ADB

Report and Recommendation of the President to the Board of Directors

Project Number: 39370
October 2008

Proposed Asian Development Fund Grant
Islamic Republic of Afghanistan: Agriculture Market Infrastructure Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 15 October 2008)

Currency Unit	–	afghani (AF)
AF1.00	=	$0.0197
$1.00	=	AF50.73

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
ANDS	–	Afghanistan National Development Strategy
ANSA	–	Afghanistan National Standardization Authority
CPS	–	country partnership strategy
DFID	–	Department for International Development of the United Kingdom
EC	–	European Commission
EIRR	–	economic internal rate of return
FIRR	–	financial internal rate of return
GAP	–	gender action plan
GDP	–	gross domestic product
ICB	–	international competitive bidding
IEE	–	initial environmental examination
MAIL	–	Ministry of Agriculture, Irrigation, and Livestock
MOCI	–	Ministry of Commerce and Industries
MOF	–	Ministry of Finance
MRRD	–	Ministry of Rural Rehabilitation and Development
NCB	–	national competitive bidding
PMO	–	project management office
PSC	–	project steering committee
SPS	–	sanitary and phytosanitary
USAID	–	United States Agency for International Development
WTO	–	World Trade Organization

GLOSSARY

Codex Alimentarius	–	This collection of internationally recognized standards, codes of practice, guidelines, and other recommendations relating to foods, food production, and food safety under the aegis of consumer protection was established under the Food and Agriculture Organization of the United Nations and the World Health Organization.

NOTE

In this report, "$" refers to US dollars.

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CONTENTS

GRANT AND PROJECT SUMMARY

Borrower	Islamic Republic of Afghanistan
Classification	Classification: General intervention Sector: Agriculture and natural resources Subsector: Agriculture production, agroprocessing, and agribusiness Themes: Sustainable economic growth, private sector development Subthemes: Promoting economic efficiency and enabling markets, public–private partnerships
Environment Assessment	Category B. An initial environmental examination has been completed, and the summary of the initial environmental examination is included in Supplementary Appendix A.
Project Description	The proposed Agriculture Market Infrastructure Project (the Project) will deliver the following key outputs: (i) improved agricultural marketing infrastructure and (ii) improved product standards and certification systems. The Project will invest in the following livestock processing and horticultural market facilities: (i) two slaughterhouses in Kabul and three in the provinces; (ii) small-scale packing, sorting, grading, drying, and cold storage facilities in horticultural production areas; and (iii) laboratories for product certification. Technical support will be provided in the areas of market infrastructure design, product standards, laboratory systems and certification, and produce marketing. Ministry of Agriculture, Irrigation, and Livestock (MAIL) capacity will be strengthened in sanitary and phytosanitary policy and regulations, product standards, and agricultural aspects of accession to the World Trade Organization.
Rationale	Agriculture is a key economic driver in Afghanistan. It accounts for 50% of the gross domestic product and is the major source of employment and income for most Afghans. Livestock and horticulture are the dominant commercial agricultural areas. While Afghanistan has a comparative advantage in these commodities, current sector performance is poor. During the long period of conflict and recent droughts, production fell dramatically. Productivity and quality standards declined, and high postharvest losses of 30%–40% occurred because of lost market infrastructure, damage to irrigation systems, and limited access to technical and market services. Lower production and product quality has reduced export and domestic returns.

The destruction of livestock slaughterhouses has meant that animal slaughter is undertaken under unhygienic conditions, with resultant poor quality standards and product losses. There are serious risks to public health and adverse environmental impacts from untreated waste.

Investments since 2001 have allowed horticultural production to increase, and livestock numbers have risen. While these gains are considerable under the circumstances, the potential for growth in these industries will be lost without investment in basic market facilities and reform of the institutional regulatory environment. Such investments need to be undertaken relatively quickly.

Impact and Outcome

The project impact will be increased growth in agriculture. The outcome will be more efficient livestock and horticulture agribusiness industries.

Project Investment Plan

The investment cost is $31 million equivalent, including taxes and duties.

Financing Plan

Financing Plan
($ million)

Source	Total	%
Asian Development Bank	30.0	96.8
Government of Afghanistan	1.0	3.2
Total	**31.0**	**100.0**

Period of Utilization

Until 30 June 2014

Estimated Project Completion Date

31 December 2013

Implementation Arrangements

MAIL will be the Implementing Agency, and laboratory equipment will be channeled through the Ministry of Commerce and Industries (MOCI). The project management office (PMO) will be in MAIL. The PMO will be responsible for procuring civil works, goods and services, and the necessary internal approvals from the Ministry of Finance and the Asian Development Bank (ADB). The project director will handle the day-to-day activities of the team. MOCI will designate a project coordinator for its component.

