evaluation units of central and district level.** This will include regular training of key staff at the M&E Division and M&E cell at central level departments (DOA, DLS, DFTQC, DOI, DOFSC) and staff in each district Planning and Monitoring cell of DADO and DLSO. Capacity building will also be complemented by resources (eg hardware and software, survey budget, monitoring visit budgets) to carry out M&E activities on a timely and professional manner.

141. **Establish an appropriate methodology and system to carry out systematic ADS monitoring and evaluation** including

- i. Status and performance of major agricultural programs implemented by GON, private sectors, NGOs, Academia, financial institutions, public boards, public corporations and Councils.
- ii. Status of implementation of major policies and plans.
- iii. Performance of implementation units and agencies.

142. This will involve development of the methodology and implementation of it over the course of the ADS, so that regular monitoring reports on the ADS status are available publicly, both in Nepali and English.

143. **Pilot a system to link monitoring to good performance.** The idea is to monitor performance of different districts and based on good performance reward the 10 best DADO and DLS offices (see section 6.6.1). The pilot will include design and implementation of the system by AISU.

144. **Monitoring and Evaluation of Food and Nutrition Security**, based on the development and institutionalization of the NeKSAP system already existing at MOAD as a project funded by WFP.

145. **Conduct an Agricultural and Livestock Census**, in coordination with the Statistics Division of MOAD and Central Bureau of Statistics.

3.2.7 Activities related to Output 1.7 on Mechanisms established for Participation of civil Society in the Planning, Implementation, and Monitoring of the ADS

146. **Establish and maintain an ADS website both in Nepali and English.** In order to facilitate access of civil society to information pertaining to the ADS, a website on ADS will be established and information on ADS made available both in Nepali and English.

147. **Establish an ADS Information Desk under the Planning Division** Joint Secretary. The function of the ADS Information Desk will include:

- Make publications and reports on ADS available to the public (formulation reports, planning documents, monitoring reports, events, policy formulation, investment plans, projects and programs)
- Respond to general queries about ADS
- Redirect specific queries to relevant units of MOAD or other agencies
- Facilitate networking of ADS with the ADS stakeholders (farmer organizations, cooperatives, agribusiness enterprises, government officials at the central and local level, development partners)

148. The establishment and maintenance of this information desk will require capacity building of staff in communication, appropriate hardware and software, and documentation and printing budget.

149. **Establish similar ADS information desks** at the Agricultural Information and Communication Center, Departments, regional, district, and district level under the umbrella of DOA/DLS and the Community Agricultural Extension Service Centers.

150. **Periodic presentation of ADS Monitoring and Evaluation Report to civil society.** This will be an annual event in Kathmandu and in each district where MOAD will report on the progress of ADS to civil society to elicit their feedback.

3.2.8 Activities related to Output 1.8 on Enhanced Capacity of Key Institutions involved in ADS Coordination and Implementation

151. **Capacity Needs assessment** of key institutions involved in the planning, policy formulation, implementation, coordination, and monitoring of the ADS. The institutions will involve: NPC and MOAD, the key departments (DOA, DLS, DFTQC) under MOAD, NARC, Agricultural University, and related agencies (MOI/DOI, MOE, MOFSC/DOF, MLD/DOLIDAR, ...), key farmer organizations, and key cooperative organizations. The capacity needs related to coordination and implementation.

152. **Formulate a plan of capacity building of key institutions.** The topics to be covered will vary from institution to institutions to a certain extent. Also, the methods of training and capacity building will vary according to the users. The capacity building activities should be more in depth over the first year of the ADS and then annually over the remaining years.

153. **Implementation and monitoring of capacity building.** This will involve bi-annual or annual courses and monitoring of impact of those capacity building activities.

3.2.9 Activities related to Output 1.9 on Improved Food and Nutrition Security of Most Disadvantaged Groups

154. These activities will be organized under one national Flagship Program to be referred to as the Food and Nutrition Security Program (FANUSEP). The Program will consist of three subprograms: the National Food Security Project (NAFSP), currently been finalized as part of the Global Agriculture and Food Security Program (GAFSP); the Food and Nutrition Security Plan of Action (FNSP), currently been finalized with assistance of FAO; and a new targeted national food and nutrition security project to be designed and implemented to complement NAFSP and FNSP. The set of activities under this output 1.9 of the ADS include:

155. **Design a targeted national food and nutrition security program** to complement existing projects on food and nutrition security. The project will be designed towards the middle of the first 5-year term of the ADS and will benefit from monitoring, mid-term review, and evaluation of existing food and nutrition security programs, in coordination with ADS Implementation Support Unit (AISU).

156. **Implement a targeted national food and nutrition security program.** This program will be targeted to poor and disadvantaged groups and to geographically disadvantaged areas (eg. Karnali) and include interventions to improve productivity, livelihood, and nutritional practices of targeted beneficiaries including pregnant and lactating women farmers. Based on the review and lessons learned from other similar programs including the already planned NAFSP and FNsp, the new program will use best practices (eg. food and input vouchers, backyard vegetable gardens, on-farm storage, preserving, and processing, indigenous food, collection centers, food and cash for assets programs, micronutrient supplementation for children, girls' incentive programs, school feeding) and expand them to broader national coverage.

157. **Implement National Food Security Project (NAFSP).** The project is currently at its final stage of formulation and will soon be implemented by GON under the supervision of World Bank. This is a project focused on 19 hill and mountain districts of the Mid- and Far-Western development region of Nepal. The beneficiaries of the project will be crop farmers (estimated direct beneficiaries 40,000), livestock farmers (27,000), women engaged in household/kitchen-garden production (35,000), and households with pregnant and nursing women (45,000). The project interventions will be organized and implemented through groups, including pre-existing groups in the project area. Also, given the crucial role of women in agriculture and nutrition, special attention will be given to their targeting and inclusion in project interventions.

158. **Implement Food and Nutrition Security Plan of Action (FNSP)** currently being finalized by GON and FAO. The project will be focused on 1 million hard core poor households (as defined in the Poverty Alleviation Fund program) and will involve a number of technology and nutrition interventions on field crops, fisheries, forestry, horticultural products, and livestock. GESI and Nutrition are mainstreamed in all components of the FNsp; the project also intends to support legislation such as Rights to Food and Food and Nutrition Security Act.

159. **Coordinate with ongoing food and nutrition security projects,** such as Feed the Future funded by USAID, programs funded by WFP, and programs funded by GON and other development partners within the umbrella of the Multisector Nutritional Plan (MSNP) to ensure that the rural households and farmers most food insecurity are reached by various programs.

The Program Manager of FANUSEP will report to the subcommittee on food and nutrition security of NSC (see section 5.7).

160. **Review of national programs on food and nutrition security**, to be undertaken towards the completion of the first 5-year period of the ADS.

3.3 Activities Related to Outcome 2: Higher Productivity

161. Outcome 2 of the ADS is Higher Productivity. The outcome is achieved through 13 outputs and 105 activities illustrated in Table 20 and detailed in the following sections.

Table 20 Activities related to Outcome 2 on Higher Productivity

Outcome	Output	Activity	
2			Enhanced productivity
	2.1		Decentralized agricultural extension services
		2.1.1	Establish Community Agricultural Extension Service Centers
		2.1.1.1	Formulate general guidelines for CAESC
		2.1.1.2	Awareness campaign about the initiative
		2.1.1.3	Capacity building to support establishment of the CAESC
		2.1.1.4	Seed money for establishment of CAESC
		2.1.1.5	Training of CAESC extension technician
		2.1.1.6	Technical backstopping of CAESC
		2.1.1.7	External monitoring of CAESC
		2.1.2	Strengthen capacity of agricultural service stations
		2.1.2.1	Training, workshops, study tours for technicians
		2.1.2.2	Resources for farm demonstrations and farmer training
		2.1.3	Establish voucher system for extension and advisory services
		2.1.3.1	Design, implement and evaluate a pilot voucher scheme
		2.1.3.2	Provide budget for 50,000 vouchers in the pilot scheme
		2.1.4	Introduce farmer marketing schools
		2.1.4.1	Establish program capacity and training of trainers
		2.1.4.2	Implement FMS in those VDC prioritized for value chain development
		2.1.5	Promote ICT in agricultural extension
		2.1.5.1	Provide PCs or tablet with internet for each CAESC
		2.1.5.2	Mobile-based applications
		2.1.6	Link farmer groups and organizations to banks and finance institutions
		2.1.7	Train field personnel to be sensitized to GESI and nutrition
		2.1.7.1	Training in GESI and nutrition
		2.1.7.2	Increase the representation of women in JTAs
	2.2		Decentralized agricultural research system
		2.2.1	Restructure NARC as apex of NARS, with NRI and RARS implementing research, training under NARC
		2.2.1.1	Establish NARF, merge with NARDEF, integrate with NARC
		2.2.1.2	Finalize NARC Vision 2011-30 consistent with ADS
		2.2.1.3	Establish NRI for Horticulture, Animal Health, and Aquaculture and Fisheries
		2.2.1.4	Establish RARS in high hills, mid hills, terai of FWDR
		2.2.1.5	Establish Agricultural Mechanization Centers in terai (2), mid hills (1), and high hills (1) within existing research centers
		2.2.1.6	Consolidate and restructure RARS and programs to avoid duplication
		2.2.2	Strengthen linkages within the research-educational-extension triangle
	2.3		Strengthened agricultural education system
		2.3.1	Improve facilities and capacity of Agricultural University
		2.3.2	Establish Agribusiness Department in Agricultural University
		2.3.3	Support for joint educational and research programs
		2.3.4	Establish Agricultural University partner operations with private sector
		2.3.5	Establish new agricultural/veterinary science colleges in other regions
		2.3.6	Strengthen capacity of CTEVT
		2.3.7	Strengthen capacity of professional staff from government, educational system, and private sector

Outcome	Output	Activity	
			through overseas degrees and training.
	2.4		Adequately sized farms that use land efficiently and sustainably
		2.4.1	Decide and adopt a policy statement to review or implement existing legislation and policies pertaining to land reform
		2.4.2	Issue a Government Order under the Lands Act to consolidate functions under a Land Management Office
		2.4.3	Establish land tribunals to settle tenancy and dual ownership cases
		2.4.4	Set and enforce targets for reduction of land holdings to the permitted ceiling
		2.4.5	Introduce regulation, incentives and disincentives to promote owner-operated farms, farming cooperatives and agribusiness farms.
		2.4.6	Pilot a "land bank" scheme
		2.4.7	Reduce land fragmentation
		2.4.4.1	Legal measures
		2.4.4.2	Financial and tax incentives
		2.4.8	Enact contract farming act to promote agri-business operations
		2.4.9	Enact a Land Lease Act (could be part of Contract Farming Act) allowing long-term leasing at fair terms without acquisition of tenancy rights
		2.4.10	Implement land zoning policy
		2.4.11	Identify degraded land for rehabilitation
		2.4.12	Raise awareness of women's rights to land
	2.5		Expanded and improved irrigation
		2.5.1	Expand irrigation area by most feasible means
		2.5.1.1	Complete already commenced surface schemes
		2.5.1.2	Pilot construction of medium pond/ recharge basins
		2.5.1.3	Repair damaged surface schemes
		2.5.1.4	Repair damaged tubewells
		2.5.1.5	Construct new tubewells
		2.5.1.6	Develop non-conventional irrigation
		2.5.2	Increase effective area of existing schemes
		2.5.3	Increase irrigation intensity
		2.5.3.1	Improve catchment management
		2.5.3.2	Construct inter-basin transfers
		2.5.4	Improve irrigation system and on-farm water management
		2.5.4.1	Reform and strengthen Irrigation Management Division to become the Department of Irrigation Development
		2.5.4.2	Provide adequate budget from government or ISF collection
		2.5.4.3	Build capacity of WUA and farmers
		2.5.5	Implement irrigation management system transfer
		2.5.6	Establish funding for O&M, strengthen ISF
		2.5.7	Implement integrated water resource management
		2.5.8	Build capacity of women farmers
	2.6		Access to agricultural inputs
		2.6.1	Formulate consistent policy
		2.6.2	Establish a voucher system for inputs
	2.7		Implementation of seed policies
		2.7.1	Enhance capacity of seed research stations
		2.7.2	Promote private, cooperative, community based seed production
		2.7.3	Enforce quality assurance systems
		2.7.4	Promote production of hybrids
		2.7.5	Establish an information system on seed demand and supply
		2.7.6	Implement Biodiversity Policy
		2.7.7	Pilot voucher system for seeds
	2.8		Improved fertilizer supply distribution system
		2.8.1	Gradual transformation of fertilizer subsidy system into more effective delivery
		2.8.2	Complimentary measures for efficient fertilizer use
		2.8.2.1	Demonstration and awareness campaign
		2.8.2.2	Promote organic and biofertilizer
		2.8.2.3	Conduct feasibility studies on fertiliser production and procurement
		2.8.2.4	Establish a fertilizer buffer stock
		2.8.2.5	Establish a database and monitoring system on fertilizer
		2.8.2.6	Voucher system for fertilizer
		2.8.2.7	Enforce quality assurance systems
	2.9		Improved animal breeds

Outcome	Output	Activity	
		2.9.1	Develop livestock breeding policy
		2.9.2	Capacity building for improved breeds production
		2.9.3	Establish a voucher system for animal breeds
	2.10		Mechanization options accessible
		2.10.1	Information dissemination
		2.10.2	Improve customer access to finance
		2.10.3	Capacity building for service and maintenance providers
		2.10.4	Enable the business environment for leasing agricultural equipment
		2.10.5	Revise regulation and taxes to support mechanization
		2.10.6	Pilot a voucher scheme
	2.11		Improved resilience of farmers
		2.11.1	Research on stress tolerant varieties and breeds
		2.11.2	Early warning system
		2.11.3	Climate information and weather indexation systems
		2.11.4	Pilot a Farmers Welfare Fund
		2.11.5	Promote agricultural insurance
		2.11.6	Strengthen food reserve system
	2.12		Sustainable farming, GAP, and GVAHP adopted
		2.12.1	Formulate standards
		2.12.2	Extension programs with private sector
	2.13		Forestry development
		2.13.1	Strengthen enabling policy environment
		2.13.2	Develop and integrate land use models with forestry
		2.13.3	Forestry enterprises and marketing development
		2.13.4	Enhance forestry GESI
		2.13.5	Biodiversity conservation and climate change adaptation
		2.13.6	Develop institutional and human resources
		2.13.7	Research and extension for sustainable forestry
		2.13.8	Develop a forestry investment strategy and plan
		2.13.9	Develop a joint platform for policy

3.3.1 Activities related to Output 2.1 on a Decentralized Extension System Responsive to Farmers and Agroenterprises' Need

162. **Promote the establishment of Community Agricultural Extension Service Centers (CAESC) in each VDC.** Through awareness and capacity building activities initiated by the district offices for agriculture and livestock, the ADS will facilitate the establishment of CAESC in each VDC. The CAESC will be formed by local communities and will be governed by a board including representatives of local communities, cooperatives, farmer organizations, and agroenterprises. The members of the board will represent financial or in-kind contributions of different stakeholders. Initial funding of the CAESC will be provided by a combination of VDC funding (using the 15% guideline for agriculture investment), seed funding from the central government, and contributions of the different groups of stakeholders represented in the board. Each CAESC will be fully managed by its board and will recruit its own extension workers and technicians. The management of the financial and human resources of the CAESC will be fully dependent on the board of the CAESC.

163. The Program Manager for the flagship Decentralized Science, Technology, and Education Program (DESTEP) will organize the activities for the achievement of this output including the following contributions:

- a. Formulate general guidelines for the establishment of the CAESC
- b. Conduct awareness campaign about the initiative
- c. Carry out capacity building in supporting the establishment of the CAESC

- d. Provide seed money for the establishment of the CAESC; the seed money will be provided only under the condition that it leverages larger investment by the VDC and the community/cooperatives/private sector for the establishment of the CAESC
- e. Organize training of extension workers recruited by the CAESC
- f. Provide technical backstopping of the CAESC through its service stations, district offices, and regional and national training centers.
- g. Carry out or commission external monitoring and evaluation of the CAESC

164. The recurrent and program costs of the CAESC will be borne by the centers themselves. The VDC might decide each year to allocate a percentage of its budget to the CAESC. The funding of the CAESC might also come from other sources (farmer organizations, private sector, projects, etc) depending on the capacity of the management of the CAESC to raise funds. Priority of extension activities will be decided by the Board of each CAESC. Priorities in extension work will be linked to support local programs. Local programs will coordinate with national programs under ADS. The CAESC will be in the best position to target farmers in their community and establish priorities consistent with their governance bodies. The CAESCs will be linked to the government network of agricultural and livestock service stations through exchange of information, training, and technical backstopping.

165. **Strengthen capacity of existing and planned agricultural service stations.** The government has 999 agricultural service stations and 378 livestock service stations. The Government is planning to increase the service stations (including both agriculture and livestock service) to about 2,000. The service stations are often lacking in technical capacity of the staff to provide effective services, and in operational funds to carry out programs. The improved capacity of the government service stations will be critical to the success of the backstopping of CAESCs at the VDC level. The ADS will support the strengthening of the service stations as follows:

- a. Strengthen capacity of service station technical staff through training, workshops, demonstrations, and study tours. Specific capacity programs will address the following:
 - i. Extension methods including farmer field schools (FFS), farmer marketing schools and (FMS)
 - ii. Value chain development
 - iii. Sustainable agricultural practices
 - iv. Good agricultural and veterinary practices
 - v. GESI
 - vi. Nutrition
 - vii. Farm budgeting
 - viii. Business plan preparation
 - ix. Use of ICT in extension
- b. Provide sufficient resources to carry out demonstrations and training activities, visits to farmers, and monitoring activities.

166. **Promote a voucher system to empower farmers to access the best available extension and advisory services that meet their demand.** Establish the system on a pilot basis at first and then upscale contingent on favorable review of the pilot. The activity will require the following steps:

- a. Design, implement and evaluate a pilot voucher scheme.
 - i. Formulate the principles and institutional mechanism of a voucher system for extension services, including clear criteria for targeting.

- ii. Introduce targeting system for extension by which vouchers are primarily targeted to subsistence and semi-commercial farmers in different agroecological areas.
 - iii. Approve a number of extension service providers that farmers can use to redeem their vouchers. The extension service providers eligible to provide extension services to farmers include private sector companies, cooperatives, universities, NGOs, CSOs, professional associations, or PPP.
 - iv. Design an initial pilot for the voucher system including different target groups of farmers (subsistence and semi-commercial) in different agroecological areas.
 - v. Conduct a baseline for the monitoring and evaluation of the voucher system, making sure to include a control group in the monitoring and evaluation process.
 - vi. Monitor and evaluate the system and make recommendation for its upscaling and replication or cancelling of the program.
- b. Provide budget for extension and advisory services vouchers for 50,000 farmers.

167. **Introduce farmer marketing schools (FMS) program** to support the development of commercial agriculture and value chains in those areas where prioritized value chain development activities are planned through national programs (see section 3.4.5 on value chain development). The idea of farmer marketing school is to ensure sustainable and commercial linkages between farmers and consumers. Extension agents will work not only with farmer groups but with groups including farmers, traders, and agroenterprises (input suppliers, processors, logistics companies) to ensure higher value addition at each stage of the value chain. The activity will include different steps:

- a. Establish program capacity and training of trainers (TOT), in FMS by developing training material and capacity of extension agents.
- b. Implement FMS in those VDC prioritized for value chain development.
 - i. Identify groups of farmers, traders, and agroenterprises related to the national programs for value chain development
 - ii. Promote extension activities and information services to farmers and enterprises in facilities located inside or near collection centers and market centers where outreach will be more effective
 - iii. Carry out farmer marketing schools program
 - iv. Monitor and evaluate the program

168. **Promote Information Communication Technologies (ICTs) in agricultural extension.**

Formulate program for ICT in agricultural extension involving use of two different technologies:

- a. Provide PCs or tablets linked to internet for agro-information centers located in CAESC
- b. Provide mobile-based applications

169. The applications (either computer-based or mobile-based) will provide technical and market information to farmers. Public-private partnerships between extension services (public or private), ITC companies, and mobile companies will be explored to make the services more cost effective. The type of services that could be provided include information about seeds, fertilizer, farming practices, market intelligence, crop forecasting, weather information, training programs, call for proposal from various matching grant funds, exports and imports, etc.

170. **Facilitate linkages of farmer groups and organizations with financial institutions, including commercial banks.** This will require a few steps as follows:

- a. Conduct capacity building of farmer groups and organizations in basic accounting and business plan preparation to ensure that they become more viable customers for financial institutions and commercial banks.
- b. Facilitate preparation of business plans for farmer group and organization to present to financial institutions.
- c. Organize quarterly or semi-annual workshops between farmer groups and organization and financial institutions to establish an ongoing dialogue and linkages.

171. **Train field level technical personnel to be sensitized to GESI and nutrition.** This will involve a number of measures such as:

- a. Training in GESI and nutrition, incorporation into extension programs, particularly nutrition targeted to women.
- b. Increase the representation of women in JT, JTA, and build GESI knowledge into the incentive-based reward system for promotion of technical personnel.

3.3.2 Activities related to Output 2.2 on a Decentralized Research System Responsive to Farmers and Agroenterprises' Need

172. **Restructure the national agricultural research system (NARS).** The NARS will be decentralized and made more responsive to the research needs of farmers, cooperatives, and agro-enterprises. The National Agricultural Research Council (NARC) will not implement any research projects and programs. Its functions will include formulating agricultural research policies, maintaining international relations and linkages, setting national standards, coordinating with national and international research institutes and educational organizations. NARC will act as the apex institution in national agriculture research system, a policy body to coordinate, facilitate, consolidate, monitor and evaluate research projects, fund research projects, manage human resources and training, and promote research linkages at national and international levels. The basic research, long term strategic research, applied research and adaptive research will be implemented by National agricultural research institutes (NARI). Agro-ecologically based regional agricultural research stations (RARS) will be responsible for collaborative and action research, and only action research will be managed at village level. Local level research activities will be managed according to the standards of central government. NARI and RARS will provide back up to local level stakeholders like CAESC, cooperatives, agro-enterprises, and others. The investment in public research institutions will be for public goods in agriculture such as food and nutrition security, food safety, bio safety, mitigating effect of climate change, environment and biodiversity conservation and reducing poverty. The restructuring will include:

- a. Establishment of National Agriculture Research Fund (NARF) integrated with NARC. The existing NARDEF will be merged with NARF.
- b. Finalize the NARC Vision 2011-2030 consistent with ADS strategy.
- c. Increasing number of national research institutes. In addition to the existing National Agriculture Research Institute (NARI) and National Animal Science Research Institute (NASRI), establish the National Horticulture Research Institute (NHRI), the National Animal Health Research Institute (NAHRI) and the National Aquaculture and Fisheries Research Institute (NAFRI).
- d. Establish Agricultural Research Stations at different agro-ecological zones (high hills, mid hills, and terai) in the Far Western Region to complement the recent decision to transform the Agricultural Research Station in Doti into a Regional Agriculture Research Station (RARS) in Far Western Region.
- e. Establishment of Agriculture Mechanization Centers in the terai (2), mid hills (1), and high hills (1) within existing research centers.

- f. Consolidate research stations and programs that are physically located in the proximity and perform similar research activities. It will reduce administrative cost and duplication of resources especially operational expenses.

173. **Strengthen linkages within the Research-Education-Extension (REE) triangle including with private sector.** NARC will establish functional linkages with educational institutions and with the extension service for the availability and sharing of their facilities including for educational purpose. Private sector will be involved in agriculture research and technology sectors through partnerships. The gene bank and animal genetic resource program need to be strengthened for the use of IPR. Similarly agriculture education institutions will be used in academic research that promotes genetic enhancement and supports applied research through collaborative projects and research grants funded by NARF and other sources. NARC will:

- a. Establish guidelines on functional REE linkages for sharing facilities, staff and program collaboration with educational institutions and extension service.
- b. Establish guidelines for REE private sector partnership incorporating provisions for commercialization and protection of potential return on commercial investment under Intellectual Property Rights (IPR) law.

3.3.3 Activities related to Output 2.3 on a Strengthened Agricultural Education System

174. The ADS will support a comprehensive package of measures to ensure closer integration with research and extension, improved capacity of the university, agricultural colleges, and vocational schools, and better response to the needs of farmers and agro-enterprises. These measures will include:

175. **Improve facilities and capacity of Agricultural University.**

176. **Establish an Agribusiness Department in the Agricultural University.**

177. **Support for joint educational, research and extension programs** with NARC institutes under NARF and other funding sources, and with extension departments and district officers, including under the voucher system.

178. **Establish Agricultural University partner operations with private sector.** This may involve innovative ways such as: renting/leasing facilities, training to private/community organizations, and contract research under IPR.

179. **Establish new agricultural/veterinary science colleges in other regions** of Nepal.

180. **Strengthen capacity of Centers for Technical Education and Vocation Training (CTEVT)** through curriculum improvement and training of trainers.