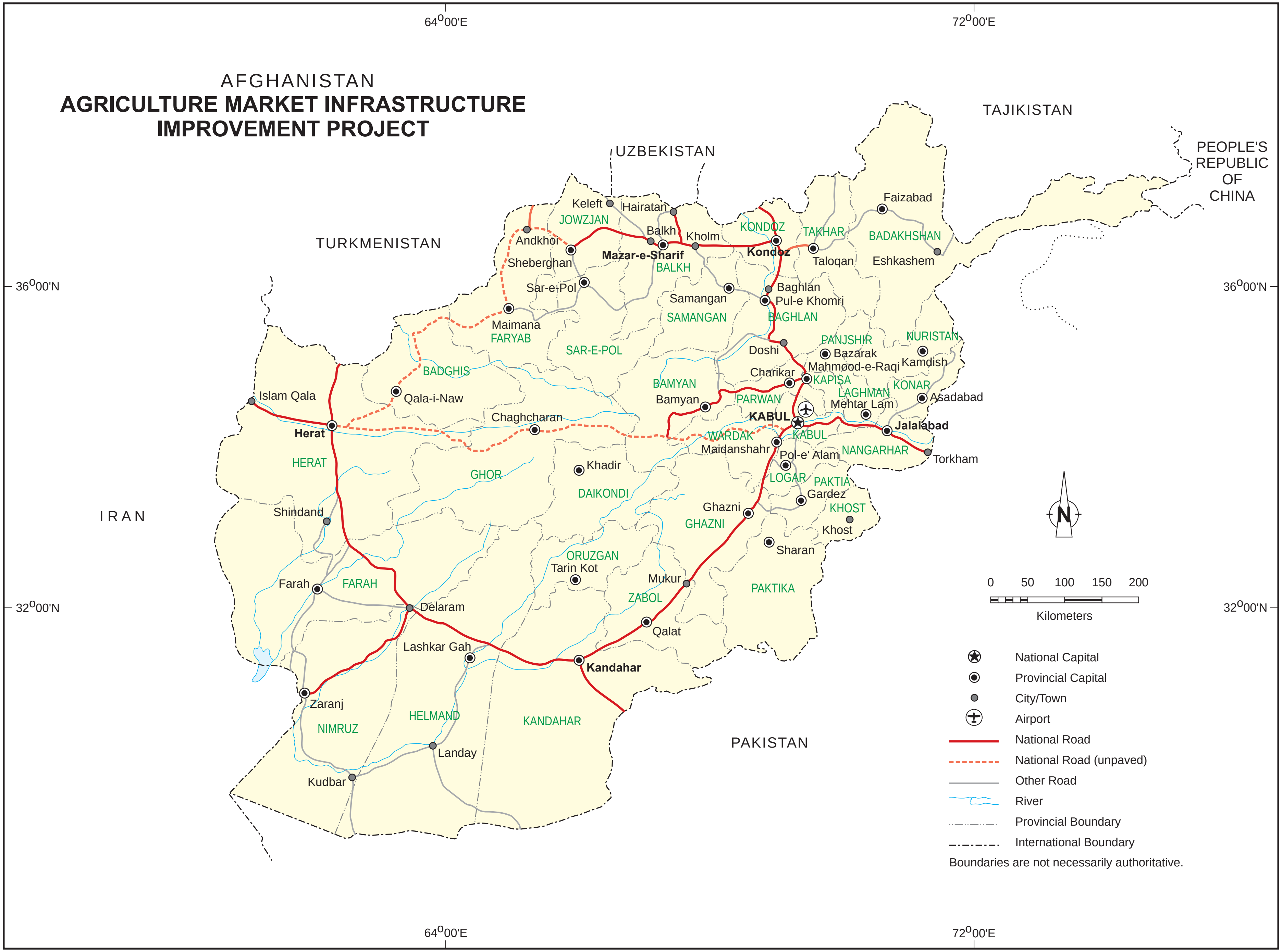
Executing Agency

Ministry of Finance

Procurement

Goods, related services, and civil works will be procured in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). ADB will finance civil works, vehicles, materials, and equipment as described in the procurement plan (Appendix 9). This procurement plan will be updated at least annually, covering the next 18 months of procurement. Advance action is required to establish the PMO and recruit key staff. This will help the early preparation of tender documents.

Consulting Services	The Project will finance 81 person-months of international consulting services and 186 person-months of national. The recruitment of a consultant firm will be based on a full technical proposal. The quality- and cost-based selection method will be used, weighted 90% technical and 10% price. Consultant inputs are outlined in Appendix 10. The selection and engagement of consultants will be in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time).
Project Benefits and Beneficiaries	The Project will provide better market facilities and management. This will cut product losses, raise product standards, and increase product competitiveness in domestic and international markets. The improved productivity will increase returns to producers and traders, provide opportunities for developing value addition to products in Afghanistan, and create employment. These facilities will have significant public health benefits and reduce health and environmental risks.
Risks and Assumptions	Security remains the single most important risk. Institutional capacity is a constraint, as is the geographic spread of horticulture infrastructure activities across several areas. Should the security environment change, project locations could be adjusted. The Government of Afghanistan is committed to the Project. Improved market infrastructure will make a big difference to producers and businesses. But a risk is their maintenance and repair, particularly in the case of horticulture facilities. Careful management and supervision by the private companies operating the slaughterhouses and the farmers' associations and cooperatives operating the small-scale horticulture facilities will reduce some of these risks. While management support will be provided by the Project to build organizational capacity, the magnitude of the risk should not be underestimated.


AFGHANISTAN
AGRICULTURE MARKET INFRASTRUCTURE IMPROVEMENT PROJECT
64°00'E
72°00'E
36°00'N
32°00'N
UZBEKISTAN
TAJIKISTAN
PEOPLE'S REPUBLIC OF CHINA
TURKMENISTAN
IRAN
PAKISTAN
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Hairatan
JOWZJAN
Andkhoi
Balkh
Kholm
KONDOZ
TAKHAR
BADAKHSHAN
Faizabad
Mazar-e-Sharif
Kondoz
Taloqan
Eshkashem
Sheberghan
BALKH
Sar-e-Pol
Samangan
Baghlan
Pul-e Khomri
Maimana
FARYAB
SAMANGAN
BAGHLAN
SAR-E-POL
Doshi
PANJSHIR
Bazarak
NURISTAN
Kamdish
BADGHIS
Mahmood-e-Raqi
Charikar
KAPISA
KONAR
Islam Qala
Qala-i-Naw
BAMYAN
Bamyan
LAGHMAN
Asadabad
PARWAN
Mehtar Lam
Chaghcharan
KABUL
Jalalabad
Herat
WARDAK
Maidanshahr
KABUL
NANGARHAR
Torkham
HERAT
Pol-e' Alam
Khadir
GHOR
LOGAR
PAKTIA
Gardez
DAIKONDI
Ghazni
KHOST
Shindand
GHAZNI
Khost
Sharan
ORUZGAN
Tarin Kot
Farah
FARAH
Mukur
PAKTIKA
ZABOL
Delaram
Qalat
Lashkar Gah
Kandahar
Zaranj
HELMAND
KANDAHAR
NIMRUZ
Landay
Kudbar
N
0 50 100 150 200
Kilometers
National Capital
Provincial Capital
City/Town
Airport
National Road
National Road (unpaved)
Other Road
River
Provincial Boundary
International Boundary
Boundaries are not necessarily authoritative.

08-3518 EG

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed grant to the Islamic Republic of Afghanistan for the Agriculture Market Infrastructure Project (the Project).

II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

2. At the request of the Government of Afghanistan (the Government), ADB approved technical assistance in late 2006 to prepare the Project.[1] The project design and monitoring framework is included in Appendix 1.

A. Performance Indicators and Analysis

3. Agriculture accounts for half of Afghanistan's gross domestic product (GDP). It is the key driver of sustainable economic growth and employment generation.[2] Commercial agriculture[3] in Afghanistan is dominated by horticulture and livestock, with product sales in domestic and export markets. Afghanistan has enjoyed a comparative advantage in these commodities, supplying 20% of the global market for raisins in the late 1970s, dominating the world pistachio market, and supplying livestock and wool products regionally. During the long period of conflict and severe droughts of the late 1990s, the production of all commodities fell drastically. Productivity and product quality standards declined, and high postharvest losses of 30%–40% occurred because of lost market infrastructure, damaged irrigation systems, and limited access to technical and market support. While considerable investment has been made in production since 2001, agricultural growth potential will not be achieved without investment in basic market infrastructure and reform of the institutional regulatory environment.

4. **Livestock.** This is integral to all farming systems in Afghanistan.[4] After falling dramatically in the late 1990s, livestock numbers have increased since early 2001.[5] While production is increasing, Afghanistan still imports live animals for meat, frozen meat including chicken, eggs, and wool. The meat industry is large, with the indicative value of meat consumption in Afghanistan per year at $800 million and with the capital value of livestock assets estimated at $3 billion. Most inedible products of animal origin are exported after first-stage processing (salting and washing skin, hides, and intestines [casings]; dehairing for cashmere; and washing and cutting carpets) or without any processing at all (wool for spinning). Carpets are an important export that accounted in 2006 for an estimated $180 million of exports.[6]

5. **Horticulture.** Dried fruits and nuts and fresh fruits and vegetables have played a dominant role in Afghanistan exports. The horticulture area has expanded since 2001, totaling in 2005 approximately 122,000 hectares (ha), with perennial nut crops totaling 12,000 ha and fruit

[1] ADB. 2005. *Technical Assistance for Preparing the Commercial Agriculture Development Project.* Manila (approved for $995,000 on 23 November).
[2] The rural economy is the major source of employment and income for most Afghans, as nearly 80% of the population, or 19 million people, live in impoverished rural areas.
[3] While wheat accounts for over two-thirds of cultivated area, it is typically a subsistence crop.
[4] Agricultural and pasture areas account for 45% of land area.
[5] The Food and Agriculture Organization 2003 census estimates cattle at 4 million, sheep 9 million (still far below the census number in the 1980s to early 1990s of 19 million), goats 7.3 million, and poultry 12 million. These are underestimates, especially for sheep and goats, as the livestock of nomadic *kuchis*, which accounts for approximately 30% of total sheep and goat numbers, was not included.
[6] The Government estimate is conservative, as industry estimates are significantly higher.

trees 106,000 ha, of which grapes occupied 58,000 ha, apricots 8,000 ha, berries 9,000 ha, and figs 7,000 ha. Nurseries' current sales of nut and fruit seedlings indicate an expansion of area by 12,000 ha per year. Domestic demand for fresh fruits and vegetables is strong, as is export demand for key commodities. In 2006, the value of exports was $70 million for fresh fruits and $111 million for dried fruits and nuts. Experts have estimated that, if productivity and quality can be improved, the sector can contribute $1.5 billion in exports in 10 years.[7] The Government's lower target is $250 million by 2015.