181. **Strengthen capacity of professional staff from government, educational system, and private sector through overseas degrees and training.** This will involve establishing an ADS Scholarship program to fund both short term and long term training and degrees for professional to study abroad. The program could be designed ensuring that after conferring degrees abroad, the beneficiaries have the obligations of returning to Nepal for a period of at least 2 years, in the same organizations from where they had left. The scholarship program should be open to government staff and non-government staff including educational organizations staff and students, and private sector professionals.

3.3.4 Activities related to Output 2.4 on a Farming Sector composed of adequately sized Farmers that use Land efficiently and sustainably

182. **Decide and adopt a policy statement to review or implement existing legislation and policies pertaining to land reform.** This will include land use planning, land fragmentation, land tenure, land ceiling, etc., while protecting the interest of farmers and providing the framework for the commercialization of agricultural production. Farmer organizations, cooperatives, and private sector representatives will need to be involved in the decision together with the government. Representatives of farmer organizations, cooperatives, and private sector will need to be members of any future land commission that the government might initiate.

183. **Issue a Government Order under the Lands Act to consolidate functions under a Land Management Office.** This will include functions of the existing Land Revenue Office, Land Reform Office, District Survey and Measurement Office, to fulfill the following functions:

- a. Land Survey;
- b. Cadastral Survey;
- c. Management of Public, Government and Trust (Guthi) Land
- d. Land Ceiling Enforcement; and
- e. Land Registration

184. **Establish land tribunals to settle tenancy and dual ownership cases.** To that end -

- a. Enact amendment to Lands Act that transfer responsibility for determination of disputed pre-1964 tenancy rights and dual ownership cases (Article 26 B) from the Land Reform Officer or Land Revenue Officer (the “prescribed authority” under the Act) to land tribunals formed of a professional judge of the District Court flanked by a representative of the landowners and a representative of the tenants.
- b. Set numerical goals for the settlement of these cases per year and region
- c. Determine sanctions upon District Land Management Offices that do not meet the targets

185. **Set and enforce targets for reduction of land holdings to the permitted ceiling** by the Lands Act and determine sanctions upon District Land Management Offices that do not meet the targets.

186. **Introduce regulation, incentives and disincentives to promote owner operated farms, farming cooperatives and agribusiness farms.** Improving sharecropping arrangements¹⁷, reducing absentee landlord phenomena, and promoting land productivity will be supported by:

- a. Incentives and disincentives:
 - i. Reduce the maximum permissible sharecropping ratio of 50 – 50 (Lands Act, Article 33) to a ratio that will induce the sale of tilled land from landlords (especially absentee landlords) to the tillers;
 - ii. Impose an increasing rate of land tax on arable lands left fallow;
 - iii. Amend Lands Act to ensure that the utilization of land by tillers through sharecropping arrangements will not lead to acquisition of tenancy rights, thereby protecting sellers of land;
 - iv. Identify financial incentives (including, e.g. tax deductions for sellers; or matching grants possibly via the Poverty Alleviation Fund) for the acquisition of land by landless tenants from absentee landlords;

¹⁷ Keeping in mind that not all sharecropping arrangements are necessarily exploitative.

- v. Clarify by policy statement that new tenancy rights will not be accrued.
- b. Formulate and enact a Land Lease Act (or include in Contract Farming Act) which will allow a long-term leasing at fair terms (fixed rent or sharecropping) without acquisition of tenancy rights;
- c. Promote and encourage formation of multi-purpose agricultural cooperatives and other communal or consolidated forms of joint farming including by:
 - i. Amending the Cooperatives Act and the Land Act to allow land pooling (with or without registration in name of cooperative, with protection against tenancy acquisition arrangements);
 - ii. Amending the Cooperatives Act to facilitate formation of multi-purpose cooperatives as well as other forms of communal/consolidated forms of farming rather than the single purpose formats, including for purposes of joint tilling and/or joint inputs (including FMIS), joint outputs and the enactment of an effective oversight body to ensure proper management;
 - iii. Tax and financial incentives.

187. **Pilot a “land bank” scheme** to facilitate land leasing of currently unutilized land. “Land bank” refers to the idea of a land leasing company that provides intermediation between owners of land and prospective renters of land. The intermediary company guarantees the right of the owners and facilitates long-term leasing of land by private individuals, cooperatives, or private enterprises.

188. **Reduce land fragmentation.** Government would introduce legal, financial and tax incentives to reduce fragmentation.

- a. Legal measures.
 - i. Amend the traditional inheritance law (Mulki Ayn) - or amend the Civil Code - to allow leaving land by testamentary disposition to one heir only;
 - ii. Create lower limit on registration of sub-divisions of small agricultural plots to the effect that subdivisions of small plots because of inheritance (or sale)¹⁸.
- b. Financial and tax incentives. These will aim to encourage absentee (non-farmer) heirs to sell their inherited plot to the heir that tills the land by provision of:
 - iii. fallow land tax (see above);
 - iv. soft loans (e.g. through Agricultural Development Bank);
 - v. protection of seller from acquisition of tenancy during the years that the tiller pays for the land to the absentee-heir.

189. **Enact Contract Farming Act to promote agri-business operations**, that includes *inter alia*:

- a. Collective bargaining arrangements with multiple small farmers
- b. Protection of the parties to the contract (farmers against exploitation through credit and accumulation of debt and contractors against unauthorized sales)
- c. Provisions on insurance of crops and livestock
- d. Implementation of the Secured Transaction Act by establishment of Pledge Registry for Movable Property.

¹⁸ Once zoning is introduced in Nepal, any subdivision of existing plots will be subject a procedure that could prevent creation of unsustainable plot sizes.

190. **Enact Land-Lease Act** (possibly as part of a Contract Farming Act) as a viable alternative to the sharecropping (with concern that tenancy may be re-enacted), and as a basis for agribusiness farming arrangements that provides for -

- a. Fair lease contracts (i.a. – fixed fee or reasonable sharecropping ratios)
- b. Measures to prevent acquisition of tenancy rights in long-term lease relations
- c. Ability to secure long-term leases by agribusinesses for farming.

191. **Implement Land Zoning Policy.**

- a. Introduce a simple zoning system on the basis of the existing Land Classification prepared by the Ministry of Land Reform and Management (MOLRM) by Government Order to be issued under Article 51E (1) the Lands Act and the recently approved Land Use Policy, as required by the Lands Act (Chapter 9A) to be able to prevent land plotting.
- b. Formulate bylaws to accompany the recently approved Land Use Policy; determine in the bylaws that the Ministry of Local Development may not change municipal boundaries of lands that are classified as agricultural lands without the consent of the Ministry of Agriculture Development and the Ministry of Land Reform and Management.

192. **Identify degraded land for rehabilitation.** This will involve survey and identification of suitable areas for rehabilitation, under collaboration between MOAD, MOFSC, MOLRM and local communities. It may include river beds/ flood damaged areas, eroded hill and mountain land, and degraded forest.

193. **Raise awareness on women’s rights to land.** ADS will support legal literacy and pro-GESI mechanisms to communicate with women and excluded groups. Mechanisms will include joint ownership, establishment of incentives such as tax rebate policy if the land is registered under women’s name, equal inheritance rights for women.

3.3.5 Activities related to Output 2.5 on Irrigation Area expanded equitably and viably, and improved Irrigation Efficiency and Management

194. ADS will support a comprehensive package of infrastructure and capacity building for irrigation development. The large scale of the investment and resources required suggests that Government and development partners may implement the recommendations under manageable subprojects.

195. **Expand irrigation area by most feasible means.** The activities supported under ADS will include:

- a. **Complete already commenced surface schemes.** An estimated 80,000 ha remains to be completed in ongoing projects mostly in lowland areas, including the Sikta, Ranijamara and Babai Mahakali Irrigation, Karnali Zone Irrigation Development Project, Medium Irrigation and Sunsari-Morang and Bagmati Irrigation Projects, and others. About 113,000 ha of these schemes have been completed at a cost of \$477 million, approximately \$4,200/ha. Based on this, the estimated cost for completion of 80,000 ha is \$320 million.
- b. **Pilot construction of medium pond/recharge basins.** These are basins that store water and recharge groundwater, for use by both irrigation and water supply. They may be linked with surface or non-conventional irrigation (e.g. sprinklers, drip systems). At present no agency is specifically concerned with

- multi-purpose water resource development, but the Groundwater Resources Development Board (GWRDB) may be appropriate.
- i. Identify an appropriate responsible agency and conduct a study to identify potential recharge basin sites based on farmers' need and estimated cost-benefit analysis.
 - ii. Construct pilot recharge basins under ADS, and replicate based on impact assessment.
- c. **Repair damaged surface systems**, based on farmers' demand.
- i. Prepare an inventory of damaged systems, estimate rehabilitation cost and prepare a project for government or donor funding for the rehabilitation.
 - ii. Implement the surface irrigation rehabilitation project, to cover a preliminary estimate of 34,000ha, costing about \$34 million at average of \$1,000/ha.
- d. **Repair damaged tubewells**, based on farmers' demand.
- i. Each GWRDB should develop an inventory of tubewells that need repair, using GIS to plot position, ownership, condition and reason for non-operation.
 - ii. Prepare a project for government or donor funding for the rehabilitation.
 - iii. Implement the tubewell repair project covering a preliminary estimate of 24,000ha, costing \$2.4 million at average of \$100/ha.
- e. **Construct new tubewells**. STW capable of irrigating 2.5 to 4 ha cost around Rs70,000, including bore, lining, pump, pumpshed and water distribution hose (layflat). At between \$250 and \$400 per ha, an STW is less than 10% of the cost per hectare of a surface scheme. ADS however recognizes that farmers prefer surface schemes, since with STW they have to pay the electricity, kerosene or diesel cost of pumping. New deep tubewells are not recommended, until the STW program is nearing completion, since they are far more expensive per hectare irrigated and have greater requirements for social organization.
- i. Prepare a project to construct new tubewells: (i) covering an estimated 75,000 ha (of 150,000 ha potential), (ii) involving private sector in the provision of equipment, construction and technical advice, and (iii) an incentive package such as cost-sharing, removal of VAT and duties on pumpsets and pipes.
 - ii. Implement the project.
- f. **Develop non-conventional irrigation (NCI)**, especially in hill areas. NCI based on small local water sources or water harvesting will be a preferable option. NCI including gravity piped, water harvesting and small-scale pumped systems, based on drip or sprinkler irrigation for high value crop production is consequently recommended as the focus of ADS irrigation sector investment in the hills. In the Terai, continuation of the treadle pump program is recommended, together with small lift pumping systems from nearby streams or other water sources. Steps to promote development of NCI supported by ADS are:
- i. Prepare an NCI development project for financing through a: (i) district-wise survey to identify suitable areas/ agri-communities for NCI development (this output will update the Irrigation Master Plan); (ii) linkage to other development initiatives, e.g. horticulture value chain development, pond/ recharge basins; (iii) identifying government, donor, private sector, and beneficiary funding partners and mechanisms

such as cost sharing, incentive package for private sector equipment suppliers and commercial bank financing.

- ii. Implement the NCI development pilot cost-sharing project. Subsequent NCI development assumes private sector is fully able to develop the market for these technologies.

196. **Increase effective area of existing schemes.** ADS will support the following measures, on a cost-sharing basis (e.g. farmers contribute labor).

- a. Increase irrigation efficiency. An estimated 170,000 ha of irrigation schemes operate at less than 40% efficiency. ADS will therefore encourage water user associations (WUA) and farmers to increase the efficiency of irrigation by support for: (i) lining or upgrading canals to reduce transmission losses; (ii) control structures to improve water management and distribution; (iii) land-leveling, better management, and constructing distribution networks (field channels); (iv) piped water conveyance in special need situation; and (v) building capacity of WUA in efficient irrigated agriculture management.
- b. Expand command area. ADS will support canal network expansion to increase the irrigable area served by an existing irrigation system.
- c. Improve water allocation and crop planning through provision of irrigated agriculture extension services to assist representative farmers from all sections of the canal to prepare cropping plans with involvement of to improve water distribution, crop productivity, equity and strengthening WUAs.
- d. Construct permanent headworks and improve main canals on farmer-managed irrigation systems (FMIS). Government and donor funded programs to assist FMIS improve their main systems will be continued under ADS.
 - i. Identify selected schemes and needs based on site conditions and local hydrology.
 - ii. Prepare and implement works and build capacity for around 7000 FMIS.
- e. Construct STWs in the tail areas of water short systems for supplementary water supply, under the proposed tubewell development program.

197. **Increase irrigation intensity.** On surface systems, around 70% of the irrigable area is limited to supplementary monsoon season irrigation due to seasonal river flows, unwillingness of farmers to pay for pumping costs and lack of reliable electricity supply. ADS will support increasing irrigation intensity by:

- a. **Improve catchment management** and restoration including the program of Churia areas conservation, under responsibility of the Ministry of Forests and Soil Conservation.
- b. **Construct inter-basin transfer** schemes (IBT) to move water from permanent to seasonal rivers to augment supply in water-short irrigation systems if economically justified by generation of hydropower. Full environmental impacts must be assessed and mitigated for approval of any IBT. Specific activities are:
 - i. DOI to review East-West water transfer project proposal;
 - ii. Design and construct 7 IBT systems for hydro-electricity power and irrigation with full EIA and safeguards.

198. **Improve irrigation system and on-farm water management.** ADS will provide support for better irrigation system and on-farm water management by:

- a. Reform and strengthen the existing Irrigation Management Division to become the Department of Irrigation Development, for better management of agency-managed irrigation systems (AMIS);

- b. Provide adequate levels of budget, either from national resources or the collection of adequate irrigation service fees (ISF);
- c. Build capacity of WUAs and provide advice and possibly funding to farmers to improve their irrigation systems and practices.

199. **Implement irrigation management transfer (IMT).** WUAs or water committees are managing almost all of the 15,000 or so irrigation systems in Nepal. However, the main systems of 32 DOI developed irrigation schemes are managed by the Agency (DOI), with secondary and lower canals managed by WUAs and water user groups. ADS will support IMT to the WUAs to take responsibility for main systems in all or most of the remaining AMIS. Actions to be supported include:

- a. Joint (agency/WUA) management for large schemes, but with greater responsibility progressively transferred to the WUA, for example in relation to employment of gatekeepers.
- b. Full responsibility and ownership transferred a WUA or a federation of WUAs for medium schemes (5,000 to 10,000ha).
- c. Prepare and implement an Irrigation Management Transfer pilot project for two medium to large irrigation systems, with formation of farmer-owned Irrigation Management Company or cooperative (IMC) as one component, and TA commissioned to study international experience and recommend the mechanisms for ownership transfer. IMC would be responsible for operational and financial management including setting and collection of ISF, with the WUA (or federation of WUAs) acting as the board, and a professional irrigation manager (e.g. DOI engineer) appointed to recruit operational management staff.
- d. Harmonizing and streamlining legal structures required for ownership transfer to WUAs.

200. **Establish funding for Operation and Maintenance (O&M).** DOI is responsible for headworks and main canal management, including O&M of the main system of AMIS. WUAs are intended to contribute part of the irrigation service fee (ISF) that they collect, but this is currently not effective in a large majority of schemes. In the short term ADS will support measures to promote and enforce ISF collection to provide adequate funds for O&M of the lower canals, and a contribution to main system maintenance. Measures include:

- a. Introduce incentives into the system, with (for example) government budget support proportional to ISF collection, with a time lag sufficient to allow the amount to be included in the budget request.
- b. Introduce legislation to require a receipt for ISF payment to be attached to land tax payment. This option would require full or partial exemptions to be permitted when water cannot be provided to a particular canal or farmer.
- c. Enforce the existing requirement that ISF payments be brought up to date before a land sale can be registered.
- d. Define and charge ISFs – per crop in the short-term, and per volume of water in the long term on schemes with volumetric metering.

201. **Implement integrated water resource management.**

- a. Finalize the Integrated Water Resources Management (IWRM) policy drafted in 2010.
- b. Introduce the IWRM nationally, with management based on hydraulic boundary, starting in areas where there is inter-sectoral competition or conflict over water.

202. **Build capacity of Women Farmers in Irrigated Agriculture and Water Resource Management.** The programs to improve irrigation and water resources management designed

under the ADS will include a capacity building module. In order to meet GESI dimension a program of capacity building for women farmers in how to build, manage, and maintain irrigation system will need to accompany other measures.

3.3.6 Activities related to Output 2.6 on Timely Access to Quality Agricultural Inputs at Affordable Price

203. **Formulate consistent policy for agricultural input supply and distribution.** ADS will support formulation of policies that include:

- a. *Target* the poor, women, marginal, and remote farmers.
- b. *Size of subsidy* rationalized with other possible uses of public resources.
- c. *Phasing out* subsidies over time to avoid creating dependency or negative impact if they are withdrawn abruptly.
- d. *Affordability* to be sustained within the government's revenue and budget capacity.
- e. *Monitoring* subsidies distribution according to the regulations.
- f. *Outcome and impact* evaluation of the subsidies.

204. Guidelines for such a policy in order to ensure consistency with the overall ADS are:

- a. *Consistency over time*: Do not create abrupt changes unless those are announced with sufficient lead time and an adjustment policy is well designed.
- b. *Promotion of private and cooperative sector*: do not use subsidies to promote parastatals at the detriment of the private and cooperative sector involved in the supply and distribution of inputs.
- c. *Periodic review of subsidy policy*. A periodic review of the subsidy policy should be conducted (eg every 5 years). On the basis of the study the level, area and duration of subsidy will be declared for the subsequent five years. Some subsidies might be phased out (if they have accomplished their objectives) and others might be introduced.
- d. *Promotion of competitiveness*: ensure that there are complementary measures to ensure competitiveness (for example demonstrations about effective and efficient input use).
- e. *Promotion of sustainability*: ensure the sustainable use of input through improved practices and assured supply and distribution chains.
- f. *Promotion of quality*: ensure that agencies responsible to assure the quality of agricultural input have the capacity, resources, and authority of doing so.
- g. *Inclusiveness*: ensure that good and timely inputs are accessible to everybody particularly to the less favored groups.
- h. *Regressive nature of subsidies*: do not create a situation in which the greatest beneficiaries of the subsidy system are those who need the subsidies the least.

205. **Establish voucher system for inputs** whereby targeted farmers are provided with a voucher that empowers them to purchase the input of their preference. First pilot the system and on the basis of a positive review of the pilot, replicate the system and upscale.

3.3.7 Activities related to Output 2.7 on Effective Implementation of Existing Seed Policies including Seed Vision 2025 through sufficient Investment in Resources and Capacity Building.

206. **Enhance capacity of seed research stations** to produce breeder and foundation seeds.

This will involve:

- a. Increased funding to enhance capacity of public research institutions and research stations, universities, and private sector industry.
- b. Maintaining good quality land races and open pollinated varieties (OPVs) of different crops in the remote areas that are dominated by subsistence agriculture, and establish good linkages with international agencies.

207. **Promote private and cooperative sector and community based seed production.** This will involve:

- a. Promoting partnerships with relevant private and cooperative organizations, farms and nurseries for production of quality planting materials
- b. Encouraging private and cooperative sector to slowly take over the commercial production of saplings, seeds, while the role of government is that of facilitator, quality control, policy and regulations formulation, information provider, and monitoring and evaluation
- c. Providing breeder and foundation seed to private and cooperative seed growers
- d. Promoting private and private sector to produce breeder, foundation and hybrid seeds
- e. Promoting seed enterprise as an industry catering to the national needs and for export
- f. Promoting community based seed production and agro-biodiversity in inaccessible remote areas.

208. **Enforce quality assurance systems.** This will involve:

- a. Strengthening planting materials certification processes through improved capacity of concerned public organizations
- b. Enforcing compliance of nurseries with farm inputs quality standards
- c. Encouraging provision of quality control and certification from private sector as well as government
- d. Enforce legislation that compensates farmers when purchasing poor quality seed not complying with existing standards

209. **Promote production of hybrids.** This will involve:

- a. Allowing imports of suitable hybrids after necessary testing.
- b. Encouraging local hybrid seed production within GON organizations, the private and cooperative sector, and in partnership with foreign companies.

210. **Establish an information system about seed demand and supply.** This will involve an updated database available to the public containing timely information about seed production and seed stock for main crops with information about nurseries, breeding stations, and research centers. The database will also contain estimated demand by crop and area and information about suppliers and inspections. Ensure information is readily available to women, Dalit, Janajati/Adivasi, and Madhesi farmers.

211. **Implement Biodiversity Policy.** This will involve:
- a. Strengthening collection, classification, and assessment of diversified bio resources relevant to agriculture, and support scientific report/ documentation
 - b. Initiate a system of registration of agro-biodiversity
 - c. Develop regulation for the research and experimentation of Nepalese Bio-diversity and Genetic Resources
 - d. Develop regulation of GMO having negative impact on bio-diversity, genetic resources, and human health.

212. **Pilot voucher system for seeds** whereby targeted farmers are provided with a voucher that empowers them to purchase the input (in this case seeds) of their preference. First pilot the system and on the basis of a positive review of the pilot, replicate the system and upscale.

3.3.8 Activities related to Output 2.8 on a pragmatic Solution to Fertilizer Supply that is acceptable in the short-term, clearly indicates a Strategy for the medium and long term, and aims at Improving Productivity

213. **Gradual transformation of fertilizer subsidy system into more effective delivery.** Maintain fertilizer subsidy at 2011 level in the short term, review them in the medium term and remove them in the long term. This will involve implementing a study possibly entitled 'Review of Impact of Fertilizer Subsidy' every 5 years during ADS.

214. **Complementary measures to improve productivity and fertilizer use efficiency** will involve promoting a greater private sector role, and include:

- a. Demonstration and awareness campaign to demonstrate efficient use of fertilizer and educate farmers about the cost and benefit of efficient use of fertilizer. The campaign should involve private sector fertilizer suppliers, e.g. to sponsor or conduct demonstrations and provide technical information to farmers.
- b. Promote organic and bio-fertilizer at least at the supplementary or complementary level that can sustain the soil fertility and use inorganic fertilizers to attain higher production and productivity. This will involve:
 - i. Extension on best practices and demonstrations involving private sector suppliers and manufacturers.
 - ii. Facilitating establishment of commercial bio-fertilizer production enterprises based on municipal biomass and agro-processing waste, e.g. through PPP, quality and safety analysis, and registration of products that meet government standards.
- c. Conduct feasibility studies on fertilizer production and procurement. These studies might include feasibility of:
 - i. Establishing a fertilizer factory in the country under PPP arrangement;
 - ii. Obtaining equity shares of fertilizers factory outside the country, possibly as a FDI trade deal with neighbors wanting hydro-electric power and irrigation water;
 - iii. Establishing long-term contracts with foreign suppliers of fertilizer (both in India and third countries).
- d. Establish a fertilizer buffer stock under PPP arrangement.
- e. Establish database and monitoring system on fertilizer use and distribution, including both official and informal import (the latter to be obtained through survey data).

- f. Establish voucher system for fertilizer whereby targeted farmers are provided with a voucher that empowers them to purchase the input (in this case chemical or organic/bio-fertilizer) of their preference. First pilot the system and on the basis of a positive review of the pilot, replicate the system and upscale.
- g. Enforce quality assurance systems. This will involve:
 - i. Strengthening fertilizer inspection through improved capacity of concerned public organizations
 - ii. Enforcing compliance of importers and dealers with fertilizer quality standards
 - iii. Encouraging provision of quality control and certification from private sector as well as government

3.3.9 Activities related to Output 2.9 on a Variety of Improved Animal Breeds Appropriate for the Nepal Farming Systems Conditions are available to Farmers

215. Develop livestock breeding policy

216. Capacity building for improved breeds production.

- a. Support pure breeds production farms.
- b. Promote private sector and cooperatives to produce improved breeds with proper recording of progeny, productivity, and efficiency.
- c. Expansion of artificial insemination laboratories and service for the promotion of breeding programs for breeds improvement.
- d. Support private sector to establish grandparent stocks of poultry.
- e. Support production of improved breeds to private sector.
- f. Support recording and improvement of quality, health status, productivity of improved herds.
- g. Support implementation of livestock insurance schemes.

217. **Establish a voucher system for animal breeds**, whereby targeted farmers are provided with a voucher that empowers them to purchase the input (in this case an animal breed) of their preference. First pilot the system and on the basis of a positive review of the pilot, replicate the system and upscale.

3.3.10 Activities related to Output 2.10 on a Range of Mechanization Options accessible to Farmers through the Private Sector

218. A mechanization strategy led by the private sector, focusing on awareness creation, demand stimulation, a concessionary financing arrangement, technical capacity building of the dealer network, particularly for the 2-wheel power tillers and mini-tiller dealers throughout the country and some modifications in taxation. This strategy needs a lot of coordination with the private sector equipment providers and with the commercial banking sector. The approach would be oriented to: (i) power tillers with multifunctional tilling options in the terai; (ii) gradual increase in the numbers of mini 2-wheelers (with some optional attachments) in hilly areas; and (iii) labor-saving low energy implements and mechanized irrigation in the mountains. There would be four components to this strategy:

219. **Information dissemination:** The private sector has engaged strongly in sales of 4-wheelers with approximately 4,500 tractors sold in 2011, but most farmers and potential clients of 2-wheelers (and mini tillers) have little information on 2-wheel tractor options and benefits.