6. **Opium Economy.** Illegal opium production has expanded since 2001. While accounting for only 3% of the total cultivated area, opium has become a major cash crop for a significant number of households. In 2006, it was valued at $3 billion, equivalent to 46% of the country's legal GDP. Opium is a labor-intensive crop, with an estimated 2 million people involved in its production. The expanding opium economy has harmed the Government's state-building and security efforts, and it finances corrupt practices in key production areas. While the existing government counter-narcotics strategy and alternative livelihood programs may require modification to be more effective in controlling opium production, a key element of any program is producers' access to alternative cash crops and markets in a secure environment with effective enforcement.

B. Analysis of Key Problems and Opportunities

1. Market Infrastructure and Regulatory Environment

7. Economic growth and market development in commercial livestock and horticulture is limited by inefficient commodity market chains that cause heavy product loss and poor product quality and lacks the product certification necessary for access to export markets. The key constraints are poor and fragmented market infrastructure for livestock and horticulture products, with limited and inadequate commodity collection, storage, packing, and processing facilities; inadequate access to improved postharvest and processing technologies; and the lack of product standards. Private sector investment is low because of risk in the current business and security environment and limited access to finance for infrastructure investments, in particular for agribusinesses. A regulatory environment is slowly developing for meat inspection, including trained inspectors, and for public hygiene and animal health. Nonetheless, regulation is lacking in terms of recognized product quality and certification processes for the export of horticultural products and of legislation to secure transactions and leasing for financial sector development. The project problem tree is in Appendix 2.

2. Livestock and Horticulture Productivity and Product Quality

8. **Livestock.** Improving the livestock value chain will have positive economic and public health benefits. Currently the main livestock products (meat, hides, skins, casings, and wool) suffer low productivity and quality, with limited value addition. While livestock production is expanding, dairy production is rising from a low base, and the established carpet industry undertakes the key value-adding stages of cutting and washing carpets and wool in Pakistan. Addressing constraints will require (i) establishing market infrastructure for livestock products (slaughterhouses; facilities for such by-products as hides, skins, and casings; dairy plants; and livestock markets); (ii) improving the quality of livestock products through compliance with food safety requirements; and (iii) developing further value addition to local products and strengthening animal production and animal health technical services.

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[7] The OTF Group. 2006. *Strategy and Action Plan for Afghanistan's Dried Fruit and Nuts Cluster*. USAID.

9. The meat industry in Afghanistan is large. An estimated 1 million cattle and buffaloes and 5 million sheep and goats are slaughtered in the country per year, with Kabul accounting for 24% of the former and 20% of the latter. With slaughterhouses destroyed in the conflict, butchers have no option but to slaughter livestock in makeshift areas such as urban backyards. Kabul and major provincial cities have no slaughtering facilities or very basic ones, such as cement slabs.[8]

10. The Government has prioritized establishing hygienic slaughter facilities to reduce waste, mitigate public health risks, and improve the hygienic quality of the meat. Retail butchers currently get meat by slaughtering their own animals or from wholesalers who supply a number of retailers. While the standard of the retail outlets varies, there is demand for improving the quality of meat from consumers with rising incomes, and some butchers have established improved retail outlets with cool storage to try to meet this demand. Supermarkets are also selling better quality fresh and frozen meat.

11. The construction of slaughterhouses and ancillary facilities would provide (i) critical infrastructure for developing professional meat production and processing systems and (ii) a focus for increasingly adding value to meat and livestock by-products. Chilling facilities would improve meat storage, enable the development of meat deboning and packaging systems, and provide opportunities for the expanded marketing of high-quality meat products in the growing urban supermarket trade. The increased volume of hides, skins, and intestines—in better condition than under the existing traditional slaughter system—and the by-product processing facilities operating on the same site would ensure quicker processing and higher-value by-products for export. Existing hide and skin associations and traders could potentially undertake further processing of these products in Afghanistan before exporting them to Pakistan and other regional markets. Utilizing waste materials as commercial products will be possible with the collection of blood for processing into blood meal for use in the emerging poultry feed industry. Slaughterhouses' carcass delivery system to butchers could be combined with a bone-collecting service so that a bone meal facility on site would have raw material.

12. As the Government progressively reestablishes a functioning regulatory environment for animal health and meat quality, there will be increased incentive for slaughterhouse killing. The Government is already developing a regulatory environment for public hygiene, environmental mitigation measures, and animal health. This indicates that, in the short to medium term, butchers will incrementally have to shift to slaughtering under controlled, hygienic conditions.

13. **Horticulture.** Afghanistan has a significant global comparative advantage in raisins, other dried fruit and vegetables, fresh fruits, and nuts. (An analysis of the commodity market is provided in Appendix 3.) However, horticultural products are currently produced in low-productivity systems with poor product quality and grading and high postharvest losses. Addressing these constraints will require improved harvest and postharvest practices; investment in infrastructure for storage, packing and cold storage, processing, and product quality; improved planting material; and access to technology and management services. The small-scale farmers who dominate production will benefit from establishing and strengthening farmers' associations, which will improve market opportunities.

14. While producers invest in the production base, the incentives to develop market facilities and improve the quality of export products is constrained by traders', processors', and exporters' following a low-risk investment approach. This results in high postharvest losses and

[8] The only proper slaughterhouse in Kabul is in the Ministry of Defense and was constructed in the early 1940s.

the sale of products based on industry standards rather than certified. Both the Government and the private sector recognize the urgent need to improve the regulatory environment and certification systems. This would bring higher economic returns and enable the private sector to expand directly into higher-value markets, rather than indirectly through using an intermediary country as the country of origin. The incentive for implementing such a change is the financial benefit for private businesses to collectively improve product standards and certification. It would be an incremental process.

3. Financial Sector

15. Financial sector operations in Afghanistan are relatively new, and financial institutions have yet to reestablish a strong investment lending product range or portfolio. The banking sector has focused on trade and short-term interest financing, though in late 2007 some small and medium-sized enterprise lending began. Currently, the geographic network of coverage is limited. Additional financial sector constraints include the lack of access to funds and an increasing risk premium for private sector investments in the current environment. Secure transaction and leasing legislation is being prepared and, once approved, will remove a regulatory constraint and facilitate growth in leasing.

16. Given the constraints and the failure of financial institutions to provide investment products, other options to support market infrastructure investments are required, as these investments will bring significant economic benefits and growth. Investments using public-private partnerships are assessed as commercially viable and provide a feasible alternative.

4. External Assistance

17. Existing development partners' projects have focused on developing and expanding horticultural and livestock production in targeted areas. ADB, the European Commission (EC), and the World Bank are undertaking a number of irrigation and water resource projects that are expanding the production base for horticultural enterprises and, to a more limited extent, the opportunity to expand livestock production. Currently, few development partners support agribusiness market development. The United States Agency for International Development (USAID) has engaged in market development projects with the Ministry of Agriculture, Irrigation, and Livestock (MAIL), with pilot activities and infrastructure such as farmer association cold stores, storage, and export marketing to facilitate exports and market growth. A key priority is to complement these activities with support for further market-based development. A summary list of development partners' projects is provided in Appendix 4.

18. The World Bank is undertaking a horticulture and livestock project to improve production quality with technical services in the central and northern regions, and a dairy is to be established in the Kabul region. The Department for International Development of the United Kingdom (DFID) and USAID projects work in the eastern and southern regions with a range of projects, some of which include alternative livelihoods and livestock products, including carpets and fresh horticultural exports. The Rural Business Support Project of ADB and the Japan Fund for Poverty Reduction started in late 2007 with the plan to strengthen the commodity value chain for wool and carpets, including cutting and washing facilities, and for vegetable oil processing and potato storage in selected districts of three provinces. The EC has an animal health project with MAIL to develop capacity and laboratories for animal health testing, setting regulations, and inspection services, and to establish veterinary field clinics for the delivery of services. The Afghanistan Rural Enterprise Development Program, piloted by the Ministry of Rural Reconstruction and Development, will focus on establishing and strengthening industry and

producers' associations and enterprise groups, as well as savings and credit groups to support rural enterprise development.

19. High postharvest losses, poor quality, and the lack of product certification result in low productivity and returns for livestock and horticultural products. These problems would be resolved with strategic market investments, an improved regulatory environment, and easier access to markets. This is particularly important given the growth in livestock numbers and expansion in horticultural production. Further, linking these developments with some existing projects would be possible, as would working with producers and agribusinesses in the project areas to develop infrastructure as the next step in improving commodity productivity, quality, and value addition.

5. Government Strategy

20. The Government's agriculture sector master plan and the Afghanistan National Development Strategy (ANDS, 2008) detail opportunities for growth and value adding in core agricultural commodities in the horticulture and livestock subsector, including the need to develop a market-based regulatory environment with access to inputs, services, and markets. MAIL is establishing the regulatory environment and building capacity to undertake the required certification and product quality assessment, and it has removed previous barriers to private sector enterprise. In its 1387 (2008/2009)[9] development budget submission to the Ministry of Finance (MOF), MAIL identified establishing and operating slaughterhouses as a priority to improve livestock enterprise returns from meat and such animal products as hides and casings and to reduce problems regarding urban environmental waste and public health risks associated with existing slaughter systems.

6. ADB Strategy

21. The ADB draft country partnership strategy (CPS) for Afghanistan (2009–2012)[10] is aligned with the ADB long-term strategic framework (Strategy 2020)[11] and supports the Government's ANDS priorities. The draft CPS continues the ADB focus on three priority sectors, with infrastructure investment and reforms planned in (i) irrigation and water resource management and agricultural market infrastructure; (ii) power generation, transmission, and distribution; and (iii) transport and communications, with national road and communication links to neighboring countries. ADB support will improve agricultural growth and productivity by (i) rehabilitating and developing new irrigation and water resource infrastructure, with the associated expansion and improvement in enterprise returns; (ii) developing market-based agriculture infrastructure; and (iii) creating an enabling regulatory environment to facilitate growth in the sector.