Therefore ADS will support the conduct of social marketing campaigns on a cost sharing basis with 2-wheel tractor importers and dealers emphasizing the advantages of a 2-wheel tractor over the traditional forms of cultivation, harvesting etc. There would be three separate campaigns one for the mountains, one for the hills and one for the terai. Each one of them would have the same aim, to inform farmers of the potential options and choices, however the orientation and relative weighting of these options would be different in the three different agro-economic zones.

220. **Improve customer access to finance:** Although 4-wheel tractors fall under the regular financing schemes of the commercial banks (hire-purchase), the 2-wheel tractors are largely ignored by bank financing and without license plates, the banks are hesitant to provide loans to the prospective owners of the mini-tillers. Likewise the importers and dealers of the 2-wheeled power tillers have yet to pursue the same kind of aggressive financing implemented by a few of the 4-wheel tractor dealers. Some commercial banks have shown a keen interest in financing 2-wheel tractor sales through dealer financing rather than through consumer financing. Dealers are already providing credit for mini tillers. With the dealers and importers co-investing in providing loans to the prospective clients, it is expected that sales would increase significantly from the first year itself.

- a. Promote commercial banks to finance dealers to on-lend to their customers under two options:
 - i. Extend credit on commercial terms to dealers so that they can also on-lend at rates around 17%¹⁹;
 - ii. Access cheaper credit from the Rastra Bank's "deprived sector" lending program although there are restrictions on the targeting of end users.

221. **Capacity building of service and maintenance providers:** Though the 2-wheelers' and mini-tillers' technical configuration is relatively simple and can be compared to that of the diesel pump sets or even motorcycles, the linkage with after sales service and spare parts is poor. Hence it is proposed that ADS supports:

- a. Dealers to increase the technical capacity of the smaller existing workshops that are scattered through the countryside, instead of setting up their own repair workshops. These workshops could also stock spare parts and act as small brokers for some of the 30-35 dealers operating in major commercial centers.
- b. Dealers to offer technical training for 1,000 farmer/service providers to enable them to become local experts in the impacts of mechanization (additional germination rates, cost saving implications, the advantage of zero leveling, the impact of seed drills etc.)

222. **Enable the business environment for leasing agricultural equipment.** Introduce the following legal measures that would allow leasing companies to operate:

- a. Legal clarification (ruling) that the Banking Institutions Act does not restrict non-banking institutions to engage in leasing; and
- b. Establish a pledge registry (under the Secured Transactions Act or under by amendment to the Contracts Act) to allow securing the financing for leasing operations by leasing companies.

¹⁹ Commercial banks must lend up to 3.5% of their outstanding portfolio to agriculture or face fines of 16% on loans unallocated to this sector. They therefore have an incentive to constantly look for lending to this sector. Commercial bank also have the option to access concessionary financing for the "deprived sector" (cooperatives and micro-finance institutions) at 10-10.5%, but there are restrictions on how the funds are deployed.

223. **Revise regulation and taxes to support mechanization:** To accompany the three above mentioned components, government will implement the following supportive fiscal measures:
- a. Waive the VAT amount and import duty on spare parts (which is over 28%), to reduce the proliferation of sub-standard spare parts brought illegally across the border and promote business of local dealers and sub dealers.
 - b. Remove the 5-year restriction on change of ownership of 2-wheel tractors, to encourage mechanization.
 - c. Impose full VAT on the purchase of 4-wheelers but not on 2-wheelers. The majority of 4-wheel tractors are used exclusively for commercial transport rather than for agriculture.
 - d. Reduce the road tax for 2-wheelers. Currently it is Rs. 2,900 for 4-wheeler and 2,300 for 2-wheelers, which is a disincentive for a 2-wheel purchase if it is to be used for agriculture and is excessive in comparison to the 4-wheeler.

224. **Pilot a voucher scheme.** This may entail provision of a 30% subsidy on all attachments for 2-wheelers and 4-wheelers, to increase the rate of attachment usage (seed drills, reapers, laser levelers, planters etc.). This would last just 3 years and be accompanied by the above mentioned social marketing campaign.

3.3.11 Activities related to Output 2.11 on Improved Resilience of Farmers to Climate Change, Disasters, Price Volatility, and Other Shocks

225. **Conduct research on stress tolerant varieties and breeds** of crops, livestock and fish for the development of climate resilient agriculture.

226. **Establish an early warning system** and adopt early warning information for managing climate change risks in agriculture and food and nutrition security.

227. **Establish climate information and weather indexation systems** designed to provide information to farmers. This will include building capacity of the Meteorology Department to provide weather risk indexation at local levels (as described for agricultural insurance), and building capacity for crop yield forecasting based on weather indexation.

228. **Pilot a Farmers Welfare Fund** that would provide assistance to farmers under distress through access to financial resources to overcome temporary losses of income. The fund could be attached to the Community Agricultural Extension Service Centers, and may be a revolving fund with initial seed funding from central and local government and replenished by members.

229. **Promote agricultural insurance** (details under Commercialization).

230. **Strengthen the food reserve system** to cope with emergency and food safety distribution to targeted farm households.

3.3.12 Activities related to Output 2.12 on Sustainable Farming, Good Agricultural Practices (GAP), Good Veterinary Husbandry Practices (GVAHP) are established and adopted.

231. **Formulate standards** for Good Agricultural Practices and Good Veterinary and Animal Husbandry Practices (GVAHP) suitable to socioeconomic and agroecological conditions, and comparable to international standards through interaction by public and private sector.

232. **Conduct extension programs with private sector** to promote adoption of best practices standards and green technologies, including the following:

- a. integrated soil fertility management,
- b. integrated plant nutrients management,
- c. integrated pest management (IPM),
- d. renewable energies based on biogas and biomass utilization,
- e. organic farming,
- f. farm sanitation and hygiene good practices,
- g. practices to prevent use of hazardous chemicals in crops and regulations of the use of antibiotics in livestock production process.

3.3.13 Activities related to Output 2.13 on Subsistence production based forestry is developed into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement.

233. **Strengthen enabling policy environment** for developing, managing, and sustaining forest products and services in a more commercial and sustainable way. This will require the following measures:

- a. Develop new forestry sector strategy aligning with changing political and institutional context.
- b. Develop forest land use planning in line with the national land use policy.
- c. Harmonize conflicting policies in line with overall national land use policy and forest sector policy, and international commitment of the Government and ensure ground actions.
- d. Develop policy measures to control the forestry land use conversion, startup scientific forest management and enhance the forestry sector contributions.
- e. Revise the policy and programs of community based forest managements to address their unintended negative effects on distant users, resource sharing, social inequity and traditional use rights of transhumance and transient glaziers.

234. **Develop and integrate land use models with forestry.** Productive, commercial, socially inclusive, agro-forestry production land use models will be integrated into existing forest management practices across the landscape/physiographic region. This will require the following measures:

- a. Identify and prioritize the most socially and economically competitive forest products for each of the management regimes across the various landscapes and physiographic regions.
- b. Develop multiple use context specific climate change friendly agro forestry modalities for each type of farmer (small to rich farmers).
- c. Develop and scale up intensive management model for community based forestry for each landscape/physiographic region actively contributing to productivity of farming system, increasing social, economic and environmental benefits and achieving food security.

235. **Enhance forestry enterprises and marketing development.** This will require the following measures:

- a. Improve the value chain of forestry products (timber and non timber) to be promoted for each of management regimes of farm or forests across the landscape/physiographic regions.

- b. Identify the role and involve stakeholders in the forestry sector management. Develop public-user-private partnership mechanism with well identified roles and responsibilities.
- c. Promote the establishment of agro forestry based enterprises providing emphasis to the poor, community and private sector based on context and appropriateness.

236. **Enhance forestry gender equity and social inclusion (GESI).** This will require the following measures:

- a. Strengthen the implementation of Gender and Social Inclusion Strategy of the forestry sector in all phases of program planning and implementation at all levels from center to the district levels.
- b. Restore the degraded lands, enrich the public lands and increase the productivity of low yielding farm lands with appropriate pro poor agroforestry models to achieve the goal of food security, environmental sustainability and poverty alleviations.

237. **Develop biodiversity conservation and climate change adaptation** and mitigation through the following measures:

- a. Support the Local Adaptation Plan of Action (LAPA) as implementation support for the National Adaptation Plan of Action (NAPA) for climate change and emphasize the role of forestry sector components for adaptation and mitigations.
- b. Support revision and implementation of National Biodiversity and Action Plan (NBSAP) and scale up the interventions on soil conservation and watershed management.
- c. Develop with policy decision, implement and scale up schemes related to payment of environmental services including carbon sequestrations.
- d. Promote use of alternative/renewable energy and energy saving scheme among the local forestry groups

238. **Develop institutional and human resources** for forest governance through the following measures:

- a. Restructure the forestry sector based on the new forestry strategy, periodically reorient the staffs and improve the service delivery mechanism.
- b. Prepare and implement a comprehensive human resource development plan.
- c. Democratize governance system of government, non-government, community and private institutions working in forests sector and making it inclusive, transparent and accountable.

239. **Implement research and extension for sustainable forestry** through the following measures:

- a. Develop and implement sustainable forest management research, communication, education and awareness raising strategies for national district and community level.
- b. Collaborate between stakeholder agencies by clearly recognizing needs and priorities on forest research and carry out adaptive research with high-quality support from national and sub-national research institutes.
- c. Develop extension package on best forestry practices and test. The extension package includes reduction on forest threats including forest encroachment,

grazing management, sustainable forest management and improved agricultural practices.

240. **Develop a forestry investment strategy and plan** through the following measures:
- a. Develop and implement district forest development funds management.
 - b. Develop strategy on public private partnership and increase the private sector investment in forestry
 - c. Develop National REDD plus strategy, Biodiversity Strategy and Action Plan, Strategy on Green Jobs and Investment plan for receiving benefits from regional and international funding schemes.
 - d. Create conditions for continuous and stable investments in the forestry sector through the process of realization of the new Forestry Strategy.
 - e. Develop coordination and for planned investments between private and state sectors, international and national donors.
 - f. Create the favorable climate for investments in the private and state sectors, international and national donors.
 - g. Improve law enforcement to decrease the negative impact on forest markets and increase the income for the sector that will ensure larger reinvestments in forestry.
 - h. Co-ordinate with the national and international financial assistance including international funds for support to sustainable forest management, to biodiversity conservation, protective functions of forests, payment of environment services and for carbon sequestration.
241. **Develop joint platform for policy** and actions on ground through the following actions:
- a. Join up the work of organizations to map and access policy initiatives for the agriculture and forestry sectors, and identify where the measures exist or are missing.
 - b. Work to embed a common understanding and language, generate shared messages on the need to adapt, and incorporate new, consistent messages on farming systems and priorities for action
 - c. Develop better information to help farmers consider the costs and benefits of capital investments that would improve their productivity
 - d. Build on existing knowledge and research to ensure that agriculture and forestry complementing each other.
 - e. Develop examples of good working practice and adding value to support decision-making engaging with the forestry user groups looking at existing and future schemes for forestry to support agriculture production.
 - f. Develop critical capacity in research, expertise and the evidence base.

3.4 Activities Related to Outcome 3: Profitable Commercialization

242. Outcome 3 of the ADS is Profitable Commercialization. The outcome is achieved through 8 outputs and 38 activities illustrated in Table 21 and detailed in the following sections.

Table 21 Activities related to Outcome 3 on Profitable Commercialization

Outcome	Output	Activity	
3			Profitable commercialization
	3.1		Improved investment climate
		3.1.1	Promote formation of broad-based commercial agriculture organizations
		3.1.2	Increase participation of agribusiness, cooperatives and industry bodies
		3.1.3	Promulgate appropriate regulations
		3.1.4	Level the competitive environment between private sector and state enterprises
		3.1.5	Reform land use policy to stimulate commercial agriculture
		3.1.6	Provide information to assist commercial farming decisions
	3.2		Contract arrangements for commercial agriculture
		3.2.1	Strengthen contractual arrangement mechanisms
		3.2.2	Capacity building in commercial agriculture
	3.3		Tax policy to support commercial agriculture
	3.4		Agricultural finance and insurance
		3.4.1	Promote development of agricultural finance and insurance providers
		3.4.1.1	Provide long-term finance through leasing
		3.4.1.2	Implement policy to divest government shareholding and management influence in financial institutions
		3.4.1.3	Promote financial institution viability
		3.4.1.4	Facilitate development of a range of financial products for agriculture
		3.4.1.5	Provide incentives for agricultural finance
		3.4.1.6	Provide training in financial management for farmers
		3.4.2	Promote development of agricultural insurance
		3.4.2.1	Support the insurance industry in implementing the Agricultural Insurance Directive
		3.4.2.2	Promotion campaign to farmers
		3.4.2.3	Pilot a local-level weather indexing scheme
		3.4.2.4	Strengthen technical capacity of MOAD for regional and local level crop forecasting
		3.4.2.5	Pilot scheme for 50% premium subsidy
	3.5		Competitive agricultural value chains
		3.5.1	Establish 5 prioritized National Value Chain Programs
		3.5.2	Support to better expedite value chain development
		3.5.3	3.5.3.1 Enhance the development of the DAIRY value chain
			3.5.3.2 Value chain development fund
		3.5.4	3.5.4.1 Enhance development of the LENTIL value chain
			3.5.4.2 Value chain development fund
		3.5.5	3.5.5.1 Enhance development of the MAIZE value chain
			3.5.5.1 Value chain development fund
		3.5.6	3.5.6.1 Enhance development of the TEA value chain
			3.5.6.2 Value chain development fund
		3.5.7	3.5.7.1 Enhance development of the VEGETABLES value chain
			3.5.7.2 Value chain development fund
	3.6		Rural roads network expanded
		3.6.1	Update policy for rural roads to explicitly target agricultural roads.
		3.6.2	Establish a new section for agricultural roads in District Technical Office
		3.6.3	Provide separate funding for development and maintenance of agricultural roads.
	3.7		Agricultural market information
		3.7.1	Promote development of a suite of products for market information and market intelligence
	3.8		Rural electrification and renewable energies
		3.8.1	Establish a separate liaison section especially for power development in MOAD
		3.8.2	Establish a fund to support PPP for power development with farming community

3.4.1 Activities related to Output 3.1 on Improved Investment Climate for Agricultural Commercialization

243. **Promote broad-based commercial agriculture organizations** that could monitor and dialogue with government on improved investment climate for agricultural commercialization. These organizations will be complementary to existing chambers of commerce and their federation, trade associations, cooperative federation etc., in so far as they promote the

formation of alliances across the value chain. Their structure could be similar to the Commercial Agriculture Alliance (CAA) in the Eastern Region in terms of broad coverage of actors such as farmer cooperatives, traders, input supplies, and agroindustry. In such a case, the monitoring and advocacy would be for a broader spectrum of commercial agriculture than other existing organizations.

244. Increase the participation of agribusiness, cooperatives, and industry organizations in sub-sector planning and implementation.

- a. Representatives should be appointed to Steering Committees, CADIC, local planning and implementation bodies, and bodies that advise on regulation of commercial agriculture.
- b. Indicators to monitor investment climate should be agreed between the government and relevant organizations representing farmers, cooperatives, and private sector. A working group or sub-committee under CADIC could be held responsible for monitoring these indicators.

245. Promulgate appropriate regulations to promote larger scale commercial cooperative farming including enabling:

- a. merging of cooperatives across districts or regional boundaries;
- b. contract farming;
- c. lease farming.

246. Level the competitive environment between private sector and state enterprises in the distribution of agricultural inputs and outputs. For example, level playing field in the purchasing and distribution of fertilizer, seed, artificial insemination, milk. This may involve providing the private sector with the same commercial advantages (e.g. subsidies, permits, facilities), or removing these advantages from state enterprises.

247. Reform land use policy to stimulate commercial agriculture, such as on land plotting, land fragmentation, land ceilings, land tenancy, land pooling (see section 3.3.4 on Land)

248. Provide information to assist commercial agricultural decisions (e.g. crop gross margin and cash flow analyses), through preparation and dissemination of farm management economic information by collaboration between DOA, DLS, research institutes and Department of Agribusiness Promotion.

3.4.2 Activities related to Output 3.2 on Contractual Arrangements for Commercial Agriculture

249. Strengthen contractual arrangements mechanisms and promote awareness and demonstration of these regulatory mechanisms for commercial agriculture such as:

- a. Enact and implement a *Contract Farming Act* that, *inter alia* includes: (i) Collective bargaining arrangements with multiple small farmers; (ii) Protection of the parties to the contract (farmers against exploitation through credit and accumulation of debt and contractors against unauthorized sales); (iii) Provisions on insurance of crops; (iv) Implementation of the Secured Transaction Act (see below).
- b. Implement a *Secured Transactions Act* by establishing a registry of commerce movables as security - to (i) allow farmers to provide future crops as collateral for financing, whether as part of a contract farming arrangements or as collateral for farm credit or inputs; and (ii) allow development of hire-purchase

- or financial leasing for agricultural market²⁰. If implementation of STA proves impractical²¹ one could amend Chapter 6 of the Contracts Act to ensure a simplified pledge procedure for the pledging of movables as security, including pledge registry.
- c. Enact land-lease act (possibly as part of a Contract Farming Act) to provide for a viable alternative to the sharecropping (with concern that tenancy may be re-enacted) and inducing of sale by absentee landlords as well as a basis for agro-business farming arrangements that provides for (i) fair lease contracts (i.a. – fixed fee or reasonable sharecropping ratios); (ii) measures to prevent acquisition of tenancy rights in long-term lease relations; and (iii) ability to secure long-term leases for agro-businesses to enable them to cultivate land for the agro-business.
 - d. Promote Leasing Operations through: (i) providing for the formation of Leasing Companies to engage in financial leasing of farming equipment, by clarifying that Article 47(1)(d) of the BFIA which stipulates that FIs are permitted to engage in leasing operations does not limit non-FIs from engaging in leasing of farming equipment²²; and (ii) establishing pledge registry either under STA or by amendment of Contracts Act, as described herein above.

250. **Capacity building in commercial agriculture.** The promotion of commercial agriculture through improved contractual arrangements, value development, and market intelligence, requires the training and capacity building in key concepts of agricultural commercialization and value chain development. ADS will support capacity building programs delivered in collaboration with farmers and their organizations (groups and cooperatives), agro-enterprises and their organizations, and service providers (government, professional).

3.4.3 Activities related to Output 3.3 on Tax Policy that Supports an Efficient Commercial Agricultural Sector

251. **Develop tax policy supportive of an efficient commercial agricultural sector** through providing subsidies and targeted tax incentives through the commercial transformation period, until the sector has reached a sufficient level of maturity and sustainability that those subsidies and incentives may be phased out. This will replace blanket exemptions with targeted concessions with termination dates (in accordance with the recommendations in IMF Country Report No. 11/319 of November 2011). In the long term the agriculture sector will provide government with an additional source of revenue for mobilization. ADS will support the revision, rationalization, specification of their terms (criteria) and duration (expiry dates), consultation

²⁰ In a typical leasing operation, a leasing company serves as the middleman between the financial institution that provides the financing for the purchase of the equipment, and the farmer who leases it, from the leasing company. In order to obtain bank financing the leasing company needs to put up collateral. That collateral is the equipment that is leased to the farmer. Thus the owner of the equipment is the leasing company, the bank has a security interest (collateral) in the equipment and the farmer leases it. In the absence of the registry only land can be collateral (or vehicles that are registered with the motor vehicle registration. The equipment cannot be registered as collateral and financing will not be forthcoming to the Leasing Companies. Since financial institutions (FIs) are usually not familiar with leasing operations FIs will not become lessors.

²¹ The STA is a rather complex legislation which may not be suitable as an initial mechanism for using movables as collateral.

²² The language of Article 47(1)(d) should not prevent non-FIs from engaging in leasing operations, but as the Rastra Bank apparently believes it does, one may have to resort to a legislative (or judicial) clarification that leasing operations may be conducted by non-FIs.

and awareness campaign for all tax incentives and related to commercial agriculture and including the following:

- a. Determine and implement specific income tax concessions to (a) stimulate investment in farm plant, machinery and irrigation infrastructure; and (b) promote green technologies and reduce carbon emissions.
- b. Determine and implement tax incentives for the insurance industry to stimulate the growth of agricultural insurance contracts in accordance with the Agricultural Insurance Directive 2069 (2013).
- c. Determine and implement tax incentives for the banking industry to stimulate the growth of agricultural loans.
- d. Determine and implement changes to the way land is taxed.

3.4.4 Activities related to Output 3.4 on Agricultural Finance and Insurance Providers that supply a variety of competitive and demand-driven financial and agricultural Insurance Products.

252. **Promote development of diverse agricultural finance and insurance providers** that supply a variety of competitive and demand-driven financial and agricultural insurance products. ADS will support implementation of ongoing policies and measures in the finance sector such as:

- a. Provide long-term finance through leasing, especially for agricultural equipment and land.
- b. Implement existing policy to divest government shareholding and management influence on financial institutions. Regulatory actions include:
 - i. Privatize ADBL and Grameen Bikas Bank.
 - ii. Ensure management autonomy for financial institutions in the appointment of board and management team members, in management functions and in their commercial operations subject to prevailing prudential regulations.
- c. Promote financial institution viability:
 - i. Support ongoing efforts by NRB to promote consolidation of financial institutions through selective licensing of new financial institutions and through the merger of weak financial institutions.
 - ii. Implement the provisions of the Microfinance Act to establish a second-tier regulatory authority for MFIs that will facilitate improved viability and sustainability, and governance, in the microfinance subsector.
- d. Facilitate development of a range of financial products for agriculture, subject to prevailing regulations such as Deprived Sector lending regulation, to better serve the diverse needs of agricultural enterprises. For example those based on information and communication technology [ICT]), and products that are readily available in many countries' financial systems but are effectively untried in Nepal such as stock and warehouse receipts.
- e. Provide incentives for agricultural finance, to increase participation of financial institutions into the agricultural finance market by:
 - i. Provide incentives, if appropriate tied with directives, to promote an increased volume of lending. A good example is the NRB 2011 Directive that 'commercial banks must direct 10% of their total lending to agriculture' – the directive is supported by NRB provision of refinancing facility for agriculture at 6.5%.
 - ii. Promote financial institutions to branch into rural centers to gain experience of the needs of rural lenders, better understand agricultural finance and appraise agricultural credit needs. A good example is the

present (2013) NRB provision of interest free loans to commercial banks to open rural branches.

- f. Provide training in financial management for farmers, cooperatives, agri-entrepreneurs, rural women and rural youth, to enhance agricultural enterprise creditworthiness.

253. **Promote development of agricultural insurance** so that farmers have access to viable crop, livestock and fishery insurance products through the following measures:

- a. Support the insurance industry in implementing the Agricultural Insurance Directive 2069 (2013), and make policy adjustment as appropriate to develop viable commercial livestock and crop insurance products.
- b. Promotion campaign to farmers on agricultural insurance products, in partnership with insurance industry. These will include: “Commercial Livestock Insurance Scheme (CLIS)”, “Milk Cooperative Managed Livestock Insurance Scheme (MCLIS)” and “Weather Based Crop Insurance Scheme (WBCIS).
- c. Pilot a local-level weather indexing scheme in 11 cereal production pockets through support to DHM.
- d. Strengthen technical capacity of MOAD for regional and local level crop forecasting risk assessment based on indexing weather patterns with crop yields;
- e. Pilot a scheme for 50% premium subsidy (as per the Insurance Board Directive), to kick-start the scheme in the short term, review the premium subsidy and gradually phase it out.

3.4.5 Activities related to Output 3.5 on Competitive Agricultural Value Chains that Increase Value Added and Benefits to Smallholders Farmers and Agroenterprises

254. **Prioritize a limited number of value chains (5 value chains) over the first 5 years of the ADS and establish National Value Chain Programs for each of the prioritized value chains.** The prioritized value chain are selected through a process that takes into account the following criteria: (i) Poverty reduction potential; (ii) Growth potential (or potential for increasing growth and access); (iii) Intervention potential; and (iv) Cross-cutting issues (social inclusion and gender, environmental sustainability, matching with national and regional strategic priorities, balance of trade (import substitution and export), and geographical spread). The prioritized value chains include: dairy, lentil, maize, tea, and vegetables.

- a. For each value chain, identify a Value Chain Program Steering Committee. The Steering Committee will include representatives of the industry related to the specific value chain and include farmer representatives, agribusiness enterprise representatives, and research and extension representatives with specific knowledge about the value chain.
- b. The Value Chain Program Steering Committee will select a Value Chain Program Manager. The Manager will be selected competitively and will be a highly reputed manager with business experience in the industry. The Program manager will be responsible for coordination of projects and initiatives related to value chain development. The Program manager will prepare a more detailed plan of action and investment for the development of the value chain. The plan of action will be approved by the steering committee and updated regularly.
- c. For each value chain, conduct value chain development capacity building activities, with emphasis on markets for the poor (M4P) approach to value chain development, an approach intended to facilitate the emergence of inclusive value chains, namely value chains that benefit the poor.

- d. For each value chain program, establish a baseline and targets and monitoring system and conduct regular monitoring.