22. The proposed Project will undertake agricultural market infrastructure investments, which will generate inclusive economic growth. It supports the implementation of ADB's Strategy 2020. The investments will improve environmental management and the mitigation of adverse impacts from the lack of infrastructure in cities. The effectiveness of these interventions will be supported by other ADB infrastructure activities that provide improved access to irrigation, power, and road transport. The proposed Project is included in the CPS for 2008.

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[9] Financial year 1387 is from 21 March 2008 to 20 March 2009.
[10] To be submitted to ADB Board of Directors for approval in early 2009.
[11] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila.

7. Lessons

23. Afghanistan's agriculture sector and rural economy are characterized by weak institutions; large numbers of poor, small producers; production and marketing through traditional, largely informal systems with little value added; and lightly mechanized, family-based businesses. Given the wider security issues and limited access to finance, interventions must target priority commodities; support critical gaps in the value chain; and demonstrate that producers, traders, and processors can effectively respond to demands in the domestic, regional, and wider export markets.

24. Experience garnered from interventions in the sector and the region indicates that, in emerging and post-conflict economies, where institutional, technical, policy, and financial constraints exist, a comprehensive approach is required. Government can play a key role as a facilitator for market development, with the direct provision of services undertaken by the emerging private sector. Regulatory support and stimulation of business services in such an environment is effective and generates economic growth. Improving the provision of business services in such environments often requires time-bound, cost-sharing grant arrangements that assist enterprise development and improve the quality of agribusiness service provision. Positive outcomes are achieved by helping to remove barriers to establishing enterprises and adopting new technologies and practices. Interventions must be targeted and implemented effectively, with defined timelines for achieving cost recovery.

25. To address current capacity constraints and the limited availability of professional and technical expertise, project interventions will need to use an incremental approach toward developing stronger supply chains and market systems and assisting in strengthening producers' and traders' associations and institutions that will be able to facilitate service delivery. Developing the capacity of private sector providers and establishing a functioning regulatory capacity will be critical. The steps involved will be incremental, building on existing structures where feasible, strengthening and using local associations and institutions, and keeping activities targeted by commodity and area. For effective implementation, projects need straightforward administrative arrangements. In the light of capacity constraints, the number of procurement packages should be kept to a minimum.

III. THE PROPOSED PROJECT

A. Impact and Outcome

26. The impact of the Project is increased agricultural growth. The outcome is the development of more efficient livestock and horticulture agribusinesses.

B. Outputs

27. The proposed Project will achieve the following outputs: improved agricultural marketing infrastructure with investment in slaughterhouses, small-scale horticulture market facilities, laboratories to certify products, and improved standards for horticultural products and product management systems.

1. Improved Agricultural Marketing Infrastructure

28. The proposed Project will undertake livestock and horticulture market infrastructure investments and provide support to improve the commercial operation of facilities, including the adoption of improved postharvest technologies and marketing practices. Slaughterhouses will

be constructed in Kabul and three provincial centers. Small-scale horticulture collection and storage facilities will be established in production areas in each of the seven regions of the country. Commodity certification laboratories will be developed and improved. These investments will address critical gaps affecting productivity, product quality, market access, and demand in domestic and regional markets.

a. Slaughterhouses

29. The proposed Project will establish five slaughterhouses with supporting facilities for holding livestock and managing such by-products as hides, skins and casings[12] and wastes. Two will be in Kabul and the other three in the provincial cities of Herat, Kundus, and Mazar. Market analysis of the livestock industry indicates demand for slaughterhouses in a number of major regional centers. Locations were selected based on criteria including livestock production and market demand, technical factors including environmental parameters and site availability, financial and economic viability, and institutional and operational sustainability. Appendix 5 provides details on the selection criteria.

30. The slaughterhouses will be constructed using a modular design on MAIL-owned land, with long-term management and operation to be undertaken by the private entities. Each facility will require a site of approximately 2.5 ha and will provide space for livestock holding, inspection, and slaughter; the initial treatment of hides, skins, and casings; the storage and disposal of solid organic waste; and the treatment and disposal of wastewater.

31. The slaughterhouse design is for a facility with the capacity to process 100 large ruminants and 500 small ruminants per single shift, operating for 30 days per month. This will produce 900 million kilograms of red meat per month, or 10,800 million kilograms per year. The expected throughput of one slaughterhouse equals 15% of the large ruminant slaughter, and 18% of the small ruminant slaughter, in Kabul per year. The facilities will have the potential to increase throughput with additional shifts. Using a modern facility that centralizes slaughter will facilitate pre- and postmortem inspection; add value by saving blood; and produce higher-quality hides, skins, and intestines for further processing.

32. The slaughterhouse preliminary designs—including site preparation, water treatment, waste management, and utilities; their costing; and their private management structures—have been prepared. The final design and preparation of tender documents will be completed by December 2008. This will enable the tender process to be undertaken at the start of 2009. A turnkey contract is proposed for the facilities, which will be tendered as a single contract. A 1-year support component for management will be included in the contract for the slaughterhouses to ensure their adoption of modern hygienic practices and standards.

33. The slaughterhouses will operate as public-private partnerships. The initial investment will be with public funds, but the management and operation of the structures will be contracted out to the private sector, with the Government's expectation that ownership of the facilities will eventually be transferred to the private entities. The investment model is infrastructure investment by Government, with the assets transferred, operated, and managed under long-term arrangements by private entities.