255. **Support to government to better expedite value chain development** Will involve the combination of the following activities:

- a. Facilitate and enable the development of a better working agribusiness environment through a number of government related initiatives such as:
 - i. Facilitate establishment of Value Chain Program Steering Committees
 - ii. Support the development of suitable policies and regulations for value chains (VCs) through technical assistance support.
 - iii. Train MOAD staff in private sector development (PSD) and VC development.
 - iv. Increase human resources of the Agribusiness Section of MOAD.
 - v. Establish and fund PSD coordination subcommittee of NSC for better management/ coordination of commodity/product VC projects and programs.
- b. Support to priority VCs niche products, deprived and isolated areas of Nepal, through government targeted support.
 - i. Provide technical support to MOAD in development of VC development plans in coordination with the VC Program Manager.
 - ii. Develop methodology and expedite district competitiveness planning for VCs.
- c. Support to private sector initiatives through improved financial support systems.
 - i. Technical and management support to MOAD and other entities in the review of financial instruments for VC development.

256. **Enhance the development of the DAIRY value chain** through production, marketing and policy/institutional support.

- a. Improve milk productivity for smallholder farmers through:
 - i. Capacity development of dairy smallholder farmers in improved dairy production technologies.
 - ii. Financial and technical assistance to service providers in improved services to dairy smallholder farmers.
- b. Strengthen local milk cooperatives, collection centres and improved market linkages through:
 - i. Training and financial support to cooperatives and collection centres in improved management practices for better quality milk delivery
- c. Improve advocacy and policies for dairy sub-sector through:
 - i. Support to local CCI in the establishment of "Dairy Chapters" for better advocacy and market development.
 - ii. Support to MOAD, DLS, CCI & Dairy Association in better policy development for the dairy sub-sector.
 - iii. Technical assistance support in development of monitoring & knowledge management system.

257. **Enhance the development of the LENTIL value chain** through production, marketing and policy/institutional support.

- a. Improve production and productivity of lentil at the farm level through:
 - i. Collaboration of NARC, private companies and seed producer groups for increased production and distribution of foundation seeds and certified seeds.

- ii. Training package on improved production practices developed, and lead farmers (LFs) at community level trained on the improved practices to serve the farmers as Local Resource Persons (LRPs).
 - iii. Support to the National Grain Legume Research Program to address on the present problems of mineral imbalances and widespread diseases at the farm level.
- b. Improve post harvest operations and marketing of lentil through:
 - i. Support for farmer groups/cooperatives for collective marketing using cleaning and grading equipment, collection centers, storage facilities and contract farming.
 - ii. Facilitating linkage/networking with banks in the importing countries through government level negotiation for issuance of letter of credit for timely payment.
- c. Improved policies, regulatory framework and institutions for lentil sub-sector through:
 - i. Support for establishment of accredited laboratories for certification of quality standard.
 - ii. Support for establishment of research unit at the national level within TEPC for market intelligence and market research for export diversification.

258. **Enhance the development of the MAIZE value chain** through production, marketing and policy/institutional support.

- a. Improve production and productivity of maize at the farm level through:
 - i. Collaboration of NARC, private companies and seed producer groups for increased production and distribution of foundation seeds, certifies seeds, and hybrid seeds.
 - ii. Training package on improved production practices developed, and lead farmers (LFs) at community level trained on the improved practices to serve the farmers as LRPs.
 - iii. Support activities for increased and judicious use of production inputs (seeds, fertilizers, chemicals and irrigation) for productivity increase, and popularization of improved farm tools, implements and machineries to cope with labor shortage problem.
- b. Improve post harvest operations and marketing of maize through:
 - i. Support for initiating collective marketing through provision of seed money, and storage facilities at the community level.
 - ii. Support and facilitation for improved market linkage with feed and agro-industries through contract farming arrangement.
- c. Improve policies, regulatory framework and institutions for maize sub-sector through:
 - i. Support through DADO/VDC for establishment of resource centre at VDC level with service of Leader Farmers as LRPs
 - ii. Support through DADO for establishment of institutional network for community based seed production (OPV)/ seed sourcing (hybrid), and varietal selection at the district level.

259. **Enhance the development of the TEA value chain** through production, marketing and policy/institutional support.

- a. Improve production and productivity of tea through:
 - i. Facilitate and support the tea grower farmer groups and estates to establish nurseries and quality clone development

- ii. Support for establishment of demonstration plots and training to the farmers for improved practices for quality tea production and increased productivity
- iii. Support for identification and expansion of new tea plantation areas.
- iv. Facilitation and support for technical manpower development (tea tester/technician) in the tea industry.
- b. Improve post harvest operations, processing, and marketing of tea through:
 - i. Support for promotion of improved packaging material by farmers, and improved transportation of green leaf from farm to factory.
 - ii. Facilitate in contract production of tea leafs by farmer groups and cooperatives.
 - iii. Support for technological upgrading of tea factories in the promotion of safety standards, production efficiency and GMPs.
 - iv. Support for development of small scale tea processing units to the farmers, and group branding.
 - v. Support for upgrading laboratory facilities and improved packaging.
- c. Improve policies, regulatory framework and institutions for tea sub-sector through:
 - i. Facilitation and support for establishment of central warehouse and auction market under PPP.
 - ii. Support to the NTCDB for establishment of tea research, development and training center.
 - iii. Support to TEPC for studies and market intelligence services for tea farmers and entrepreneurs.

260. **Enhance the development of the VEGETABLES value chain** through production, marketing and policy/institutional support.

- a. Improve vegetable productivity for smallholder farmers through:
 - i. Technological guidelines for off-season vegetable production, farmer production training.
 - ii. Expand introduction of poly-house & micro-irrigation technologies.
 - iii. Development of off-season vegetable production blocks.
- b. Improve post harvest operations and marketing of vegetables though:
 - i. Promotion of improved grading, packaging and collection centres
 - ii. Establishment of off-season vegetable call centre for market intelligence
- c. Improve policies, regulatory framework and institutions for vegetable sub-sector.

3.4.6 Activities related to Output 3.6 on Rural Roads Network Expanded

261. This will involve systematic efforts focused specifically on. ADS will support the following activities:

262. **Update policy for rural roads to explicitly target agricultural roads.** This aims to accelerate the program of development of agricultural roads, while improving their quality and maintenance. The policy will:

- a. Focus on connecting agricultural production centers to market centers;
- b. improve coordination with other agri-market infrastructure programs;
- c. clarify division of responsibilities between center and subnational levels for implementation of the policy.

263. **Establish a new section for agricultural roads in District Technical Office (DTO)** under the DDC headed by a separate Senior Engineer in all 75 districts to implement updated agricultural roads policy.

264. **Provide** separate funding for development and maintenance of agricultural roads. The funding mechanism should involve private sector and communities in the development and maintenance of roads, e.g. via matching grants. The initial fund would cover 5 years of construction at 50km per district, and could be replenished based on satisfactory review.

3.4.7 Activities related to Output 3.7 on Agricultural Market Information and ICT Products for Market Intelligence

265. **Promote the development of a suite of products for market information and market intelligence** using ICT products and involving private sector and incentives for the users to pay. The system of market information and market intelligence must be easily accessible to smallholder farmers, traders, and enterprises. This may involve preparation and implementation of a program coordinated under ADS that will include provision of start-up financing (e.g. matching grants) to private sector, industry organizations, and/or NGOs to establish commercially viable market intelligence products and services using mobile and internet communication technologies. The products and services may be developed and managed by consortium, e.g. between wholesale market authority and ICT systems provider.

3.4.8 Activities related to Output 3.8 on Rural Electrification and Renewable Energies

266. **Support expansion of rural electrification programs through the promotion of renewable energies** (water, solar, wind, biomass, biogas). Involve MOAD in the contribution of financial and technical support to farming communities in collaboration with NEA, AEPC, ESAP etc.

- a. Establish a separate liaison section especially for power development in MOAD. Make the section responsible for assisting the farmers' community to: (i) reach NEA, AEPC, ESAP, and National Rural and Renewal Energy Program (NRREP) for power supply (ii) plan, design, procurement, implementation and maintenance and iii) provide financial support (in some cases) for power generation.
- b. Establish a fund to support PPP for power development with farming community partners. The fund will be administered by the MOAD power liaison section.

3.5 Activities Related to Outcome 4: Increased Competitiveness

267. Outcome 4 of the ADS is Increased Competitiveness. The outcome is achieved through 4 outputs and 12 activities illustrated in Table 22 and detailed in the following sections.

Table 22 Activities related to Outcome 4 on Increased Competitiveness

Outcome	Output	Activity	
4			Increased competitiveness
	4.1		Market infrastructure developed
		4.1.1	Promote development of market infrastructure
		4.1.2	Implement PPP financing support mechanisms
		4.1.3	Capacity building programs for market infrastructure management
	4.2		Growth of small and medium agro-enterprises

Outcome	Output	Activity	
		4.2.1	Adopt tax incentives to stimulate investment in agro-based enterprises
		4.2.2	Promote establishment of Agribusiness Incubators
		4.2.3	Establish matching grants to promote agro-enterprise innovation
		4.2.3.1	Innovation Fund for Agro-enterprises and Coops
		4.2.3.2	Agro-Entrepreneurship Programs for youth, women and disadvantaged
	4.3		Growth of food and agricultural products exports
		4.3.1	Strengthen capacity to promote exports and negotiate more favorable trade agreements
		4.3.1.1	Legislative Measures
		4.3.1.2	Promote foreign investment
		4.3.1.3	Institutional Measures
		4.3.1.4	International Measures
	4.4		Enhanced food quality and safety
		4.4.1	Adopt and implement internationally compatible food quality and safety standards

3.5.1 Activities related to Output 4.1 on Market Infrastructure Developed

268. **Promote development of market infrastructure through the combination of public investment, private and cooperative sector investment, PPP, and community participation,** focused on the development of prioritized value chains. Examples of PPP involving different types of infrastructure include:

- a. Promotion of on-farm storage, cool/cold/CA storage
- b. Creation of new markets and improvement of existing ones
- c. Network of collection centers linked by hub and spoke system to wholesale markets
- d. Creation of new agroindustrial parks and improvement of existing ones

269. **Implement PPP financing support mechanisms.** Mechanisms appropriate to the size of the investment, the risk involved, and the ownership structure, may be: matching grants; back-end subsidies linked to credit; waiver of initial connection capital costs to government-owned roads, utilities and services (e.g. power, water, waste management).

270. **Capacity building programs for market infrastructure management and governance.** One key contributing factor to the effectiveness of PPP investment is the clear delineation of roles of different actors and improved capacity in managing market infrastructure as part of a supply chain. Hence, any investment in market infrastructure needs to be accompanied by capacity building programs to improve management and governance.

3.5.2 Activities related to Output 4.2 on Growth of Innovative Small and Medium Agroenterprises

271. **Adopt a number of tax incentives to stimulate investment in agro-based enterprises,** such as:

- a high tax free threshold for income tax to be applied to agro-based enterprises
- a lower income tax rate for income tax to be applied to agro-based enterprises
- accelerated depreciation
- investment allowances
- full deductibility of research and development costs
- carry forward of losses

- graduated level of concessions for developed, under-developed and undeveloped regions
- incentives for foreign investors in agricultural research and development in Nepal

272. **Promote establishment of Agribusiness Incubators** for nurturing the growth of small and medium agroenterprises through support in infrastructure facilities, training and capacity building, networking, advisory services, and access to finance.

273. **Establish matching grants to promote agroenterprises innovations, through a number of initiatives such as**

- a. **Innovation Fund for Agro-enterprises and Coops**, oriented to support public private partnerships, and commercial research and development. The core criteria for its usage would be: that the proposal generates “additionality” in outreach to more farmers or primary producers with some form of innovation (product development, process, or technology) that leads to a measurable income increase for producers. Criteria for this scheme would include the need for proposals to have some matching funds (not necessarily 50-50) from the private sector and coops as a way of ensuring that the research had relatively short term impact. This fund would only be available to private entities and coops.
- b. **Agro-Entrepreneurship Programs for youth, women and disadvantaged.** In this case the matching grant will target different groups in rural areas who intend to establish agroenterprises. The matching grant can be combined with an agroentrepreneurship capacity building program. Three AgroEntrepreneurship Programs will be promoted:
 - i. Youth Agro-Entrepreneurship Program
 - ii. Women Agro-Entrepreneurship Program
 - iii. Disadvantage Group Agro-Entrepreneurship Program

Each agroentrepreneurship program will consist of:

1. A capacity building component in which prospective entrepreneurs are trained and mentored in establishing agroenterprises
2. A competitive matching grant fund through which entrepreneurs can get access to seed money for establishing agroenterprises in rural areas.
3. A revolving fund under DLSO/DADO/DFO

3.5.3 Activities related to Output 4.3 on Growth of Food and Agricultural Products Exports

274. **Strengthen capacity to promote exports and negotiate more favorable trade agreements**, backed by an adequate and functioning import/export regime, including the ability to apply and comply with SPS, AD and CVD measures. ADS will support the following a combination of measures aimed at improving agricultural trade regime.

- a. **Legislative Measures** related to trade and foreign investment. Enact a modern Trade Act to create an environment that is conducive to exports and regulates imports. The proposed Trade Act will include (i) the regulation of imports in terms of the ability to take fair and non-fair trade protection measures permitted under the WTO regime but not enacted yet, such as measures for BOP reasons, or to counter import of subsidized (CVD) or dumped (AD) products that harm the Nepali producers; and (ii) the formation of an agricultural products export promotion body either as part of the MOCS, Trade and Export Promotion Center (TEPC), or in the MOAD.
- b. **Promote foreign investment.** ADS will interact closely with the Investment Board to contribute to improving the investment climate, formulation of an

investment Law to facilitate and regulate FDI, and to promote and attract FDI in agricultural sector.

- i. In the short-term, (i) Prescribe Rules under Section 8 of the FITTA to promote Foreign Investment by granting incentives and proclaim incentives through annual Budget Acts; and (b) Reduce the number of agricultural sectors that are currently “closed” for FDI (fisheries, poultry breeding and bee-keeping).
 - ii. In the mid-term, enact a new Investment Act that includes the promotion of investments, by providing for incentives for foreign investments in agriculture and agro-businesses.
- c. **Institutional Measures** in the short and medium term.
- i. In the short term, create within MOAD an International Agricultural Trade Division including a section on WTO (currently under the Division of Agribusiness Promotion and Statistics), a section to work as SPS Inquiry Point (currently under DFTQC), a section on International Trade Promotion to serve as a focal point for Nepali exporters of agricultural products, in matters of information about standards, export conditions, export incentives, market intelligence, including developing auction market for strategic commodities (eg tea), etc. This section would focus on policy issues differently from the existing program for international trade promotion under the Directorate of Agribusiness Promotion and Market Development under DOA (which focuses more on extension to farmers); similar function needed from Market promotion directorate of DLS and would coordinate with the Trade Facilitation unit with the MOCS.
 - ii. In the medium term, additional measures include strengthening trade negotiation capacity through (i) providing training to negotiating teams; (ii) conduct studies on the implication of negotiation agendas; and (iii) institutionalize stakeholder’s consultations.
 - iii. In the long-term, conduct a review and assessment of the policy of pegged exchange rate with India and its impact on the agricultural sector in Nepal to provide a critical input into the macroeconomic policy on exchange rate that goes beyond the scope of the ADS.
- d. **International Measures** for the short and medium-long term.
- i. In the short term: (i) Promote the export of products currently enjoying preferential treatment pursuant to existing agreement; and (ii) Engage in dialogue (joint seminars for customs officials) with trading partners on correct implementation of trade agreements.
 - ii. In the medium-long term conduct a review of the following aspects of the trade agreements of Nepal: (i) Tariff and quota exempt product coverage in bilateral and multilateral trade agreements of Nepal (reduction of sensitivity list); (ii) Technical barriers to Nepali exports; (iii) Nepali SPS certification recognition by 3rd parties; (iv) Exclude cereals horticulture products from reciprocal duty free list of Nepal India trade treaty; (v) Take out agriculture products from negative list of trading partners under SAPTA; and (vi) Conclude bilateral preferential trade agreements with the countries of the region; (vii) Reducing / eliminating pro-manufacturing bias in tariff structure; and (viii) Reviewing export incentive system.

3.5.4 Activities related to Output 4.4 on Enhanced Food Quality and Safety

275. **Adopt and implement internationally compatible food quality and safety standards.** In order to allow Nepali export products to compete in international markets on the one hand while protecting the Nepali consumers from consuming unsafe food products, the following steps have to be taken:

- a. Enact a modern Food Act, prescriptive rather than reactive, that creates an enabling environment conducive to the development of internal trade and export market of agricultural and agro-business products as well as ensures that all foodstuffs sold meet acceptable standards, prevent and punish food adulteration, and promote food traceability. The new Food Act should include provisions on the following matters:
 - i. The formation of an independent Food Authority that is affiliated to but not part of structure of ministry with authority to issue standards and enforce these, including food quality standards
 - ii. The stipulation that the Department of Food Technology and Quality Control DFTQC (or the Food Authority once established) is authorized to issue SPS standards for local and exported food products. The authority to issue SPS standards by a simplified procedure in case that the SPS standards are internationally accepted standards, such as those of the *Codex Alimentarius*.
- b. Formulate, adopt and implement Food Safety and Quality (FSQ) standards that meet international SPS standards to avoid import restrictions by trading partners for SPS reasons. Set numerical goals for proclamation of new standards.
- c. Adopt legislation on the accreditation of standards certification bodies;
- d. Adopt legislation on the accreditation of national laboratories for FSQ certification;
 - i. Establish Nepali accreditation body
 - ii. Join ILAC to establish recognition of Nepali accreditation body
- e. Strengthen and update to internationally accredited level the following laboratories:
 - i. Food Quality Control Laboratory and its regional laboratories under DFTQC
 - ii. National Veterinary Diagnostic Laboratory and regional laboratories under DLS
 - iii. National Veterinary Quality and Medicine Management Office Laboratory under DLS
 - iv. Feed Analysis Laboratory under DLS
 - v. National and Regional Plant Protection Laboratories under DOA
 - vi. Soil/fertilizer Analysis Laboratories under DOA
 - vii. Seed Quality Control Laboratories under DOA
 - viii. National Avian Disease Diagnostic Laboratory in Chitwan under DLS
- f. Institutional measures in the short term include:
 - i. Strengthen the capacity of the DFTQC under the MOAC, in terms of transforming it to become a pro-active rather than reactive body, with annual plans and targets for the proclamation of FSQ standards, enforcement of FSQ standards and public awareness;
 - ii. Implement agreement with India on recognition of DFTQC as certified laboratory by India;

- iii. Clarify functions and avoid overlapping between different agencies (for example regulation of animal feed and veterinary drugs should be under the jurisdiction of the DLS).
- g. In the mid-term:
 - i. Form Food Agency under new Food Act with full authority to proclaim FSQ standards and enforcement thereof;
 - ii. Establish Nepali accreditation body for laboratory certification.
- h. Establish capacity for pest and disease risk lists and preparing and disseminating accepted SPS management for these risks, as well as SPS and surveillance systems.
 - i. Strengthen the capacity of the Plant Protection Center (PPC) to better carry out pest and disease surveillance activities, including: (i) crop pest surveillance and pest risk analysis; (ii) diagnostics and taxonomic identification; (iii) post-entry quarantine (PEQ) for seed and other propagative plant materials; and, (iv) response to plant pest and disease outbreaks.
 - ii. Plan and implement a sustained program of surveillance on priority crops, with scheduled completion dates. More robust taxonomic identification of survey specimens will be promoted (with regional support, and access to external support for difficult specimens) to expedite the diagnostics component of the survey. PPC staff will be given on-the-job training. Upgrade current laboratory and equipment.
- i. For animal health, adopt the *One Health Approach*, strengthening surveillance programs involves:
 - i. Enhance the National Animal Health Center (NAHC)'s TAD surveillance, diagnostic and response capacity. NAHC's ability to survey, test and respond to diseases of economic importance, emerging and reemerging including two priority diseases (FMD, CSF) will be strengthened in target areas with potential for production and exports. The main objective is to improve control of these diseases on a selective geographic basis, while simultaneously strengthening NAHC's generic surveillance and response capacity. Response for FMD and CSF outbreaks will utilize targeted vaccination and movement control measures.
 - ii. ADS will also support: (i) improved diagnostic capacity and testing (increased testing volumes based on upgraded NAHC equipment, refresher diagnostic training, etc); (ii) a surveillance program in target areas (based development on proper procedures, epidemiology staff training etc); (iii) more frequent and regular surveillance visits and public awareness campaigns; (iv) improved response capacity (and accessing vaccines from regional stockpiles).

4 COSTS AND EXPECTED BENEFITS

4.1 Approach to Cost Estimation

276. The costs to implement the ADS Action Plan for the first 10 years (2014-2034), are estimated to be \$3,301 million (Rs 294 billion) in total. This amount covers implementation of the 197 activities specified in the chapter 3. The activities are grouped and costs estimated under the 34 outputs the sets of activities are expected to produce. The costs reported in this chapter are the preliminary constant price estimates. After a more detailed review of the report new estimates will be provided, including indicative time sequence of major investments and bringing in inflation factors. The costs have mostly been estimated from the bottom up – including for example:

- Farmers’ production models (e.g. based on average farm size, cropping pattern and yield),
- Stakeholders’ existing plans (e.g. Department of Irrigation plans for surface irrigation expansion),
- Stakeholders’ aspirations of scale (e.g. agricultural extension services to 4,000 VDC)
- Statistics of rural population, women and disadvantaged groups,

277. Unit costs have been based on evidence from within Nepal, or if unavailable from a similar context abroad, for example:

- Historic costs (e.g. cost per hectare of irrigation constructed in completed or ongoing projects)
- Current prices (e.g. agricultural machinery)
- Normative costs (e.g. monthly salary for Junior Technician or government official)
- Specialist estimates (e.g. program for breeder seed multiplication)
- Generic estimates (e.g. training courses, or the cost to establish a research station)

278. The summary of ADS costs by component program is in Table 23.

Table 23: ADS Action Plan 10-year Cost Summary

OUTCOME	FANUSEP Flagship 1	DESTEP Flagship 2	VADEP Flagship 3	INAGEP Flagship 4	TOTAL FLAGSHIPS	CORE PROGRAMS	TOTAL	Percent
Governance	314	-	-	-	314	74	389	12%
Productivity	-	375	-	-	375	1,223	1,599	48%
Commercialization	-	-	766	-	766	226	992	30%
Competitiveness	-	-	-	180	180	142	322	10%
TOTAL USD million	314	375	766	180	1,635	1,666	3,301	100%
TOTAL Rs billion	27,021	32,274	65,837	15,489	140,621	143,258	283,879	
Percent	9.5%	11.4%	23.2%	5.5%	49.5%	50.5%	100.0%	

279. The approach taken to cost estimation and structuring of the activity-cost groups is based on a number of principles including:

- The unit costs need to be adequate for the envisaged activity to be completed;
- Similar activities and their costs are complimentary, not duplication;

- New initiatives, such as voucher scheme for agricultural inputs, are included as pilot project costs (i.e. costs for possible nation-wide expansion will be subject to performance assessment and is not included);
- The target output quantities are feasible, based on existing and anticipated improved capacity (e.g. technical offices recommended that 5km of agricultural roads per year in each district is a feasible rate of construction);
- Cost sharing mechanisms between public and private sectors, are not intended as ongoing subsidy, but will be limited-term measures intended to share initial capital requirements, support restructure, or to stimulate growth to a sustainable level (e.g. tax incentives for 3 years to promote agricultural mechanization industry, or matching grants for infrastructure);
- Contribution from private sector, farmers and cooperatives strengthens responsibility for achievement of outputs as well as sustainability of private goods and services;
- Costs of tax incentives are limited to the administrative cost of adjusting tax regulation, but do not include any estimate of revenue forgone, or revenue generated;
- Recurrent costs of government operation, such as existing staff costs are not included, whereas incremental staff costs are included (e.g. increased number of women junior technicians).

4.2 The Detailed Costs

280. Considering the costs for each of the 34 outputs that are grouped under the four outcomes, is a way to give more insight into which outputs and activities are more costly and which are less so (Table 27). Detailed costs for each of the 197 activities are included in Appendix 1, which is intended to be a guide that implementing agencies can use to when they subsequently carry out the detailed design and planning of ADS activities. The detailed costs also identify and quantify the outputs and required resource inputs for each activity. The quantities indicate the scale or scope, for example some activities are limited to central or agency level, while others are intended to be implemented in all 75 districts and 4,000 VDCs. These considerations will be relevant to Government and development partners in their portfolio planning, resourcing and execution.

281. Many of the activities in the Core Program are supporting the continuation of existing activities and plans of agencies. Some high cost items are obvious, for example under Core Programs: Productivity there is a large cost for implementing the irrigation plan because it is large scale (e.g. complete 80,000 ha of ongoing surface irrigation projects; the construction to date cost \$4,000/ha; total therefore \$320,000,000). Similarly for agricultural roads under Core Programs: Commercialization, although the cost estimate under ADS is to start with only 3,750km (50km per district), out of 23,000km requirement identified by MOAD, as this was considered feasible based on the construction rate achieved by MOAD and DOLIDAR in recent years. Strengthening coordination and participation under Core Programs: Governance, are supported with the cost of stakeholders getting to and conducting meetings to plan, coordinate, and review activities. While each coordination group is funded with only \$500 for a minimum of four meetings a year, the total may seem large because there are 75 district and five regional committees, and the funding is for 10 years.

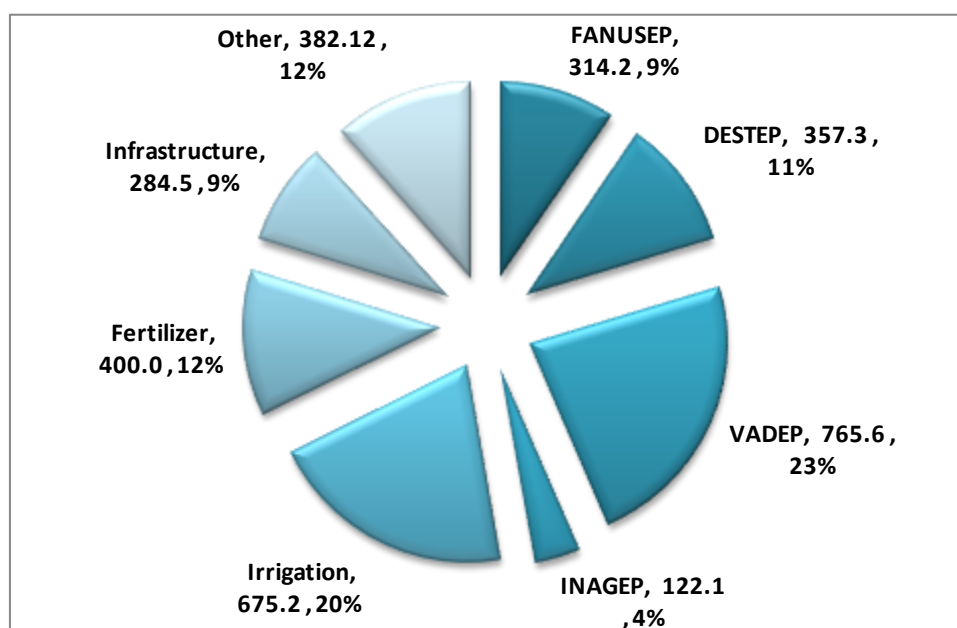


Figure 6 Composition of ADS Costs (\$ million, %)

4.3 Flagship and Core Programs: Complement not Duplicate

282. The activities and costs under Core Programs compliment the Flagship Programs, but have a different specific output target and scope. For example market infrastructure (Output 4.1), is obviously important for the five prioritized commodities in the Value Chains Development Program (VADEP), but market infrastructure is also required for other priorities also such as to construct a VDC multi-purpose market facility, or municipal wholesale market premises. Irrigation, roads, power and many other activities are similar. The cost structure is therefore intended to be complementary rather than duplication.

283. Flagship programs are mechanisms to bring together outputs and activities that involve multiple stakeholders and agencies. Some of the activities under Core Programs will complement the Flagship Programs. All of the activities under Governance will contribute to the success of the Flagship programs, while others may be more specific. For example VADEP, will develop the full value chain of lentils (and four other prioritized commodities). The value chain includes seed production, effective input supply, extension and advisory services to farmers, access to finance, mechanization, market infrastructure and processing capacity, taxation, contract and commercial legal arrangements, export promotion, and quality enhancement. While Core Programs have cost provision for many of these activities, VADEP provides resources earmarked specifically for the lentil value chain (and four other prioritized commodities). This ensures there are adequate resources allocated to successfully develop the lentil value chain (and four other prioritized commodities).

4.4 Financing by Private Sector, Community, Cooperatives and Farmers

284. Agriculture is an economic activity, and three of the four ADS outcomes involve private sector financial contributions to the activities. 'Private sector' in the economists' view includes the stakeholders that get a private benefit from an economic activity: therefore this includes any kind of private enterprise, company, cooperative, individual farmer, peasant, trader or laborer.

285. Financing arrangements for many of the ADS activities that generate economic activity include cost sharing or public-private partnerships. Overall the ADS expects \$594 million (Rs 51 billion) contribution from the private sector, which is 18 percent of the total ten-year cost (Table 24). The largest contributions from private sector are obviously for activities involving increased productivity and commercialization. Equally obvious, governance activities are fully financed by government. Many activities to enhance competitiveness are also government responsibilities such as trade and agri-food safety and quality regulation.

Table 24: Financing by Public and Private Sectors

ADS Action Plans		Costs USD million			
Outcome		Govt, Donor	Private, Community	Sub-total	percent
1	Governance	389	-	389	12%
2	Productivity	1,463	135	1,599	48%
3	Commercialization	613	378	992	30%
4	Competitiveness	242	80	322	10%
	TOTAL	2,707	594	3,301	100%
		82%	18%	100%	

4.5 ADS Costs and Government Budget for Agriculture

286. There has been some variation in budget expenditure allocation to agriculture over recent years. The most recent available data to compare with ADS cost estimates is the financial year 2011/12. This is the year that was used as basis for cost estimates (for example fertilizer, irrigation, and agricultural roads). Obviously some regulations have changed or been implemented more strongly, but these do not have substantial implications for the overall size of typical budget for agriculture. The MOF presents budgeted amount in different forms: by 'Economic Activity: Agency Allocation' (Table 25); by functional group; and other forms (e.g. by targeting to poverty, gender equity, etc.). We therefore use this budget to make some observations and comparisons with the costs of ADS.

Table 25: Agriculture Budget by Economic Activity - related agencies

Budget Head	Planned Expenditure Rs'000			Planned Expenditure USD		
	Recurrent	Capital	Total	Recurrent	Capital	Total
MOAC	11,045,798	1,385,286	12,431,084	128,439,512	16,107,977	44,547,488
MOFSC	3,675,572	1,610,755	5,286,327	42,739,209	18,729,709	61,468,919
MOLRM	1,476,947	506,705	1,983,652	17,173,802	5,891,919	23,065,721
MOI	874,801	9,153,583	10,028,384	10,172,105	106,437,012	116,609,116
Total	17,073,118	12,656,329	29,729,447	198,524,628	147,166,616	345,691,244

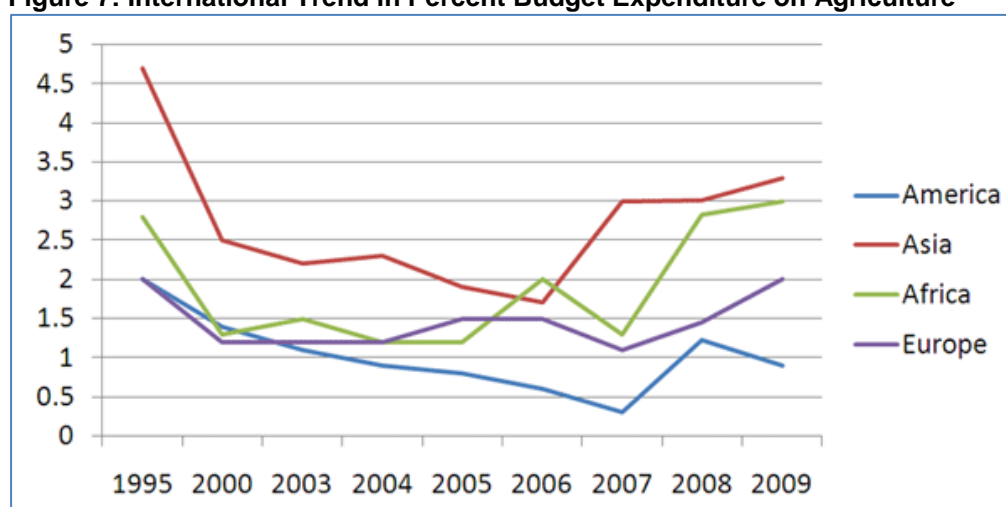
Source: Annexes to Budget Speech 2011, MOF 15 July 2011

287. ADS will have a slight impact on the overall government Budget. The 2011/12 Budget allocation was about Rs 30 billion (\$345 million) per year including both capital and recurrent

expenditure. The total is about 8% of total budget expenditure. The ADS will cost an average of Rs 28.4 billion/year (including Rs 5.1 billion funded by private sector and communities) which can be considered additional to the existing recurrent budget amount of Rs. 17.1 billion, except for two main items that are included in ADS as well as the 2011/12 Budget: (i) fertilizer subsidy (approximately Rs 3.4 billion (\$40 million)), and (ii) completion of ongoing surface irrigation schemes that have funding in place (approximately Rs 2.7 billion (\$32 million)). This implies an annual Budget for agriculture inclusive of ADS program (funded by government and donors) of about Rs 33.9 billion²³, increasing agriculture’s share of Budget from 8% to perhaps 9% of the total. The increase in the budget is probably manageable and represents only a 14.2%% increase relatively to the Budget 2011/2012.

288. Internationally, governments have increased spending on agriculture since food price crisis (Figure 7).

Figure 7: International Trend in Percent Budget Expenditure on Agriculture



Source: FAOSTAT online statistics database²⁴

289. ADS includes mostly capital, rather than recurrent expenditure. The amount of government budget that is recurrent and capital varies across agencies, but overall the majority of expenses are for recurrent functions. Expenditure by MOI is predominantly capital for construction and maintenance of irrigation infrastructure, while MOAD expenditure is predominantly for recurrent agricultural inputs (particularly fertilizer subsidy) and services. Capital expenditure is generally recognized as a driver of economic growth. ADS will provide capital, developmental expenditure, complementary to the current budget composition.

290. There is rationale and scope to increase the budget concentration on agriculture. Agriculture contributes about 32% of Nepal’s GDP and allocates 8% of its budget to agriculture. Dividing the agricultural budget by agricultural GDP gives a measure of the budget’s orientation to agriculture. In a rich country highly dependent on agriculture the ratio may be close to 1.

²³ This has been obtained as follows: Rs 17.1 billion (recurrent) + Rs. 28.4 billion (ADS program) – Rs. 5.1 billion (community/private sector funding) – Rs. 3.4 billion (fertilizer subsidies) – Rs. 2.7 billion (irrigation) = Rs. 33.9 billion. The latter two items (for fertilizer subsidies and irrigation) are also included in the ADS program costs and therefore excluded from double counting.

²⁴ Source: <http://www.fao.org/economic/ess/ess-economic/ess-expenditure/en/>

India has a much more diverse economy, but budget orientation of 0.54²⁵ compared to Nepal's 0.25. In a study of 11 countries in Asia²⁶, the budget orientation to agriculture was 1.5, far greater than in Nepal. While real budget expenditure in Asian countries grew by 4.4% between 1980 and 2002, the trend has been a decline in agriculture's share of government expenditure at a greater rate than decline in agriculture's contribution to GDP.

Table 26: International comparison of budget orientation to agriculture

Country	Agricultural GDP	Agricultural Budget	Budget Orientation to Agriculture
Nepal	32%	8%	0.25
India	14%	7.6%	0.54
Asia (11 countries)	6%	9%	1.50

Sources: Nepal: MOF. India: MOF. Asia: World Bank

291. Clearly the costs of ADS will require expenditure to be allocated across multiple agencies, and requires longer-term commitment than annual budget. Therefore the ADS will adopt a financing mechanism such as a Trust Fund, of which there are existing examples (e.g. Nepal Peace Trust Fund, Poverty Alleviation Fund). ADS will also follow Ministry of Finance reforms that allocate budget against agencies' approved multi-year business plans. The measures will facilitate an increase in the grant and loan financing of budget, which is currently around 24 percent.

292. Another issue for Nepal is whether the government – and private, cooperative and farmer partners – have the absorptive capacity for increased spending in agriculture. Effective governance is the critical factor in this issue, and ADS has prioritized governance, including strengthened mechanisms for stakeholder participation and consensus in planning and implementation, in the ADS design to improve absorptive capacity. At the January 2013 Nepal Portfolio Performance Review held by MOF, the need to improve absorptive capacity was apparent in sectors dominated by large projects, notably the energy sector. Agriculture and irrigation funded by ADB showed a ratio of contract award to disbursement of 83-90%. World Bank's disbursement ratio was heavily impacted by lack of stakeholder consensus in implementation of large projects, as well as the inability of the government to implement a full budget in 2012-2013.

²⁵ Source: Union Budget 2013-14, MOF India

²⁶ S. Akroyd and L. Smith, 2007. Review of Public Spending to Agriculture, DFID/ World Bank Study, Oxford Policy Management, London UK.

Table 27: ADS Action Plans Cost by Output and Proposed Implementing Agency

ADS ACTION PLANS			10-yr COSTS SUMMARY BY OUTCOME				
Outcome	Outcome		Implementation	Costs USD million			
	Output		Main Agency	Govt, Donor	Private, Community	Output total	Outcome total
1		Improved Governance		388.6	0.0		388.6
	1.1	Credibility of policy commitment	MOAD	2.4	0.0	2.4	
	1.2	Improved coordination in ADS implementation	NPC, MOAD	8.0	0.0	8.0	
	1.3	Integrated planning	NPC, MOAD	1.1	0.0	1.1	
	1.4	Effective implementation support	NPC, MOAD	7.0	0.0	7.0	
	1.5	Mechanisms established for gender equality and social and geographic inclusion	MOAD, MOCPR	21.5	0.0	21.5	
	1.6	Timely and effective monitoring and evaluation	MOAD	16.3	0.0	16.3	
	1.7	Mechanisms established for participation of civil society	NPC, MOAD	17.5	0.0	17.5	
	1.8	Enhanced capacity of key institutions involved in ADS coordination and implementation	NPC, MOAD	0.6	0.0	0.6	
	1.9	Improved food and nutrition security of most disadvantaged groups	MOAD	314.2	0.0	314.2	
2		Higher Productivity		1,463.4	135.3		1,598.7
	2.1	Decentralized agricultural extension services	MOAD/DESTEP	279.5	20.3	299.8	
	2.2	Decentralized agricultural research system	MOAD/DESTEP	52.6	0.0	52.6	
	2.3	Strengthened agricultural education system	MOAD, MoEDU/DESTEP	21.7	1.3	22.9	
	2.4	Adequately sized farms that use land efficiently and sustainably	MOLRM	8.0	0.0	8.0	
	2.5	Expanded and improved irrigation	MOI	590.5	84.8	675.2	
	2.6	Access to agricultural inputs	MOAD	0.6	0.0	0.6	
	2.7	Implementation of seed policies	MOAD	8.6	4.3	12.9	
	2.8	Fertilizer supply	MOAD, MOF	429.1	21.1	450.3	
	2.9	Improved animal breeds	MOAD	2.7	0.6	3.4	
	2.10	Mechanization options accessible	MOAD, MOCS	11.8	1.8	13.5	
	2.11	Improved resilience of farmers	MOAD, MOEnv	16.0	0.0	16.0	

ADS ACTION PLANS			10-yr COSTS SUMMARY BY OUTCOME				
Outcome	Outcome		Implementation	Costs USD million			
	Output		Main Agency	Govt, Donor	Private, Community	Output total	Outcome total
	2.12	Sustainable farming, GAP, and GVAHP adopted	MOAD, MOEnergy	4.3	1.3	5.5	
	2.13	Forestry development	MOFSC	38.1	0.0	38.1	
3		Profitable Commercialization		613.1	378.5		991.6
	3.1	Improved investment climate	MOAD, MOF	1.5	0.4	1.9	
	3.2	Contract arrangements for commercial agriculture	MOAD, MOCS	8.1	0.0	8.1	
	3.3	Tax policy to support commercial agriculture	MOF, MOAD	0.1	0.0	0.1	
	3.4	Agricultural finance and insurance	NRB, Insurance Board, MOAD	2.2	0.9	3.1	
	3.5	Competitive agricultural value chains	MOAD/VADEP	471.5	294.1	765.6	
	3.6	Rural roads network expanded	DOLIDAR, MOAD	67.1	65.6	132.8	
	3.7	Agricultural market information	MOAD	2.5	2.5	5.0	
	3.8	Rural electrification and renewable energies	MOEnergy	60.1	15.0	75.1	
4		Increased Competitiveness		241.6	80.4		322.0
	4.1	Market infrastructure developed	MOAD, MLD	38.7	37.9	76.6	
	4.2	Growth of small and medium agro-enterprises	MOAD/INAGEP	137.6	42.5	180.1	
	4.3	Growth of food and agricultural products exports	MOAD, MOCS	5.3	0.0	5.3	
	4.4	Enhanced food quality and safety	MOAD, MOH	60.0	0.0	60.0	
		TOTAL					3,300.9

5 IMPLEMENTATION ARRANGEMENTS

5.1 Introduction

293. The ADS is a comprehensive strategy based on four components related to improved governance, productivity, commercialization, and competitiveness. Each of these components includes outcomes, outputs, and activities that combined together will contribute to the achievement of the ADS vision: **“a self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth, and contributes to improved livelihoods, and food and nutrition security.”**

294. The agricultural sector spans across different agencies and includes multiple stakeholders. Therefore the implementation of the ADS requires the coordination of various agencies and stakeholders and innovative approaches to facilitate its successful execution.

295. Innovative approaches to implement the ADS are necessary given that the continuation of old ways is unlikely to yield the desired effects. The review and assessment of the agricultural sector has indicated a number of implementation constraints (lack of policy consistency, weak coordination, lack of integrated planning, weak implementation, etc) that were taken into account into the formulation of the ADS. Overall those constraints were part of governance issues. The ADS builds on the understanding of the governance issues and proposes a set of mechanism that will help overcome the constraints.

5.2 Traditional and Innovative Approaches

296. The implementation of the ADS will entail the combination of traditional and new mechanisms. The traditional way of implementing strategies and plans for the agricultural sector envisages an institutional framework whereby the National Planning Commission (NPC) provides overall policy coordination, the Ministry of Agricultural Development (MOAD) provides leadership in implementing agricultural programs, and related agencies support the implementation. For example, the Department of Irrigation (DOI) would be in charge of irrigation development, the Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR) is in charge of agricultural road, Department of Agriculture (DOA) and Department of Livestock Services (DLS) are in charge of agricultural and livestock extension, and Nepal Agricultural Research Council (NARC) is in charge of agricultural research.

297. The traditional way of implementing programs and plans has its own logic and rationale. However, in the traditional way coordination has been weak, partly because of the weak capacity of implementation agencies in policy formulation, integrated planning, policy monitoring, procurement, and financial management; and partly due to the new challenges arising during the process of agricultural transformation including migration, global value chains, food crises, and loss of agricultural land.

298. In the traditional way of implementing agricultural programs in Nepal, the key stakeholders of the agricultural sector, namely farmers, cooperatives, and private agroenterprises have often been left in the backstage of development, with the front stage taken by government agencies.

299. The traditional mechanisms offer useful lessons and guidance for the future; clearly NPC, MOAD, and other line agencies have an important role to play in the ADS and this role has to be acknowledged and strengthened. However, the traditional mechanisms are also limited in their implementation capacity and their relegation of key stakeholders (farmers, cooperatives, and private sector) in the back stage. More fundamentally, the traditional way of implementing agricultural policies and programs in Nepal has not produced the desired results of accelerated growth and poverty reduction.

5.3 Overview of the ADS Organizational Structure

300. A bird's view of the ADS implementation is presented in Figure 8. The implementation of the ADS requires the concerted effort of various institutions from the state, civil society, and development partners. The NPC will provide overall policy and planning coordination; its efforts will be reinforced by a high level ADS commission which will promote policy, administrative and legislative changes and facilitate resource mobilization through respective institutions. Key agencies such as MOAD and related ministries will implement core programs of the ADS. Their activities will be synergized by the establishment of four flagship national programs on food and nutrition security; value chain development; decentralized science, technology, and education; and innovation and agro entrepreneurship. Various committees such as NSC, CADIC at the national level, and RADC and DADC at the regional and district level will be promoting coordination of policies, programs, and projects. An ADS implementation support unit will provide capacity building and support services to the ADS Commission, implementing agencies, flagship programs, and coordination committees. Funding for the implementation of the ADS will be allocated and mobilized through an ADS Implementation Trust Fund (ATF).

301. The ADS proposes new mechanisms to improve implementation. The new mechanisms build upon the existing mechanisms and complement them, support them, and strengthen them. Specifically, in addition to the NPC, MOAD and other related agencies, the ADS implementation will rely on the combination of new organizations, national programs, and leading stakeholders. Linkages among the existing and new mechanisms are illustrated in Figure 8.

Box 1 The New ADS Mechanisms

Organizations

1. ADS Commission
2. Coordination Committees
3. ADS Implementation Support Unit (AISU)
4. ADS Implementation Trust Fund (ATF)

National Programs

1. Food and Nutrition Security Program (FANUSEP)
2. Decentralized Science, Technology, Education Program (DESTEP)
3. Value Chain Development Program (VADEP)
4. Innovation and Agro-entrepreneurship Program (INAGEP)
5. Core Programs

Leading Stakeholders

1. Farmer Organizations
2. Cooperative Organizations
3. Private Sector Organizations

302. A summary of the key actors and their role in the implementation of the ADS is provided in Table 28.

Table 28 Key Actors in the Implementation of the ADS

Actors	Role in the ADS	Comments
Prime Minister (PM)	Receives regular briefing about progress of the ADS from NPC and the ADS commission and addresses any issues that require high level solution.	<ul style="list-style-type: none"> Chief Guest at the annual ADS Conference.
NPC	Overall Policy Coordination Ensure integrated planning and budgeting of ADS	<ul style="list-style-type: none"> Report to PM
ADS Commission	A high-level commission to give high visibility and ensure implementation of the ADS by promoting policy, administrative, and legislative changes in responsible institutions, and facilitating resources mobilization through responsible institutions.	<ul style="list-style-type: none"> Five (5) members including: Secretary MOAD Commission Member ex-officio; VC NPC Commission Member; and 3 Commissioners at Minister Level Report to PM
NSC	Overall activities coordination of ADS through is sub-committees for <ul style="list-style-type: none"> Irrigation-Agriculture Agribusiness, Private Sector, Coops Civil Society/NGOs Research, Extension, Education Food Security and Nutrition Development Partners 	<ul style="list-style-type: none"> Chair by VC Secretary MOAD Commission Member ex-officio
CADIC	Overall coordination of agricultural activities at national level	<ul style="list-style-type: none"> Chair by Secretary MOAD
RADC	Overall coordination of agricultural activities at regional level	<ul style="list-style-type: none"> Chair by Regional Director
DADC	Overall coordination of agricultural activities at district level	<ul style="list-style-type: none"> Chair by DDC Chai Report to DDC
AISU	ADS Implementation Support Unit. Facilitates implementation of ADS through capacity building, communication activities, support services, and monitoring and evaluation support. It provides support to the ADS Commission, NSC and CADIC, and implementation agencies (Flagship Managers and line agencies). Reports to NPC	<ul style="list-style-type: none"> AISU Team established as a long term technical assistance team reporting to NPC and funded by Development Partners.
ATF		<ul style="list-style-type: none">
MOAD	Ministry of Agricultural Development. Lead the Implementation of the ADS. Secretary MOAD will be ex-officio Member Secretary of ADS Commission and NSC. Will chair CADIC and prepare ADS Annual Report. MOAD will be present in the board of all the ADS Flagship programs.	<ul style="list-style-type: none"> DOA, DLS, DFTQC; and NARC involved in the implementation of activities of the ADS
Other Ministries	Include MOI, MLD, MOCPR, MLRM, MOE, MOTS, MOInd, MOFSC, etc. They implement related policies, programs, and projects that need to be coordinated within the ADS.	<ul style="list-style-type: none"> Departments of related ministries (eg DOI, DOLIDAR, DOFSC, DOC, ...)
Other Agencies and Programs	Investment Board, PAF, CBS	<ul style="list-style-type: none"> Will coordinate with ADS programs
FANUSEP Flagship 1	Food and Nutrition Security Program. Helps coordinating programs on food and nutrition security and implementing projects such as NAFSP, FSNP.	<ul style="list-style-type: none"> MOAD, DOA, DLS, DDC
DESTEP Flagship 2	Decentralized Science Technology and Education Program. Helps establishing Community based Agricultural Extension Service Centers (CAESCs) in each VDC, strengthening existing agricultural/livestock service centers, restructuring	<ul style="list-style-type: none"> DESTEP established by Act as a professional society DESTEP manager selected competitively by Recruitment Committee established by ADS