34. It is proposed that a tender be undertaken for selecting the private entity to manage and operate each facility prior to construction. The contract for management and operation will be offered with two options: (i) a long-term lease-to-purchase contract or a long-term lease for

[12] Intestines used as meat casings for sausages and other processed meat products.

management. The lease term is expected to be 15 years, with options for renewal after 5 years. The criteria for selecting private entities will include previous business experience, especially in meat and livestock or related sectors; company equity and financial management capacity confirmed with due diligence; management skills and the proposed business plan for managing and operating the facility, including provisions for undertaking the contract slaughter of livestock; and the type of lease contract requested. Discussions with private entities in the proposed locations have indicated that a number of established companies with relevant experience would be interested in tendering for operating, managing, and eventually owning such facilities. The contract lease payments will be paid into the MOF single treasury account and used for investment in agriculture.

35. The slaughterhouse investment will improve the quality of meat and by-products, increase product returns, and provide a framework for developing enterprises to add value to products. There will be significant public health and environmental benefits, as the current practice of slaughtering livestock on city lots and streets poses a major public health risk.

b. Farm-Level Collection and Marketing Facilities

36. The proposed Project will establish small-scale horticulture infrastructure investments that will include commodity collecting, sorting, and grading centers; drying facilities; and packing houses and small cold storage facilities in production areas. These investments will be undertaken with farmers' organizations and agricultural cooperatives. They will have a catalytic role, demonstrating the incremental returns to be achieved through improved postharvest handling and marketing and the benefits of strengthening linkages between producer groups and traders. The project-financed infrastructure investments are expected to range in cost from approximately $20,000 to $75,000 equivalent. The facilities will be constructed on MAIL-owned land and managed and operated by farmers' organizations and agricultural cooperatives.

37. This investment will support sector growth, as private sector and financial institution engagement in agribusiness infrastructure, especially in those investments that involve farmer organizations, is currently very limited. Given the expanding production base and large investments in irrigation infrastructure underway, demand for such facilities is increasing.

38. The investments will be selected based on (i) prioritized commodities in key production areas; (ii) technical and financial viability; (iii) the institutional and operational sustainability of the facility, including the capacity of the farmers' organizations; and (iv) integration with other project activities. Appendix 5 provides details on the selection criteria. Approximately 200 small-scale market investments are included. The investment model is infrastructure investment by Government, with the assets operated and managed under long-term arrangements by farmers' and producers' groups and cooperatives. The Government expects ownership of the facilities to be transferred to these producers' groups. Standard designs will be developed for the different types of small-scale infrastructure. Project support will be provided to facilitate their adoption of improved postharvest technologies and marketing practices and for strengthening management and operation.

39. The commodity market chain assessment undertaken during project preparatory technical assistance will be reviewed in the first year of the Project. The outcome will be used to confirm the priority areas for supporting value chains and the geographic areas within each production region to be targeted, to develop a critical mass or cluster of participating farmers' associations and strengthen linkages with traders and processors. The reassessment will enable further specification of the small-scale infrastructure investment requirements and the

associated postharvest technology, management, and operational support required, as well as training needs. The project consultants and staff undertaking the review in the seven regions will link closely with the provincial MAIL, farmers and associations, the Afghanistan Chamber of Commerce and Industry, and agribusinesses. A single contract will be tendered for the construction of all the small-scale facilities.

40. The collection and market facilities will, at minimum, add further value to dried fruits and nuts by improving product quality, processing, packaging, and marketing and increase the value of fresh fruits and vegetables by improving storage, handling, and marketing.

c. Product Standards Laboratories

41. The Project will assist the Government in strengthening institutions' capacity to develop standards and regulations for improved product quality, which will support sector growth and agricultural trade. This will involve establishing certified laboratories; strengthening MAIL's capacity regarding sanitary and phytosanitary policy and regulatory issues; and establishing product standards, particularly as part of MAIL's role as a member of Codex Alimentarius and in various agricultural policy aspects of Afghanistan's accession to the World Trade Organization (WTO). The specialist technical input required for these activities is included under the project management and capacity-support component.

42. Fresh and dried fruits and nuts for export must be certified by the Raisin and Other Dried Fruit Export Institute under the Ministry of Commerce and Industries (MOCI). This institute operates three laboratories, two of which—in Kabul and Kandahar—have received equipment and some training from development partners. To make these laboratories fully operational, the Project will provide targeted support for laboratory system management and technical training, as well as equipment for the third laboratory, in Mazar. A key additional piece of equipment, a high-performance liquid chromatograph, will be supplied to the Kabul laboratory. Support will be provided for international accreditation.

43. While regional markets accept these Afghan products according on industry standards, the current certificate is not recognized by importing countries, as the laboratories lack international accreditation. Obtaining such accreditation requires 3 years of quality control by the laboratories. Developing cost-recovery systems will be an important element of laboratory system management. Adopting improved product quality standards will require raising the awareness of farmers' groups and trade and industry associations, training them, and providing linkages to the export promotion authority to ensure that they receive the financial benefits that accrue from these changes.