Actors	Role in the ADS	Comments
	of NARC, strengthening agricultural education system, and supporting capacity building and training of professionals in the sector.	<p>Commission</p> <ul style="list-style-type: none"> Coordinates with implementing agencies NARC, DOA/DLS, Agricultural University,...
VADEP Flagship 3	Value Chain Development Program. Coordinates 5 value chain programs (maize, dairy, lentils, vegetables, tea), each program implemented by Value Chain Development Alliance (VCDA) through a Value Chain Development Fund (VCDF)	<ul style="list-style-type: none"> VADEP established by Act as a professional society VADEP manager selected competitively by Recruitment Committee established by ADS Commission CEOs of VCDA elected by Board VCDA registered as foundations
INAGEP Flagship 4	Innovation and Agricultural Entrepreneurship Program. Fosters agricultural innovation and agroentrepreneurship through the combination of tax incentives, agribusiness incubators, and matching grants.	<ul style="list-style-type: none"> INAGEP established by Act as a professional society INAGEP manager selected competitively by Recruitment Committee established by ADS Commission The main beneficiaries of this program will include private enterprises, cooperatives, and targeted groups including the youth, women, and disadvantaged groups.
Farmer Coalition	A coalition of farmer organizations with representatives from 7 major parties. They will have members in NSC, CADIC, Steering Committee of AISU, DADC, RADC, NARC, CAESC, Policy Review Panel of MOAD, and Steering Committee for the 5-year review of ADS; and they will ensure the presence of women representatives in those institutions.	<ul style="list-style-type: none">
National Federation of Cooperatives	They will have members in NSC, CADIC, Steering Committee of AISU, DADC, RADC, NARC, CAESC, Policy Review Panel of MOAD, and Steering Committee for the 5-year review of ADS; and they will ensure the presence of women representatives in those institutions.	<ul style="list-style-type: none">
FNCCI	They will have members in NSC, CADIC, Steering Committee of AISU, DADC, RADC, NARC, CAESC, Policy Review Panel of MOAD, and Steering Committee for the 5-year review of ADS; and they will ensure the presence of women representatives in those institutions.	<ul style="list-style-type: none">

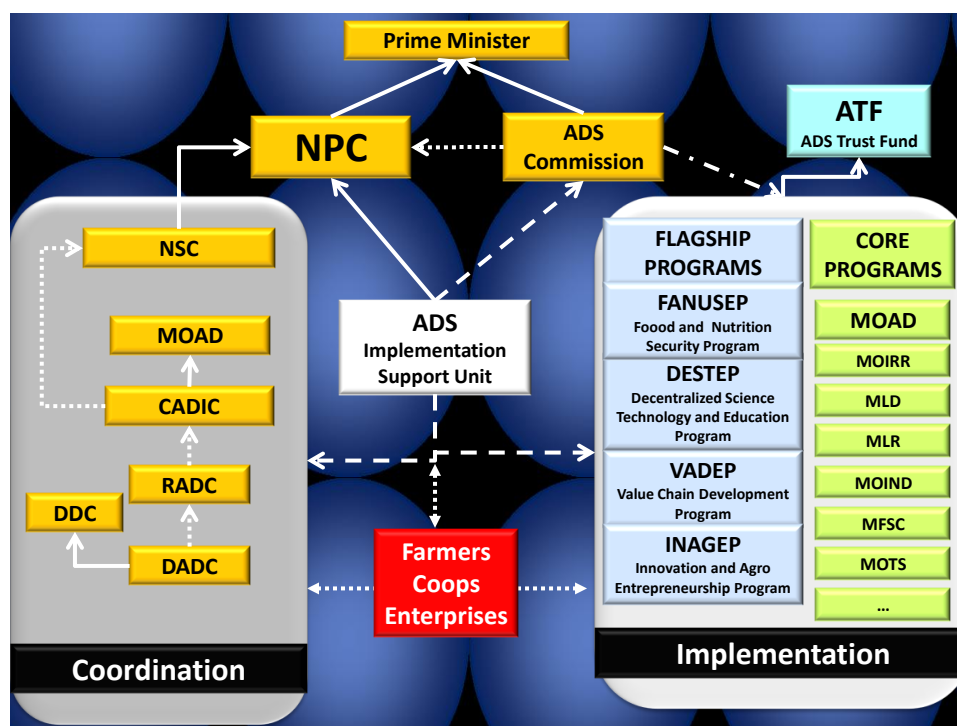


Figure 8 ADS Implementation and Organization Mechanisms

5.4 The Prime Minister

303. Agriculture, together with energy and tourism is generally recognized as one of the key economic engines of the nation. However, the contribution of agriculture to livelihoods and employment of the population surpasses that of any other sector of the economy. Its development is vital to the socioeconomic development of Nepal. Given this context, successive prime ministers of Nepal have strongly supported the ADS since its inception. During future implementation of the ADS the Prime Minister will receive regular briefings about the progress in implementation of the ADS from the NPC and the ADS Commission and address any issue that needs solution at the highest level. The Prime Minister will be the Chief Guest at the annual ADS Conference.

5.5 The National Planning Commission (NPC)

304. The NPC will be responsible for overall policy coordination of the ADS and integration and budgeting of periodic and annual plans consistently with ADS planning. The ADS Implementation Support Unit will report to it. The Vice Chair of NPC will also chair the National Support Committee (NSC), the highest coordinating body for the ADS, be a member of the ADS Commission, and be the chair of the Board of the ADS Implementation Trust Fund (ATF).

5.6 The ADS Commission

305. While the NPC is providing overall policy coordination and integrated planning, the ADS Commission will be following up the ADS implementation on a more regular basis. The ADS Commission is a high level commission that will ensure high visibility of the ADS, facilitate

coordination of different agencies, and promote policy, administrative, and legislative changes in implementation agencies consistently with the ADS principles and objectives.

306. The ADS Commission will consist of five (5) members including: three (3) Commissioners at Minister Level, the Vice Chair of NPC as Commission Member, and the Secretary MOAD as Commission Member Secretary ex-officio. The ADS Commission will report to the PM. The ADS Implementation Support Unit (AISU) will provide Secretariat services to the ADS Commission.

307. ADS Commissioners will (i) meet responsible agencies to monitor and assess progress of the ADS; (ii) highlight issues for coordination and solution at the highest level; (iii) identify policy, administrative, and regulatory changes required to assure progress in the implementation of the ADS; (iv) request relevant agencies to make the necessary changes; and (v) facilitate resource mobilization for implementation of national programs through an ADS Implementation Trust Fund.

308. The three commissioners (different from the two ex-officio members, namely the Vice Chair of NPC and the Secretary of MOAD) will be selected by the National Support Committee (NSC) members and recommended to the Government for their appointment. The three commissioners will be selected for a period of 5 years among professionals of high integrity and having in depth conceptual and working experience in the agricultural sector, experience in senior management position of public or private organization, and familiarity with agricultural policy and development partners practices. Commissioners convinced of immoral offence, and with financial or other interests that could hinder the smooth functioning of the Commission will not be considered for appointment.

5.7 NSC and its Subcommittees

309. The National Support Committee will coordinate the ADS at the national level through periodic meetings. The NSC Act will be amended to reflect an expanded composition including representatives of farmer organizations, private organizations, and cooperative organizations. The National Support Committee (NSC) is the national coordination committee of line agencies under the chairmanship of Vice Chairman (VC) of National Planning Commission. NSC will be strengthened through secretariat service provided by the ADS Implementation Support Unit (AISU) and will be enhanced with the establishment of the following NSC sub committees charged with improving the coordination of ADS relevant issues such as:

- a. Coordination between agriculture and irrigation extension (specifically between DOA and DOI)
- b. Coordination among public sector, private sector (e.g. Federation of Nepal Chambers of Commerce and Industry or FNCCI, Agroenterprise Center or AEC, agribusiness associations, associations of small and medium enterprises), cooperative sector (e.g. National Federation of Cooperatives), and farmer organizations (e.g. Peasants' Coalition)
- c. Coordination between government sector and non-governmental organizations/international non-governmental organizations (NGOs/INGOs)
- d. Coordination between government and development partners
- e. Coordination among Research-Extension-Education organization (NARC - DOA, DLS, DFTQC - University of Agriculture and Forestry, Colleges of Agriculture, Center of Vocation Education and Training)

- f. Coordination between Agricultural Development and Food Nutrition Security and Food Safety (MOAD and Ministry of Health-MOH, National Nutrition and Food Security Steering Committee-NNFSSC)

5.8 CADIC, RADC, DADC

310. The Central Agriculture Development Implementation Committee (CADIC) chaired by Secretary MOAD will periodically convene agencies involved in the implementation of agricultural programs and coordinate activities.

311. Similar coordination mechanisms exist at the regional level - Regional Agricultural Development Committee (RADC) coordinated by Regional Director Agriculture – and at the district level - District Agricultural Development Committee (DADC) chaired by DDC Chairman. All these mechanisms need to be strengthened and revitalized with support of the ADS Agricultural Support Unit.

312. Effective communication among DADCs, RADCs, and CADIC should be assured through periodic briefings from DADCs to the RADCs and CADIC. The ADS Implementation Support Unit (AISU) will facilitate these briefings.

313. The ADS will support regular meetings of CADIC, RADC, and DADC and dissemination of the meetings minutes through the services of the ADS Implementation Support Unit (AISU).

314. Annual ADS Report will be prepared by CADIC and submitted to NPC with the assistance of the ADS Implementation Support Unit (AISU).

315. Regulation will be enacted to allow for the composition of CADIC, RADC, and DADC to include representatives of farmers organizations, cooperative organizations, and private sector organizations.

316. The composition and functions of the RADC are likely to be considerably revised if and when a federalist structure will be approved by the Constitutional Assembly.

5.9 ADS Implementation Support Unit (AISU)

317. The implementation of the ADS requires coordination among different agencies and stakeholders, and policy, legal and analytical skills that are currently dispersed. Effective coordination in turn is the basis for effective planning and policy formulation and monitoring. A unit responsible to the National Planning Commission, endowed with policy, legal and analytical capacity, and assured of continuity at least over the first 7 years of the ADS will greatly contribute to bridging the gap between policy and implementation.

318. Functions of the AISU include:

- i. Provide capacity building in policy analysis and policy monitoring and integrated planning to relevant implementation agencies;
- ii. Support to develop system and database for ADS monitoring;
- iii. Support formulation and amendment of policies and regulations for implementation of the ADS;

- iv. Support formulation of integrated periodic plans (annual and 5-year plans, and revisions /updates of ADS plans);
- v. Provide secretariat services to the ADS Commission;
- vi. Support coordination mechanisms (NSC, CADIC, RADC, DADC) through facilitation of meetings and dissemination of minutes;
- vii. Support monitoring of the ADS including monitoring of related policies;
- viii. Facilitate implementation of national programs such as the ADS Flagship programs through advisory services to the Program Managers;
- ix. Support harmonization of Sector Policies with international commitments and guidelines;
- x. Help to develop and institutionalize a performance-based management system for ADS;
- xi. Collect and analyze data of strategic importance to ADS implementation as needed and in synergy with existing data collection systems; and
- xii. Coordinate development partner investments and programs to be in line with implementation of the ADS.

5.10 ADS Implementation Trust Fund (ATF)

319. A fund established to support the implementation of ADS. The rationale of the ATF is to ensure funding of ADS by GON and development partners and ensure monitoring of ADS funds. Funds in the ATF will be earmarked for the implementation of national programs specified in the flagship programs or core programs of the ADS.

320. Board. The ATF decisions are made by the ATF Board which is headed by Vice Chair of NPC and includes Secretary of MOF, Secretary MOAD, Joint Secretary Budget of MOF, Joint Secretary of IECCD at MOF, and Joint Secretary Planning MOAD (Member Secretary). Representative of the ADP (ADS Development Partners Support Group) is invitee to the Board meetings. The Board decides the allocation of funds available in the ATF to the implementation of ADS programs.

321. Technical Committee. The ATF Technical Committee will review ADS national programs proposal submitted by the agencies and managers of either core or flagship programs and assess whether the programs are in line with the overall ADS formulation. The Committee will submit the programs found consistent with the ADS to the Board for approval. The Committee is headed by Secretary of MOAD and includes the Joint Secretary of Planning of MOAD (as Member Secretary), and Joint Secretaries or related agencies such as NPC, MOI, MLD, and MOFSC. Technical experts from other agencies, including Development Partners may be invited to join specific committee meetings.

322. Flow of Funds. Once approved by the Board of ATF, funds will be channeled to core programs and flagship programs as follows. In the case of core programs, the funds will be channeled to the respective ministries responsible for the core programs; in the case of flagship programs, the funds will be channeled through MOAD which in turn will authorize the respective flagship program managers.

323. Funds will be disbursed, managed, and monitored by development results and consistently with reforms promoted by MOF in public financial management, public procurement, human resource management, and mutual accountability.

324. The advantages of the proposed ATF relatively to the current funding systems are that:
- i. Provides a mechanism to mobilize adequate funds for ADS implementation
 - ii. Avoids the existing fragmentation of funding in the agricultural sector
 - iii. Allows the implementation of a multiagency and multisector program
 - iv. Allows the implementation of national programs and the monitoring of those programs by development results
 - v. Introduces clear accounting and auditing for a multisector and multiyear program
 - vi. Facilitates the commitment of funds by GON and development partners

5.11 The Ministry of Agricultural Development (MOAD)

325. The MOAD leads the implementation of the ADS. The Secretary MOAD will be (i) Member Secretary of the ADS Commission, (ii) Member Secretary of the NSC; (iii) Chair of CADIC; and (iv) Board Member of the ATF. As chair of the CADIC, the Secretary MOAD will be responsible for preparing the ADS annual report. MOAD will nominate members in the boards of all the ADS Flagship Programs. The departments of MOAD (DOA, DLS, DFTQC) and NARC will be involved in the implementation of extension and research programs of the ADS. Moreover, MOAD and the departments will coordinate with other agencies and stakeholders in the implementation of other ADS programs that are not part of the flagship programs.

5.12 Other Ministries and Agencies

326. Other ministries involved in the implementation of the ADS (MOF, MOI, MOFSC, MoEDU, MoH, MOE, MLRM, MOCT, MoInd, etc.) will coordinate activities with the ADS through coordination bodies such as NSC and its subcommittees, and CADIC; and through implementation of joint programs (eg. MoEDU and MOAD will work together on the implementation of the DESTEP).

327. Other relevant agencies relevant to the implementation of the ADS include financial institutions (eg. Nepal Rastra Bank), Investment Board, Insurance Board, PAF, and Women Commission.

5.13 ADS Programs

328. The ADS will be implemented through two different types of programs: the Core Programs and the Flagship Programs. Both are essential to the success of the ADS. However, the mode of implementation of the two programs is different. The Core Programs are implemented mostly through existing agencies already in place at the ministry levels or department levels of agencies. The Flagship Programs on the other hand require different management structure in view of the innovative and multisector nature of their activities.

5.14 ADS Flagship Programs

329. The ADS envisages some prioritized programs around which could be mobilized sufficient consensus, resources, and effective management. These prioritized programs will be referred to as “ADS Flagship Programs”. The three flagship programs of the ADS are:

- i. Food and Nutrition Security Program (FANUSEP)

- ii. Decentralized Science, Technology, and Education Program (DSTEP)
- iii. Value Chain Development Program (VADEP)
- iv. Innovation and Agro-entrepreneurship Program (INAGEP)

5.15 Food and Nutrition Security Program (FANUSEP)

330. The Flagship Program FANUSEP aims at improving food and nutrition security of the most vulnerable groups. It consists of three subprograms: the National Food Security Project (NAFSP), currently been finalized as part of the GAFSP; the Food and Nutrition Security Plan of Action (FNSP), currently been finalized with assistance of FAO; and a new food and nutrition security project to be designed and implemented in the second 5-year period of the ADS action plan. The set of activities in this output are then complex subproject including NAFSP an FNSP.

331. The implementation of the program requires coordination between the national programs NAFSP and FNSP and other food and nutrition programs funded by development partners (such as Feed the Future funded by USAID, programs funded by WFP, and programs funded by GON and other development partners within the umbrella of the Multisector Nutritional Plan) to ensure that the most food insecure rural households and farmers are reached. The Program Manager of FANUSEP will report to the subcommittee on food and nutrition security of NSC (see section 5.7).

332. After the first 5-year implementation of the program, a review will be undertaken by the Program Manager of FANUSEP to assess lesson learned and design a new program on food security to make a major indent in reducing food insecurity and malnutrition.

5.16 Decentralized Science, Technology, and Education Program (DESTEP)

333. The Flagship Program DESTEP aims at decentralizing the extension and research system while fostering coordination of research, extension, and education in order to enhance responsiveness to farmers' and agroenterprises' needs.

334. The program will be implemented through a Program Manager selected through national competitive process. The DESTEP Manager will ensure coordination among NARC, DOA/DLS, and agricultural education institutions such as Agricultural Universities and Colleges and facilitate implementation of the activities related to the outputs of decentralized extension system, decentralized research system, and strengthened agricultural education system.

335. The decentralized extension system will include three main measures: (i) establishment of Community Agricultural Extension Service Centers (CAESC) in each VDC; (ii) strengthening capacity of existing and planned agricultural extension stations that will provide backstopping services to the CAESCs; and (iii) promoting a voucher system to empower farmers to access the best available extension and extension service providers. These measures have been explained in section 3.3. The following section expands on the implementation aspects related to the CAESC.

336. The funds required for implementation of the DSTEP will be pooled into a fund, the DSTEP (Decentralized Science, Technology, and Education Fund) that will be replenished through contribution of GON and Development partners. The DSTEP Manager will be responsible for submitting program proposals and budget to the ATF for approval. Funds from the ATF will be

channeled to the DSTEF and related implementation agencies such as NARC, DOA, DSL, Agriculture and Forestry University, and Agricultural Colleges.

5.16.1 Community Agricultural Extension Service Centers (CAESC)

337. Currently, the extension system under the management of the GON is organized through a network of Agricultural Service Centers (ASC) under the responsibility of DOA and Livestock Service Centers (LSC) under the responsibility of DLS. The network does not reach all the VDCs in the country. In total there are 378 ASC and 999 LSC. In Nepal there are 3754 VDC and 99 municipalities.

338. This limited number of service centers represents a constraint in reaching out the farmer population of Nepal. The limited number of service centers is aggravated by the limited resources available to carry out program and capacity building activities. As a result most of the VDC and farmers are not reached out by the national extension system. Furthermore, even when farmers are reached by the existing extension system, there is no guarantee that the local needs are adequately met by the existing system. The agroecological and socioeconomic diversity of Nepal is extraordinary and represents a challenge for any specific type of extension service provider to respond effectively to the needs of different types of farmers. Government extension service providers, NGOs providers, and private sector providers are able to meet the needs of only one part of farmers and agroenterprises in Nepal.

339. To remedy this situation, the ADS proposes a different approach and institutional framework. Building on the existing network of ASC and LSC, the ADS will support the creation of Community Agricultural Extension Service Centers (CAESC) that are fully owned and managed by the communities in each VDC and funded by the combination of resources from the VDC, cooperatives, private sector, and GON.

340. Each CAESC will be a society registered according to the Law; memberships is open to all farmers, agroenterprises, and agricultural extension service providers in the VDC, and their organizations; governance rules for the formation of a CAESC will be established by the DESTEP Program Manager to assure that representatives of different wards in each VDC and social and gender balance is assured in the Board of the CAESC.

341. As a Society, the CAESC will own and manage its own assets, hires its own staff, conduct meetings, formulate business plan, open a bank account, disburse funds, and audit accounts and review activities periodically. Governance rules will establish the composition of the board and the way board members are elected by the members of the Society. Membership fees will be decided by the General Assembly. The overall purpose of the Centers will be to facilitate extension services at the village level and to meet the demands and needs of the grassroots. The Centers will hire their own extension service providers (agricultural and livestock technicians or village extension workers) who will receive training and technical backstopping from the Government service centers in the districts or in the departments' appropriate units. The Centers might also organize additional capacity building to be obtained from other providers such as Agricultural University, Agricultural Colleges, or vocational schools. The Center might initiate direct MOU or contracts with projects, NGOs, or private service providers as well.

342. The funding of the CAESC will come from different sources: (i) own funding of members; (ii) VDC budget; (iii) central government budget (as seed funding); (iv) projects; (v) service fees or other economic activities initiated by the centers themselves.

343. The Centers might initially use the premises of local cooperatives, of VDC facilities, or any other available facility belonging to the members in order to conduct meetings. As the center grow both in membership and finance, they might acquire their own facilities.

344. The contribution of the ADS to the CAESC consists of an initial seed funding that is intended to leverage local resources. For each amount provided by the ADS as seed funding (up to a limit of Rs 10 lakh) for the establishment of the CAESC, the center has to match with an equal amount and give a convincing plan that it will continue its operations in the future. This matched amount could be sources by own sources, VDC funding, or any other funding that the community center might be able to source.

345. The CAESC will be entirely managed by the community according to governance rules that are clearly established at the outset. The center will hire its own staff to provide extension services. The staff will be trained by the government staff either at the nearest ASC/LSC or at training centers of the DOA/DLS. The CAESC will be linked to the ASC/LSC so that activities in each district can be better coordinated.

346. The approach requires awareness campaign and capacity building to support the establishment of CAESC. Guidelines for the establishment of the CAESC will be formulated by the Program Manager of the DESTEP.

347. The outcome will be a network of extension service centers that have the chance of reaching all VDC in the country, are totally managed by the communities and therefore more likely to be responsive to the diverse needs of the farming population, and be responsible for raising funds and therefore more sustainable.

5.16.2 Decentralized Research System

348. The decentralized research system will require restructuring of NARC, establishment of new national research institutes (eg a National Horticultural Research Institute) and the establishment of research stations in all regions, including the far western region. NARC will act as the apex institution in national agriculture research system, a policy body to coordinate, facilitate, consolidate, monitor and evaluate research projects, fund research projects and promote research linkages at national and international levels. National research institutes and Regional Agricultural Research Stations (RARS) under NARC will act as the implementing bodies for carrying out research, training and managing human resources and institutions as indicated in the NARC proposed structure. The ADS will promote the establishment of National Agriculture Research Fund (NARF) integrated with NARC. The existing NARDEF will be merged with NARF. NARF will fund action research projects to be conducted by public, private, and NGO organizations to meet the demand of farmers and agroenterprises.

349. In addition to the existing National Agriculture Research Institute (NARI) and National Animal Science Research Institute (NASRI), ADS will help to establish the National Horticulture Research Institute (NHRI), the National Animal Health Research Institute (NAHRI) and the National Aquaculture and Fisheries Research Institute (NAFRI). ADS will also support the

establishment of Agricultural Research Stations at different agroecological zones (high hills, mid hills, and terai) in the Far Western Region to complement the recent decision to transform the Agricultural Research Station in Doti into a Regional Agriculture Research Station (RARS) in Far Western Region. The ADS will support establishment of Agriculture Mechanization Centers in the terai (2), mid hills (1), and high hills (1) within existing research centers. The ADS will promote the consolidation of research stations and programs that are physically located in the proximity and perform similar research activities. It will reduce administrative cost and duplication of resources especially operational expenses. The ADS will help to establish functional linkages with educational institutions and with the extension service for the availability and sharing of their facilities including for educational purpose.

5.16.3 Integration with the Agricultural Education System

350. The integration with the agricultural education system will include support to the Agriculture and Forestry University, creation of a department of agribusiness in that university, capacity building of vocational schools and support to the establishment of regional agricultural colleges. Additional measures to ensure closer integration with research and extension include joint educational and research programs with NARC institutes, joint extension programs with departments and district officers, joint educational programs with CAESC, identification of innovative ways for the Agriculture and Forestry University and the Agricultural Colleges to partner with the private sector (example renting/leasing facilities, training to private/community organizations).

351. Accelerated growth of agricultural sector depends on various factors, among which education plays a key role in improvement total factor productivity. Underinvestment in this sector will slow down the capacity of Nepal to meet the challenges of agricultural transformation. For too long the agricultural education in Nepal has been left languishing and underinvested. To ensure growth of the agricultural sector, this declining trend investment in agricultural education has to be reversed.

5.17 Value Chain Development Program (VADEP)

352. The Flagship Program VADEP aims at developing competitive and inclusive value chains of national importance. A market for the poor approach (M4P) will be applied to the prioritized value chains. Priority will be given to a very limited number of value chains (5 value chains) selected through a process that takes into account the following criteria: (i) Poverty reduction potential; (ii) Growth potential (or potential for increasing growth and access); (iii) Intervention potential; and (iv) Cross-cutting issues such as social inclusion and gender, environmental sustainability, matching with national and regional strategic priorities, balance of trade (import substitution and export), and geographical spread. The prioritized value chains (likely to include maize, dairy, vegetables, lentils, and tea) will be developed through comprehensive and integrated measures that result in strengthened value chain linkages, increased PPP investment and value added with sector impact.

353. Differently from other value chain interventions in Nepal, the VADEP will have the following innovative features: (i) will be looking at and developing all the stages of the value chain, from seeds to final products, from production to processing, from market infrastructure to access roads and connectivity, from postharvest technology to quality assurance and exports; (ii) will strengthen linkages among associations of farmers, traders, processors, input providers

and other value chain actors in order to ensure effective investment; (iii) will aim at replication and linkages beyond the district and achieve national impact; and (iv) will work not only with one district or department but across districts and departments.

354. The Manager of VADEP will be recruited through national competitive process. S/he will coordinate with the CEOs of specific Value Chain Development Alliances (VCDAs) to implement the specific value chain programs. The VADEP Manager will be responsible for submitting program proposals and budget to the ATF for approval. Funds from the ATF will be channeled to the VCDA. The VADEP Manager will assure overall M&E of the program.

5.17.1 Value Chain Development Alliances (VCDA)

355. The Value Chain Development Alliances (VCDA) are societies registered according to the law, owned by key industry representatives including farmers and their associations, entrepreneurs, input providers, logistics operators, warehouse managers, cooperatives, and other value chain actors. The commonality of all the actors is that they are all engaged commercially on a specific value chain and are interested in promoting its commercial development while contributing to poverty reduction.

356. Each VCDA will have access to a Value Chain Development Fund (VCDF). The members of the VCDA will nominate a Board according to the law and the Board will select the CEO to manage the operations of the program. The Board will include 6 elected members and 5 non-elected members. The non-elected members will be nominated by GON and include representatives from MOAD, MOI, MLD, FNCCI, and NRB. The Board will be chaired by one of the elected-members. The Management will prepare a business plan and an investment plan, to be approved by the Board. The operations of the VCDA will be audited according to the law. Moreover, they will also be audited according to regulations of the Development Partners supporting the VCDF.

5.18 Innovation and Agroentrepreneurship Program (INAGEP)

357. The Flagship Program INAGEP aims to foster agricultural innovation and agroentrepreneurship through the combination of tax incentives, agribusiness incubators, and matching grants. The main beneficiaries of this program will be private enterprises, cooperatives, and innovative entrepreneurs from targeted youth, women, and disadvantaged groups.

358. The program will be implemented through a Program Manager selected through a national competitive process. The INAGEP Manager will facilitate the growth of innovative small and medium agroenterprises improved tax incentives, establishment of agribusiness incubators, and matching grants.

359. The funds required for implementation of the INAGEP will be pooled into a fund, the INAGEF (Innovation and Agroentrepreneurship Fund) that will be replenished through contribution of GON and Development partners. The INAGEP Manager will be responsible for disbursements of funds from the INAGEF to the agribusiness incubators and the matching grant fund managers. The INAGEP Manager will be responsible for submitting program proposals and budget to the ATF for approval. Funds from the ATF will be channeled to the INAGEF.

5.19 Leading Stakeholders: Farmers, Cooperatives, and Private Sector

360. In addition to the public sector, the leading stakeholders in the ADS will be the farmers, cooperatives, private agroenterprises, and their organizations (eg the Peasants' Coalition, the National Cooperatives Federation, the Seed Entrepreneurs Association, the Dairy Industry Association). There are similar organizations at the district level and in the case of farmers and cooperatives at the VDC level. Moreover, there are national and local commodity organizations or trade organizations. Farmers in the ADS include both commercial farmers and subsistence farmers; smallholders and marginal farmers. Agroenterprises include micro, small, and medium enterprises. Most farmers are women.

361. The ADS success depends on the participation and the ownership of farmer organizations, cooperative organizations, and private sector organizations. Differently from previous strategies for the agricultural sector, the ADS has involved farmer organizations in the formulation stage and will continue to involve them during implementation, monitoring, evaluation, and periodic reviews.

362. The leading ADS stakeholders have the rights to:

- Participate and influence the ADS policy and investment decisions
- Participate in the monitoring of the ADS
- Access to information related to ADS planning, implementation, and monitoring

363. At the same time, the leading ADS stakeholders have the duty to:

- Contribute to the solution of the problems encountered during formulation and implementation of the ADS
- Contribute to accelerating the process of decision making regarding the ADS

364. The rights of the leading stakeholders in the ADS are institutionalized as follows. Representatives of Farmer Organizations (FO), Cooperative organizations (COO), and Private Sector Agroenterprise Organizations (PSO) will be members of the ADS key decision and coordination bodies that oversee the formulation, planning, implementation, and monitoring of the ADS including:

- i. NSC and CADIC
- ii. NSC Subcommittees related to the ADS
- iii. Steering Committee of the ADS Implementation Support Unit
- iv. DADC and RADC
- v. NARC Board
- vi. Governing Body of the CAESC
- vii. Policy Review Panels organized to review the formulation of new policies under the proposed new Policy Analysis Division at MOAD
- viii. Steering Committee for the periodic 5-year Review, Evaluation, and Updating Committee of the ADS.

365. Given the majority of farmers in Nepal being women, the ADS would encourage farmer organizations, cooperative organizations, and private sector organizations to have women representatives participating in these coordination, monitoring, and decision bodies.

5.20 Civil Society Organizations

366. In addition to the public sector, private sector, cooperative sector, and farmer organizations, other civil society organizations will be key stakeholders in the ADS. Among these other key stakeholders it is worthwhile to mention:

- Service providers such as NGOs and professional organizations such as (...)
- Women organizations
- Dalit organizations
- Janajati organizations
- Consumers organizations
- Professional organizations (such as)
- Association of VDC...
- Media

367. In several cases, the ADS structure recognizes explicitly their role. For example, NGOs and INGOs coordination with the ADS is the main focus of the related NSC subcommittee. Implementation of several activities of the ADS including social mobilization of farmers, extension services, and awareness campaigns will be conducted through NGOs/INGOs. Extension services might also be provided by professional organizations such as the Agricultural Association, the Veterinary Association, the Agricultural Technicians Association, and the Paravet Association. Media will be regularly briefed by the spokesperson of ADS at the MOAD, particularly after the meetings of CADIC at the central level, and after meetings of RADS and DASC at the local level; the media will also be invited to access information through information desks and regular workshops and conferences.

6 ROADMAP AND NEXT STEPS

368. The ADS provides a strategy for the next 20 years agricultural transformation of Nepal. This is a long period during which inevitably great changes will occur. The ADS provides a framework for the development of the agricultural sector that will need to be improved and updated several times during this period.

369. As in most other journey, the first steps are the most important. To embark on the ADS road, several conditions have to be satisfied for the journey to be a successful one. These include:

- i. Government commitment
- ii. Policies and Regulations for ADS Implementation in place
- iii. Consensus of key stakeholders
- iv. Development partners support

370. Each of these conditions needs to be verified through observable indicators. The following section will explain the methods of verification of the initial necessary conditions for the ADS success.

6.1 Government Commitment

371. Government commitment to the ADS will be gauged by three main indicators, related to finance, legislation, and institutions. In particular:

- i. **Medium term budget commitment.** Section 4 of this report has provided an initial estimate of the program costs of the ADS over the next 10 years. The cost represents a slight increase over the existing budget. The commitment is therefore not only in terms of the amount, but also in terms of medium-term program, so that sufficient planning horizon and security of program finance can be established to motivate stakeholders and promote private investment and development partners' commitment.
- ii. **Tenure of key positions.** Some of the key positions in the implementation of the ADS, including ADS Commissioners, National Program Managers, and senior civil servants involved in the ADS should secured sufficient length of tenure to carry out their functions properly. This might require policy or regulations to be formulated and enacted.
- iii. **Establishment of key units.** The ADS Commission, the ADS Implementation Trust Fund (ATF), the Coordination sub-committees of NSC, and the ADS Implementation Support Unit (AISU) need to be established to ensure implementation of the ADS.

6.2 Policies and Regulations for ADS Implementation

372. ADS implementation requires formulation and approval of various policies and regulations. Some of these policies and regulations need to be enacted at the early stages for the ADS, particularly those related to the governance dimension (see Table 29).

Table 29 Examples of Policies and Regulations needed for Implementing the ADS

Governance	Productivity	Commercialization	Competitiveness
1. Tenure of key positions	1. CAESC	1. Contract	1. Innovation Funds
2. Composition of NSC and Subcommittees	2. NARC restructuring	2. Value Chain Programs	2. Quality and Safety regulations
3. Composition of CADIC, RADC, DADC	3. Dept Agribusiness Agricultural University and Ag Colleges	3. Insurance	3. Food safety law
4. ADS Information desks	4. Vouchers for extension and input	4. New Financial Products	...
5. ADS Implementation Support Unit (AISU)	5. Land Leasing	...	
6. ADS Commission	...		
7. ADS Implementation Trust Fund (ATF)			
...			

6.3 Consensus of Key Stakeholders

373. As a key national strategy for the next 20 years, the implementation of the ADS cannot be just a technocratic or bureaucratic exercise. The strategy aims to accelerate inclusive and sustainable growth of the agricultural sector and to smooth the agricultural transition of Nepal. As such, its implementation cannot even be conceived without the presence of a substantial consensus among the key and leading stakeholders: the government, the farmers, the private sector, the cooperative sector, and the major political and social forces.

374. In a very diverse and increasingly open society like Nepal, there is a vigorous debate about different approaches to development planning, implementation, and resources allocation. Given the very diversified nature of society and political opinions, the ADS will be constantly debated and at times its implementation might be slowed down by a wide divergence of opinions.

375. The condition to start implementation of the ADS however is not the utopist situation in which there will be full consensus about all the measures proposed in the action plan and roadmap. For the ADS to proceed, it is important to have maximum, even though not unanimous consensus about the approach, vision, and measures proposed for implementation.

376. In order to assure this consensus it is important to have a pledge by the leading stakeholders that indeed they are supporting the implementation of the ADS and commit to contribute to the solution of problems that inevitably will be encountered during implementation.

6.4 Development Partners Support

377. The ADS provides an overall strategy for improving coordination between GON and development partners in the field of agricultural development. A strong commitment to the ADS by the GON and leading stakeholders together with a well organized and reasonable strategic approach can provide reassurance among the donor community that investment in the

agricultural sector might lead to the desired development outcomes. If that is the case, then a pledge of multiyear commitment to the ADS Implementation Trust Fund (ATF) might again contribute to improve funding and delivery mechanisms of the ADS.

6.5 Early Milestones of the ADS

- Before GON Approval
 - Finalize ADS document
 - Extension awareness campaign about the ADS at the central and local level
 - Pledged consensus of key stakeholders
 - Indicative support by development partners
- During First Year of Implementation
 - Commitment by GON to mid-term support of the ADS
 - Acts for Coordination Committees, ADS Commission, ATF and Flagships
 - Establish AISU, ADS Commission, ATF, Coordination Committee
 - Guidelines for Implementation
 - Recruit Program Managers for ADS Flagships
 - Budget allocations to ATF

6.6 Monitoring and Evaluation of the ADS

378. The ADS needs to be monitored regularly, professionally, and in a participative manner. Monitoring divisions and units will be established at the Ministry level and department levels and will be provided support and capacity building by the ADS Implementation Support Unit.

379. In addition to project and program monitoring, the ADS will require regular policy monitoring. Monitoring will need to go beyond inputs and output monitoring but include outcomes and impact monitoring according to the targets and design monitoring framework of the ADS programs. Monitoring reports should be publicly available both in Nepali and English and discussed regularly at national and local events.

6.6.1 Linking Monitoring to Good Performance

380. Monitoring should also identify good performance and link performance to reward. The monitoring system should at the minimum be able to trace indicators at the district level for agricultural production, agricultural income, disbursement, satisfaction of beneficiaries, progress in implementation, etc.

381. Based on observed indicators of good performance, a reward to the best 10 performing DADOs or DLSOs will be provided every year, provided that their performance is above the set minimum threshold. An **ADS Good Performance Fund (AGOPEF)** might be established and managed by the AISU initially on a pilot basis and be replicated and institutionalized in case of positive results.

6.7 ADS as a Living Strategy

382. ADS is a living strategy owned by the GON and the ADS leading stakeholders. Through regular monitoring and periodic review and evaluation, the details of the ADS will continuously

evolve and improve. An external 5-year review of the ADS will be commission and widely discussed by government and civil society.

6.8 Next Steps in the ADS TA

383. After submission of the draft Action Plan and Roadmap Report, MOAD will organize a number of peer-reviews and professional review of the document which will be given to the TA Team by May 15, 2013. These comments will allow the ADS TA Team to finalize the report by May 30, 2013.

384. The finalized Action Plan and Roadmap Report will provide the basis for the ADS TA Team to prepare the Draft ADS Final Report by June 7, 2013 which again will be reviewed by the MOAD and related agencies by June 15, 2013, and finalized by the ADS TA Team by the end of June 2013.

APPENDIX 1. COST OF ACTIVITIES IN THE ADS ACTION PLAN

Logframe Reference				Description	Responsible Institution		Resources					Comments	
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total		
								Govt, Donor	Private, Community	Activity Cost			
								Source					
1								388,600,000	0		388,600,000		
	1.1										2,400,000		
		1.1.1		Improved Governance	MOAD								
		1.1.1		Credibility of policy commitment	MOAD policy division	MOAD policy division	campaign	750	375,000		375,000		10 annual campaigns in 75 districts
		1.1.2		Conduct awareness campaigns on ADS	CADIC, NSC	ADS Support Unit	program funds	10	200,000		200,000		annual results monitoring
		1.1.3		Ensure ADS monitoring covers issues of policy consistency and program continuity	MOAD policy division	NPC	Official person month	5	25,000		25,000		regulations
		1.1.4		Formulate and enact regulations to facilitate longer tenure for key ADS positions	NPC	ADS Support Unit	program funds	2	200,000		200,000		5 yr review
		1.1.5		ADS 5-yearly review	ADS Commission		Commission Funds	10	1,600,000		1,600,000		10 year cost
		1.1.5		Promote policy and legislation changes to ensure implementation of the ADS									

Logframe Reference				Description	Responsible Institution		Resources					Comments	
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total		
								Govt, Donor	Private, Community	Activity Cost			
													Source
	1.2			Improved coordination in ADS implementation	NPC	MOAD					8,010,000		
		1.2.1		Formulate amendments of the regulations for the establishment of NDC and CADIC	NPC	MOAD	Official person month	2	10,000		10,000		regulations
		1.2.2		Strengthen the capacity of National Support Committee (NSC)	NPC	MOAD	program funds	10	500,000		500,000		10 yr operating costs
		1.2.3		Establish subcommittees of NSC and ensure they meet regularly	NPC	MOAD	program funds	60	3,000,000		3,000,000		6 subcommittees, 10 yrs
		1.2.4		Strengthen the capacity of Central Agricultural Development Implementation Committee (CADIC)	NPC	MOAD	program funds	10	500,000		500,000		10yr CADIC operation
		1.2.5		Promote similar meetings of the RADC and DADC	NPC	MOAD	program funds	800	4,000,000		4,000,000		5 RADC and 75 DADC, 10 yr operations
		1.2.6		Prepare Annual Sector Report	NPC	MOAD					-		Costed under ADS Implementation Support Unit
		1.2.7		Develop ADS Implementation Guidelines and Monitoring System	NPC	MOAD					-		Costed under ADS Implementation Support Unit
	1.3			Integrated planning	NPC	MOAD					-	1,100,000	
		1.3.1		Ensure integration of multi-ministry plans	NPC	MOAD	Official person month	10	50,000		50,000		Regulation, annual

Logframe Reference				Description	Responsible Institution		Resources					Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total	
								Govt, Donor	Private, Community	Activity Cost		
								Source				
		1.3.2	Ensure integration of long-term plans with annual workplans and budget	NPC	MOAD	Official person month	10	50,000		50,000		Regulation, annual
		1.3.3	Ensure regular monitoring of plans	NPC	MOAD	program funds	20	1,000,000		1,000,000		Committee operations
	1.4		Effective implementation support	NPC	MOAD						7,040,000	
		1.4.1	ADS Implementation Support TA under NPC to facilitate implementation	NPC	MOAD	TA project	1	7,040,000		7,040,000		
	1.5		Mechanisms established for gender equality and social and geographic inclusion	MOAD	MOCPR						21,500,000	
		1.5.1	Strengthening of the Gender Equity and Environmental Division (GEED)	MOAD		Full-time staff yrs	20	1,000,000		1,000,000		2 staff, 10 yrs
		1.5.2	Generation and maintenance of national level GESI-based and geographic inclusion-based statistics	MOAD		program funds	10	500,000		500,000		10 yr funding
		1.5.3	Establishment and strengthening of GESI staff at central department and at district level agencies	MOAD		Full-time staff yrs	80	2,400,000		2,400,000		75 district and 5 department staff; 10 yrs
		1.5.4	Enhancement of qualitative and quantitative aspects of participation of men and women farmers	MOAD		program funds	10	1,000,000		1,000,000		10 yr funding

Logframe Reference				Description	Responsible Institution		Resources					Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total	
								Govt, Donor	Private, Community	Activity Cost		
								Source				
		1.5.5	Making the agricultural extension service GESI responsive in all districts	MOAD		program funds	750	15,000,000		15,000,000		75 districts; 10 yrs
		1.5.6	Improvement in access of farmers	Farmer s' Coalition	MOAD	TA project	1	500,000		500,000		Implemented by Farmer Coalition
		1.5.7	Promotion of GESI responsiveness in agricultural research	MOAD	NARC	program funds	10	1,000,000		1,000,000		10 yr funding
		1.5.8	Develop a GESI strategy	MOAD	UN Women	TA project	1	100,000		100,000		
	1.6		Timely and effective monitoring and evaluation	MOAD							16,250,000	
		1.6.1	Strengthen the capacity of Monitoring and Evaluation units of central and district level	MOAD		program funds	80	4,000,000		4,000,000		75 districts and 5 departments; 10 yrs
		1.6.2	Establish an appropriate methodology and system to carry out systematic ADS monitoring and evaluation	MOAD		TA project	1	500,000		500,000		
		1.6.3	Pilot a system to link monitoring to good performance	MOAD	AISU	program funds	1	1,000,000		1,000,000		Reward with \$5000 each of 20 best performing district offices every year
		1.6.4	Monitoring and Evaluation of Food and Nutrition Security	MOAD	WFP	program funds	10	750,000		750,000		10 yr funding; \$75,000/yr

Logframe Reference				Description	Responsible Institution		Resources					Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total	
								Govt, Donor	Private, Community	Activity Cost		
		1.6.5		Conduct Agricultural and Livestock Census	Central Bureau of Statistics	Statistics Division, MOAD	program funds	1	10,000,000		10,000,000	
	1.7			Mechanisms established for participation of civil society	NPC	Farmer Organization, MOAD					17,500,000	
		1.7.1		Establish and maintain an ADS website both in Nepali and English	MOAD		program funds	10	250,000		250,000	10yr funding
		1.7.2		Establish an ADS Information Desk under the Planning Division	MOAD		program funds	10	750,000		750,000	10yr funding
		1.7.3		Establish similar ADS information desks at districts	MOAD		program funds	750	15,000,000		15,000,000	10yr funding
		1.7.4		Periodic presentation of ADS Monitoring and Evaluation Report to civil society	MOAD		program funds	750	1,500,000		1,500,000	10yr funding
	1.8			Enhanced capacity of key institutions involved in ADS coordination and implementation	NPC	MOAD, all other partners	TA project	1	600,000		600,000	600,000
		1.8.1		Capacity needs assessment	NPC	MOAD, all other partners					-	included in TA project
		1.8.2		Formulate a plan of capacity building of key institutions	NPC	MOAD, all other partners					-	included in TA project

Logframe Reference				Description	Responsible Institution		Resources					
								Costs USD				
								Source				Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Govt, Donor	Private, Community	Activity Cost	Sub-total	
		1.8.3	Implementation and monitoring of capacity building	NPC	MOAD, all other partners					-		included in TA project
	1.9		Improved food and nutrition security of most disadvantaged groups								314,200,000	
		1.9.1	Design a targeted national food and nutrition security program	FANUSEP Manager		TA project	1	600,000		600,000		
		1.9.2	Implement a targeted food and nutrition security program	FANUSEP Manager		program funds	1	156,000,000		156,000,000		
		1.9.3	Implement NAFSP	MOAD		program funds	1	66,000,000		66,000,000		
		1.9.4	Implement FNSP	MOAD		program funds	1	90,000,000		90,000,000		
		1.9.5	Coordinate with ongoing food and nutrition security projects	FANUSEP Manager		program funds	10	1,000,000		1,000,000		10 years of Project Management office
		1.9.6	Review of NAFSP, FNSP, and other food and nutrition security projects	FANUSEP Manager		TA project	1	600,000		600,000		

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD				
							Source					
							Govt, Donor	Private, Community	Activity Cost	Sub-total		
2			Enhanced productivity				1,463,420,000	135,325,000		1,598,745,000		
	2.1		Decentralized agricultural extension services	DESTEP Manager	DOA, DOLS, CAESC					299,760,000		
		2.1.1	Establish Community Agricultural Extension Service Centers	DESTEP Manager	DOA, DOLS, CAESC							
		2.1.1.1	Formulate general guidelines for CAESC	DESTEP Manager	DOA, DOLS, CAESC	TA international person month	3	60,000	-	60,000		
		2.1.1.2	Awareness campaign about the initiative	DESTEP Manager	DOA, DOLS, CAESC	campaign	4,000	2,000,000		2,000,000	Campaigns in 4000 VDC	
		2.1.1.3	Capacity building to support establishment of the CAESC	DESTEP Manager	DOA, DOLS, CAESC	training course	160	320,000		320,000	Each training course is 25 persons; 1 person per VDC; 4000 VDC	
		2.1.1.4	Seed money for establishment of CAESC	DESTEP Manager	DOA, DOLS, CAESC	match grant	4,000	20,000,000	20,000,000	40,000,000	\$10,000 per CAESC 50:50 financing	
		2.1.1.5	Training of CAESC extension technician	DESTEP Manager	DOA, DOLS, CAESC	training course	640	1,280,000		1,280,000	4 trainings each VDC, 25 person/course 4000 VDC	
		2.1.1.6	Technical backstopping of CAESC	DESTEP Manager	DOA, DOLS, CAESC	technician visit	160,000	16,000,000		16,000,000	4 visits/yr, 4000 VDC	

Logframe Reference			Description	Responsible Institution		Resources							
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD				Comments	
			Govt, Donor					Private, Community	Activity Cost	Sub-total	Source		
		2.1.1.7	External monitoring of CAESC	DESTEP Manager	DOA, DOLS, CAESC	technician visit	160,000	16,000,000		16,000,000		5 visits/yr, 4000 VDC	
		2.1.2	Strengthen capacity of agricultural service stations	DESTEP Manager	DOA, DOLS, CAESC								
		2.1.2.1	Training, workshops, study tours for technicians	DESTEP Manager	DOA, DOLS, CAESC	training course	10,000	20,000,000		20,000,000		5000 JTA, 50 training courses, 25 person/course	
		2.1.2.2	Resources for farm demonstrations and farmer training	DESTEP Manager	DOA, DOLS, CAESC	farm demo	160,000	160,000,000		160,000,000		4 farm demo/yr/VDC	
		2.1.3	Establish voucher system for extension and advisory services	DESTEP Manager	DOA, DOLS, CAESC								
		2.1.3.1	Design, implement and evaluate a pilot voucher scheme	DESTEP Manager	DOA, DOLS, CAESC	TA project	1	500,000		500,000			
		2.1.3.2	Provide budget for 50,000 vouchers in the pilot scheme	DESTEP Manager	DOA, DOLS, CAESC	Vouchers	50,000	2,500,000		2,500,000		50,000 farmer vouchers, \$50 each	
		2.1.4	Introduce farmer marketing schools	DESTEP Manager	DOA, DOLS, CAESC							1 FMS per 4000 VDC	
		2.1.4.1	Establish program capacity and training of trainers	DESTEP Manager	DOA, DOLS, CAESC	TA project	1	500,000		500,000		5 persons trained per district	

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action				Costs USD			Source			
			Lead	Contributor	Item	Quantity	Govt, Donor	Private, Community	Activity Cost	Sub-total		
		2.1.4.2	Implement FMS in those VDC prioritized for value chain development	DESTEP Manager	DOA, DOLS, CAESC	FMS, FFS	1,000	5,000,000		5,000,000		Field school is 10 persons, meets 10 x yr
		2.1.5	Promote ICT in agricultural extension	DESTEP Manager	DOA, DOLS, CAESC							
		2.1.5.1	Provide PCs or tablet with internet for each CAESC	DESTEP Manager	DOA, DOLS, CAESC	PCs with internet	4,000	2,000,000		2,000,000		
		2.1.5.2	Mobile-based applications	DESTEP Manager	DOA, DOLS, CAESC	PP program 50:50	10	250,000	250,000	500,000		\$50,000 cost for each application, 50% finance by govt
		2.1.6	Link farmer groups and organizations to banks and finance institutions	DESTEP Manager	DOA, DOLS, CAESC	program	75	1,500,000		1,500,000		20 farmers in each group, 100 groups per district in each program
		2.1.7	Train field personnel to be sensitized to GESI and nutrition	DESTEP Manager	DOA, DOLS, CAESC							
		2.1.7.1	Training in GESI and nutrition	DESTEP Manager	DOA, DOLS, CAESC	training course	800	1,600,000		1,600,000		5 persons trained per VDC, 25 per course
		2.1.7.2	Increase the representation of women in JTAs	DESTEP Manager	DOA, DOLS, CAESC	JT salary	60,000	30,000,000		30,000,000		500 additional women JT, 10 years salary
	2.2		Decentralized agricultural research system	DESTEP Manager							52,620,000	

Logframe Reference			Description	Responsible Institution		Resources						
								Costs USD				
								Source				
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Govt, Donor	Private, Community	Activity Cost	Sub-total	Comments
		2.2.1		DESTEP Manager	NARC	Director person month	6	30,000		30,000		
			2.2.1.1	DESTEP Manager	NARC	Fund start-up	1	50,000,000		50,000,000		start up fund as grant
			2.2.1.2	DESTEP Manager	NARC	TA national person month	3	30,000		30,000		
			2.2.1.3	DESTEP Manager	NARC	Buildings & operation	3	750,000		750,000		2,500,000 per NRI
			2.2.1.4	DESTEP Manager	NARC	Buildings & operation	3	750,000		750,000		
			2.2.1.5	DESTEP Manager	NARC	Buildings & operation	4	1,000,000		1,000,000		
			2.2.1.6	DESTEP Manager	NARC	Director person month	6	30,000		30,000		

Logframe Reference			Description	Responsible Institution		Resources						
								Costs USD				
								Source				
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Govt, Donor	Private, Community	Activity Cost	Sub-total	Comments
		2.2.2	Strengthen linkages within the research-educational-extension triangle	DESTEP Manager	NARC, Edu. Inst.	Director person month	6	30,000		30,000		
	2.3		Strengthened agricultural education system	DESTEP Manager	University						22,900,000	
		2.3.1	Improve facilities and capacity of Agricultural University	DESTEP Manager	University	Buildings & operation	1	-		-		
		2.3.2	Establish Agribusiness Department in Agricultural University	DESTEP Manager	University	admin national	1	100,000		100,000		administration and facilities included
		2.3.3	Support for joint educational and research programs	DESTEP Manager	University	program funds	50	1,000,000		1,000,000		
		2.3.4	Establish Agricultural University partner operations with private sector	DESTEP Manager	University	PP program 50:50	50	1,250,000	1,250,000	2,500,000		5 programs per yr over 10 yrs
		2.3.5	Establish new agricultural/veterinary science colleges in other regions	DESTEP Manager	University	Buildings & operation	5	1,250,000		1,250,000		
		2.3.6	Strengthen capacity of CTEVT	DESTEP Manager	University	TOT	100	50,000		50,000		Centers for technical education and vocational training

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total	
			Govt, Donor					Private, Community	Activity Cost			
					Source							
		2.3.7	Strengthen capacity of professional staff from government, educational system, and private sector through overseas degrees and training.	DESTEP Manager		Scholarship	10	18,000,000		18,000,000		30 short term training and 15 long-term training (Master degree/phd) per year
	2.4		Adequately sized farms that use land efficiently and sustainably	MLRM	NPC, MLJ, MOAD						8,025,000	
		2.4.1	Decide and adopt a policy statement to review or implement existing legislation and policies pertaining to land reform	MLRM	NPC, MLJ, MOAD	Official person month	1	5,000		5,000		
		2.4.2	Issue a Government Order under the Lands Act to consolidate functions under a Land Management Office	MLRM	NPC, MLJ, MOAD	admin national	1	100,000		100,000		
		2.4.3	Establish land tribunals to settle tenancy and dual ownership cases	MLRM	MLJ	admin District	75	1,500,000		1,500,000		in each district
		2.4.4	Set and enforce targets for reduction of land holdings to the permitted ceiling	MLRM	MLJ	admin District	75	1,500,000		1,500,000		in each district

Logframe Reference			Description	Responsible Institution		Resources						
								Costs USD				
								Source				
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Govt, Donor	Private, Community	Activity Cost	Sub-total	Comments
		2.4.5		MLRM	MOF, MLJ	Official person month	24	120,000		120,000		
		2.4.6		MLRM	MOF, MLJ	pilot scheme	1	1,000,000		1,000,000		
		2.4.7		MLRM	MOF, MLJ	Reduce land fragmentation						
		2.4.4.1		MLRM	MOF, MLJ	Legal measures						
			2.4.4.1	MLRM	MOF, MLJ	Official person month	12	60,000		60,000		
			2.4.4.2	MLRM	MOF, MLJ	Financial and tax incentives	1	1,000,000		1,000,000		
		2.4.8		MLRM	MOF, MLJ	incentive package						
			2.4.8	MLRM	MOF, MLJ	Official person month	12	60,000		60,000		
		2.4.9		MLRM	MOF, MLJ	Enact contract farming act to promote agribusiness operations						
			2.4.9	MLRM	MOF, MLJ	Official person month	12	60,000		60,000		
		2.4.10		MLRM	MOF, MLJ	Enact a Land Lease Act (could be part of Contract Farming Act) allowing long-term leasing at fair terms without acquisition of tenancy rights						
			2.4.10	MLRM	MOF, MLJ	Official person month	24	120,000		120,000		

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD				
			Govt, Donor					Private, Community	Activity Cost	Sub-total		
											Source	
		2.4.11	Identify degraded land for rehabilitation	MLRM	MOFSC, MOAD	TA project	1	500,000		500,000		Geographic information system (GIS)
		2.4.12	Raise awareness of women's rights to land	MLRM	MOAD	campaign	4,000	2,000,000		2,000,000		1 campaign in each VDC
	2.5		Expanded and improved irrigation	MOI	MOAD, WUA						675,200,000	
		2.5.1	Expand irrigation area by most feasible means	MOI	MOAD							
		2.5.1.1	Complete already commenced surface schemes	MOI	MOAD	funds per ha	80,000	320,000,000		320,000,000		\$4000/ha estimated
		2.5.1.2	Pilot construction of medium pond/recharge basins	MOI	GRWRDB, MOAD, farmers	pilot scheme	1	1,000,000		1,000,000		
		2.5.1.3	Repair damaged surface schemes	MOI	farmers	project complex	34,000	34,000,000		34,000,000		\$1,000/ha
		2.5.1.4	Repair damaged tubewells	MOI	farmers	project small	34,000	3,400,000		3,400,000		\$100/ha
		2.5.1.5	Construct new tubewells	MOI	farmers	project complex	75,000	18,750,000	18,750,000	37,500,000		\$500/ha cost shared by farmers
		2.5.1.6	Develop non-conventional irrigation	MOI	farmers, private sector	pilot scheme	10	5,000,000	5,000,000	10,000,000		10 district pilots each covering 500 ha
		2.5.2	Increase effective area of existing schemes	MOI	WUA	works & training	170,000	34,000,000	34,000,000	68,000,000		\$400/ha cost shared by farmers

Logframe Reference			Description	Responsible Institution		Resources						
								Costs USD				
								Source				
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Govt, Donor	Private, Community	Activity Cost	Sub-total	Comments
		2.5.3		MOI	MOFSC, MOEnergy							
		2.5.3.1	Improve catchment management	MOI	MOFSC	reforestation pilot schemes	10	8,000,000	2,000,000	10,000,000		20% community contribution
		2.5.3.2	Construct inter-basin transfers	MOI	MOEnergy	works	7	28,000,000		28,000,000		Each scheme estimated cost \$4 million
		2.5.4	Improve irrigation system and on-farm water management	MOI								
		2.5.4.1	Reform and strengthen Irrigation Management Division to become the Department of Irrigation Development	MOI		admin national	1	100,000		100,000		
		2.5.4.2	Provide adequate budget from government or ISF collection	MOI	MOF	annual operating budget	50,000	25,000,000	25,000,000	50,000,000		5,000 schemes, 10 yrs budget of \$1,000 per yr, 50% cost share
		2.5.4.3	Build capacity of WUA and farmers	MOI		on-farm training course	15,000	15,000,000		15,000,000		15,000 WUA; \$1,000 per training course
		2.5.5	Implement irrigation management system transfer	MOI	WUA	admin national	32	3,200,000		3,200,000		32 schemes

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total	
			Govt, Donor					Private, Community	Activity Cost			
					Source							
		2.5.6	Establish funding for O&M, strengthen ISF	MOI	WUA	admin costs	15,000	15,000,000		15,000,000		Cost for WUA administrative reform
		2.5.7	Implement integrated water resource management	MOI	MOLRM	project	5	5,000,000		5,000,000		
		2.5.8	Build capacity of women farmers	MOI	MOAD	FFS	15,000	75,000,000		75,000,000		10 women per 1 farmer field school per WUA
	2.6		Access to agricultural inputs								600,000	
		2.6.1	Formulate consistent policy	MOAD	NPC, MOF, MOSC	admin national	1	100,000		100,000		
		2.6.2	Establish a voucher system for inputs	MOAD	MOF	TA project	1	500,000		500,000		
	2.7		Implementation of seed policies	MOAD	private sector						12,900,000	
		2.7.1	Enhance capacity of seed research stations	MOAD	private sector, university	research station	10	2,500,000		2,500,000		
		2.7.2	Promote private, cooperative, community based seed production	MOAD	private, cooperative	PP program 50:50	750	3,750,000	3,750,000	7,500,000		10 programs per district, \$10,000 each, 50% cost share
		2.7.3	Enforce quality assurance systems	MOAD	private	TA project	1	500,000		500,000		

Logframe Reference			Description	Responsible Institution		Resources						
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Comments	
								Govt, Donor	Private, Community	Activity Cost		Sub-total
		2.7.4	Promote production of hybrids	MOAD	private	PP program 50:50	15	375,000	375,000	750,000		Production in 3 zones of 5 regions; 50% cost share
		2.7.5	Establish an information system on seed demand and supply	MOAD	private	program funds	10	200,000	200,000	400,000		10 years; 50% cost share
		2.7.6	Implement Biodiversity Policy	MOAD	MOEnv	TA project	1	500,000		500,000		
		2.7.7	Pilot voucher system for seeds	MOAD	MOF	budget	30,000	750,000		750,000		Pilot 400 farmers per 75 districts, \$25 voucher/person
	2.8		Fertilizer supply								450,250,000	
		2.8.1	Gradual transformation of fertilizer subsidy system into more effective delivery	MOAD	MOF	budget	10	400,000,000		400,000,000		subsidy based on 2012 govt budget; 10 yrs
		2.8.2	Complimentary measures for efficient fertilizer use	MOAD	private							
		2.8.2.1	Demonstration and awareness campaign			farm demo	4,000	3,000,000	1,000,000	4,000,000		25% private sector contribution
		2.8.2.2	Promote organic and biofertilizer			FFS	4,000	3,000,000	1,000,000	4,000,000		25% private sector contribution

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total	
			Govt, Donor					Private, Community	Activity Cost			
							Source					
		2.8.2.3	Conduct feasibility studies on fertiliser production and procurement	MOAD	MOCS	TA project	2	1,000,000		1,000,000		
		2.8.2.4	Establish a fertilizer buffer stock	MOAD	MOCS	PP program 50:50	75	18,750,000	18,750,000	37,500,000		50% private sector contribution
		2.8.2.5	Establish a database and monitoring system on fertilizer	MOAD	MOCS	program funds	75	1,125,000	375,000	1,500,000		25% private sector contribution
		2.8.2.6	Voucher system for fertilizer	MOAD	MOF	voucher pilot fert subsidy	30,000	750,000		750,000		Pilot 400 farmers per 75 districts, \$25 voucher/person
		2.8.2.7	Enforce quality assurance systems	MOAD	private	program	75	1,500,000		1,500,000		
	2.9		Improved animal breeds	MOAD	private, cooperative						3,350,000	
		2.9.1	Develop livestock breeding policy	MOAD		admin national	1	100,000		100,000		
		2.9.2	Capacity building for improved breeds production	MOAD	private	programs	5	1,875,000	625,000	2,500,000		75% govt, 25% private contribution
		2.9.3	Establish a voucher system for animal breeds	MOAD	MOF	voucher pilot animal breeds	30,000	750,000		750,000		Pilot 400 farmers per 75 districts, \$25 voucher/person

Logframe Reference			Description	Responsible Institution		Resources						
								Costs USD				
								Source				
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Govt, Donor	Private, Community	Activity Cost	Sub-total	Comments
	2.10		Mechanization options accessible	MOAD	MOF, MOCS, private sector						13,540,000	
		2.10.1	Information dissemination	MOAD	private	campaign	4,000	1,000,000	1,000,000	2,000,000		50% private sector contribution
		2.10.2	Improve customer access to finance	MOAD	NRB, private sector	Official person month	2	10,000		10,000		
		2.10.3	Capacity building for service and maintenance providers	MOAD	private	programs	75	750,000	750,000	1,500,000		10 service providers per district; 50% private sector contribution
		2.10.4	Enable the business environment for leasing agricultural equipment	MOAD	NRB, MOSC, private sector	Official person month	6	30,000		30,000		
		2.10.5	Revise regulation and taxes to support mechanization	MOAD	MOF, NRB	tax incentives package	4	4,000,000		4,000,000		4 measures; cost is revenue forgone
		2.10.6	Pilot a voucher scheme	MOAD	MOF, MOT	voucher pilot mechanization	30,000	6,000,000		6,000,000		Pilot 400 farmers per 75 districts, \$200 voucher/person
	2.11		Improved resilience of farmers	MOAD	MOEnv						16,000,000	
		2.11.1	Research on stress tolerant varieties and	MOAD		program funds	200	4,000,000		4,000,000		

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD				
			Govt, Donor					Private, Community	Activity Cost	Sub-total		
											Source	
			breeds									
		2.11.2	Early warning system	MOEnv	MOAD	project	1	1,000,000		1,000,000		
		2.11.3	Climate information and weather indexation systems	MOAD	Dept Meteorology	project	1	5,000,000		5,000,000		
		2.11.4	Pilot a Farmers Welfare Fund	MOAD	MOF, MPRC	pilot funds	1	1,000,000		1,000,000		
		2.11.5	Promote agricultural insurance							-		details in 'Commercialization'
		2.11.6	Strengthen food reserve system	MOAD	MOF, MPRC	project	1	5,000,000		5,000,000		
	2.12		Sustainable farming, GAP, and GVAHP adopted	MOAD	private						5,500,000	
		2.12.1	Formulate standards	MOAD		TA project	1	500,000		500,000		
		2.12.2	Extension programs with private sector	MOAD	private	project	1	3,750,000	1,250,000	5,000,000		25% private sector contribution
	2.13		Forestry development	MOFSC	MOAD, MOEnv, private sector						38,100,000	
		2.13.1	Strengthen enabling policy environment	MOFSC		TA project	1	500,000		500,000		
		2.13.2	Develop and integrate land use models with	MOFSC		project	1	5,000,000		5,000,000		national project

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total	
			Govt, Donor					Private, Community	Activity Cost			
			forestry									
		2.13.3	Forestry enterprises and marketing development	MOFSC	private	TA project	1	500,000		500,000		
		2.13.4	Enhance forestry GESI	MOFSC		program	750	15,000,000		15,000,000		10 programs per district, \$20,000 each
		2.13.5	Biodiversity conservation and climate change adaptation	MOFSC		program	750	15,000,000		15,000,000		10 programs per district, \$20,000 each
		2.13.6	Develop institutional and human resources	MOFSC		admin national	1	100,000		100,000		
		2.13.7	Research and extension for sustainable forestry	MOFSC		program funds	75	1,500,000		1,500,000		district programs
		2.13.8	Develop a forestry investment strategy and plan	MOFSC		TA project	1	250,000		250,000		
		2.13.9	Develop a joint platform for policy	MOFSC		TA project	1	250,000		250,000		

Logframe Reference			Description	Responsible Institution		Resources							Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total		
							Source		Activity Cost				
							Govt, Donor	Private, Community					
3			Profitable commercialization					613,141,250	378,451,250		991,592,500		
	3.1		Improved investment climate	MOAD	MOF						1,920,000		
		3.1.1	Promote formation of broad-based commercial agriculture organizations			pilot scheme	15	1,125,000	375,000	1,500,000		\$100,000 each; cost sharing 75%:25%	
		3.1.2	Increase participation of agribusiness, cooperatives and industry bodies			program	10	200,000		200,000			
		3.1.3	Promulgate appropriate regulations			program	3	60,000		60,000			
		3.1.4	Level the competitive environment between private sector and state enterprises			Official person month	12	60,000		60,000			
		3.1.5	Reform land use policy to stimulate commercial agriculture	MOAD	MOLRM					-		costed under Output 2.4 Land	
		3.1.6	Provide information to assist commercial farming decisions	MOAD		admin national	1	100,000		100,000			
	3.2		Contract arrangements for commercial agriculture	MOAD	MOSC, MOLRM					-	8,060,000		
		3.2.1	Strengthen contractual arrangement mechanisms	MOAD	MOSC	Official person month	12	60,000		60,000			

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD				
			Govt, Donor					Private, Community	Activity Cost	Sub-total		
		3.2.2	Capacity building in commercial agriculture	MOAD	private sector, farmer organizations	training courses at VDC	4,000	8,000,000		8,000,000		5 farmer groups per VDC, 5 groups per training
	3.3		Tax policy to support commercial agriculture	MOF	MOAD, NRB	Official person month	12	60,000		60,000	60,000	
	3.4		Agricultural finance and insurance	NRB	MOAD, MOF, Insurance Board, Banks						3,132,500	
		3.4.1	Promote development of agricultural finance and insurance providers	NRB	MOAD, MOF, Insurance Board, Banks							
		3.4.1.1	Provide long-term finance through leasing			Official person month	12	60,000		60,000		
		3.4.1.2	Implement policy to divest government shareholding and management influence in financial institutions			Official person month	12	60,000		60,000		
		3.4.1.3	Promote financial institution viability			Official person month	12	60,000		60,000		

Logframe Reference			Description	Responsible Institution		Resources							Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Source		Activity Cost	Sub-total		
									Costs USD				
							Govt, Donor	Private, Community					
		3.4.1.4	Facilitate development of a range of financial products for agriculture			PP program 50:50	10	250,000	250,000	500,000			
		3.4.1.5	Provide incentives for agricultural finance			incentives package	1	1,000,000		1,000,000		Incentives equivalent to \$5 per loan (>0.5% of average loan amount); loan amount not costed	
		3.4.1.6	Provide training in financial management for farmers							-		Cost included in 3.2.2 above	
		3.4.2	Promote development of agricultural insurance	Insurance Board	MOAD, MOF, Banks					-			
		3.4.2.1	Support the insurance industry in implementing the Agricultural Insurance Directive			Official person month	10	20,000	20,000	40,000			
		3.4.2.2	Promotion campaign to farmers			campaign	1,000	125,000	375,000	500,000		25% govt: 75% insurer contribution	
		3.4.2.3	Pilot a local-level weather indexing scheme			TA project	1	450,000	50,000	500,000		10% insurer and farmer contribution	

Logframe Reference			Description	Responsible Institution		Resources						Comments
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Source		Activity Cost	Sub-total	
							Costs USD					
							Govt, Donor	Private, Community				
		3.4.2.4	Strengthen technical capacity of MOAD for regional and local level crop forecasting							-		cost included in TA project above
		3.4.2.5	Pilot scheme for 50% premium subsidy			pilot scheme	5,500	206,250	206,250	412,500		Premium 5% of insured value (\$500 nominal insured value); 3 yrs pilot
	3.5		Competitive agricultural value chains	VADEP Program Manager	VCDAs					-	765,550,000	
		3.5.1	Establish 5 prioritized National Value Chain Programs	VADEP Program Manager	VCDAs	TA project	1	500,000	50,000	550,000		10% private sector contribution
		3.5.2	Support to better expedite value chain development	VADEP Program Manager	VCDAs	Project	1	13,500,000	1,500,000	15,000,000		10% private sector contribution
		3.5.3	3.5.3.1 Enhance the development of the DAIRY value chain	VADEP Program Manager	VCDAs	Project complex	1	4,500,000	500,000	5,000,000		10% private sector contribution

Logframe Reference			Description	Responsible Institution		Resources						Comments	
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total		
			Govt, Donor					Private, Community	Activity Cost				
		3.5.3.2	Value chain development fund	VADEP Program Manager	VCDAs	fund, matching investment	1	45,000,000	30,000,000	75,000,000		40% private sector contribution; includes cost for irrigation, other infrastructure	
		3.5.4	3.5.4.1	Enhance development of the LENTIL value chain	VADEP Program Manager	VCDAs	Project complex	1	4,500,000	500,000	5,000,000		10% private sector contribution
			3.5.4.2	Value chain development fund	VADEP Program Manager	VCDAs	fund, matching investment	1	72,000,000	48,000,000	120,000,000		40% private sector contribution; includes cost for irrigation, other infrastructure
		3.5.5	3.5.5.1	Enhance development of the MAIZE value chain	VADEP Program Manager	VCDAs	Project complex	1	4,500,000	500,000	5,000,000		10% private sector contribution
			3.5.5.1	Value chain development fund	VADEP Program Manager	VCDAs	fund, matching investment	1	78,000,000	52,000,000	130,000,000		40% private sector contribution; includes cost for irrigation, other

Logframe Reference			Description	Responsible Institution		Resources						Comments	
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total		
							Source		Activity Cost				
							Govt, Donor	Private, Community					
												infrastructure	
		3.5.6	3.5.6.1	Enhance development of the TEA value chain	VADEP Program Manager	VCDAs	Project complex	1	4,500,000	500,000	5,000,000		10% private sector contribution
			3.5.6.2	Value chain development fund	VADEP Program Manager	VCDAs	fund, matching investment	1	210,000,000	140,000,000	350,000,000		40% private sector contribution; includes cost for irrigation, other infrastructure
		3.5.7	3.5.7.1	Enhance development of the VEGETABLES value chain	VADEP Program Manager	VCDAs	Project complex	1	4,500,000	500,000	5,000,000		10% private sector contribution
			3.5.7.2	Value chain development fund	VADEP Program Manager	VCDAs	fund, matching investment	1	30,000,000	20,000,000	50,000,000		40% private sector contribution; includes cost for irrigation, other infrastructure

Logframe Reference			Description	Responsible Institution		Resources						Comments	
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Costs USD			Sub-total		
								Govt, Donor	Private, Community	Activity Cost			
	3.6		Rural roads network expanded	MOAD	DOLIDAR, community, private							132,770,000	50km/district, initial project
		3.6.1	Update policy for rural roads to explicitly target agricultural roads.			Official person month	4	20,000		20,000			
		3.6.2	Establish a new section for agricultural roads in District Technical Office			admin district	75	1,500,000		1,500,000			
		3.6.3	Provide separate funding for development and maintenance of agricultural roads.			matching grant fund	1	65,625,000	65,625,000	131,250,000			\$35,000/km; 50% cost sharing
	3.7		Agricultural market information	MOAD	private sector, coop							5,000,000	
		3.7.1	Promote development of a suite of products for market information and market intelligence			matching grant fund	1	2,500,000	2,500,000	5,000,000			50% contributions
	3.8		Rural electrification and renewable energies	MOAD	NEA, private, community							75,100,000	

Logframe Reference			Description	Responsible Institution		Resources						Comments	
Outcome	Output	Action		Lead	Contributor	Item	Quantity	Source		Activity Cost	Sub-total		
												Costs USD	
												Govt, Donor	Private, Community
		3.8.1		Establish a separate liaison section especially for power development in MOAD			admin national	1	100,000		100,000		
		3.8.2		Establish a fund to support PPP for power development with farming community			matching grant fund	1	60,000,000	15,000,000	75,000,000		CBRE applies 80% govt, 20% community contribution

Logframe Reference				Description	Responsible Institution		Resources					Comments	
Outcome	Output	Action			Lead	Contributor	Item	Quantity	Costs USD				Sub-total
									Govt, Donor	Private, Community	Activity Cost		
									Source				
4				Increased competitiveness					241,605,000	80,375,000		321,980,000	
	4.1			Market infrastructure developed	MOAD	DOLIDAR						76,600,000	
		4.1.1		Promote development of market infrastructure	MOAD	DOLIDAR, private sector	fund, matching investment	750	37,500,000	37,500,000	75,000,000		50% govt contribution; 10 units of infrastructure per district; Compliments Value Chain fund.
		4.1.2		Implement PPP financing support mechanisms	MOF	MOAD	Official person month	20	100,000		100,000		
		4.1.3		Capacity building programs for market infrastructure management	MOAD	DOLIDAR	training course	750	1,125,000	375,000	1,500,000		75% govt contribution
	4.2			Growth of small and medium agro-enterprises	INAGEP Program Manager							180,100,000	
		4.2.1		Adopt tax incentives to stimulate investment in agro-based enterprises			Official person month	20	100,000		100,000		Tax revenue forgone not costed
		4.2.2		Promote establishment of Agribusiness Incubators			pilot scheme	5	10,000,000		10,000,000		compliments value chain activity

		4.2.3		Establish matching grants to promote agro-enterprise innovation								
			4.2.3.1	Innovation Fund for Agro-enterprises and Coops			program fund	1	52,500,000	17,500,000	70,000,000	75% govt contribution
			4.2.3.2	Agro-Entrepreneurship Programs for youth, women and disadvantaged			program fund	75	75,000,000	25,000,000	100,000,000	75% govt contribution
	4.3			Growth of food and agricultural products exports								5,280,000
		4.3.1		Strengthen capacity to promote exports and negotiate more favorable trade agreements	MOAD		MOSC, Investment Board					
			4.3.1.1	Legislative Measures	MOAD		TEPC	12	60,000		60,000	
			4.3.1.2	Promote foreign investment	MOAD		Investment Board	24	120,000		120,000	
			4.3.1.3	Institutional Measures	MOAD		DFTQC	1	100,000		100,000	
			4.3.1.4	International Measures	MOAD		MOSC	1	5,000,000		5,000,000	\$50,000 for 10yrs
	4.4			Enhanced food quality and safety	MOAD		MOH					60,000,000
		4.4.1		Adopt and implement internationally compatible food quality and safety standards			project complex	1	60,000,000		60,000,000	