44. Project outcomes will be a strengthened regulatory environment and improved and effective sanitary and phytosanitary policies that safeguard the consumer while promoting high-quality products. Adopting grades and standards, upgrading laboratories that test dried fruits and nuts, and generally improving industrial food safety practices will open to dried fruit and nut processors and exporters more lucrative markets for their certified products.

2. Effective Project Management and Capacity Support

45. A project management office (PMO) will be established in MAIL in Kabul, which will manage project activities; liaise and coordinate project organization and consultant inputs; and undertake reporting, procurement, contract supervision and oversight, project monitoring, and impact assessment and evaluation. The PMO will be provided with vehicles and equipment,

staff, and consultants' inputs in contract technical oversight, procurement, and monitoring and evaluation.

46. Technical support for market infrastructure design; commodity market training linked to the farm market infrastructure facilities; and the development of product standards, laboratory systems, and certification is included in this component. It includes the following:

(i) **Farmer Market Infrastructure.** Project consultants and PMO staff undertaking the commodity assessment in the seven regions will identify and provide further specification of small-scale infrastructure investment requirements, as well as the associated postharvest technology and management and operational support required. They will identify opportunities for cluster approaches. A small training fund will provide targeted skills enhancement to agribusinesses, traders, marketers, and MAIL staff in the project areas to support the stronger integration, development, and adoption of improved market and product management and waste mitigation and management.

(ii) **Product Standards Development.** Technical consulting will be provided to assist MAIL in establishing product grades and standards in priority commodities. MAIL will work with the Afghanistan National Standards Authority to establish national product standards in line with regional and international standards. The Project will support MAIL in designing the proposed laboratories for testing plant and animal products. The Project will provide targeted support to MOCI's Raisin and Other Dried Fruit Institute for laboratory system management and technical training. The consultants will help MAIL to raise awareness and establish working groups with farmers' groups and trade and industry associations on the improved product quality standards and certification processes. Support will be provided regarding agricultural policy aspects to Afghanistan's accession to WTO.

C. Special Features

47. The Project will address key market infrastructure and product regulatory constraints in two key commercial agriculture industries: livestock and horticulture. This will improve product quality, productivity, and certification for export. The market infrastructure investments will be undertaken through public-private partnerships involving private entities, farmers' associations, and agricultural cooperatives.

D. Indicative Project Investment Plan

48. The indicative project investment cost is $31.0 million, including taxes and duties of $1.9 million and physical and price contingencies of $4.4 million. The costs are summarized in Table 1. Detailed estimates by expenditure category and financier are in Appendix 6.

Table 1: Project Investment Plan
($ million)

Item			Amount[a]
A.	**Base Cost[b]**		
	1.	Component 1: Improved Agricultural Marketing Infrastructure	**21.3**
		a. Livestock slaughterhouse facilities	14.6
		b. Farm collection and marketing facilities	6.1
		c. Product standards — laboratories	0.5
	2.	Component 2: Project Management and Capacity Support	**5.3**
		a. Project Management	4.0
		b. Technical capacity support	1.3
		Subtotal (A)	**26.6**
B.	**Contingencies[c]**		**4.4**
		Total (A+B)	**31.0**

Note: Totals may not add up due to rounding.
[a] Includes taxes and duties of $1.9 million.
[b] In mid-2008 prices.
[c] Price contingencies computed using ADB cost escalation factors and include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.
Source: Asian Development Bank estimates.

E. Indicative Financing Plan

49. The Government has requested a grant of $30 million from the ADB's Special Funds resources to help finance the Project. The ADB grant will be used to finance civil works for slaughterhouses and small-scale infrastructure, laboratory equipment, vehicles, training, and PMO costs. The Government contribution will be in kind, including taxes, and duties (totaling 3%). The financing plan is in Table 2.

Table 2: Financing Plan
($ million)

Source	Total	%
Asian Development Bank	30.0	96.8
Government	1.0	3.2
Total	**31.0**	**100.0**

Notes:
1. Totals may not add up due to rounding.
2. Government contribution does not include the value of Government land to be allocated for slaughterhouses and the small-scale infrastructure.

Source: Asian Development Bank estimates.

F. Implementation Arrangements

1. Project Management

50. MOF will be the Executing Agency of the Project and responsible for overall project management and coordination. MAIL will be the Implementing Agency for all project activities except for the laboratory and training support provided to the MOCI's Raisin and Other Dried Fruit Export Institute. A project steering committee (PSC), chaired by the minister of MAIL or his designate, will be established and provide guidance on policy and strategic issues. It will meet quarterly. A special committee will be established by the PSC to be responsible for selecting the small-scale market subprojects according to agreed criteria. The Project organization chart and implementation structure is in Appendix 7.

51. The PMO will be based in the private sector department in MAIL and manage and coordinate project activities. MAIL will nominate a PMO project director with the appropriate qualifications and experience, whose appointment will be endorsed by ADB. The project director will be assisted by contracted staff. The PSC will establish a three-person selection panel, which may include a consultant team member, for recruiting key PMO staff. Recruitment will be competitive, through a public advertisement detailing the contracted staff positions. During project preparation, a financial management assessment indicated that MOF and MAIL have satisfactory management capacity and systems for financial and accounting management, reporting, auditing, and internal controls. While MAIL systems are adequate, the ministry lacks experience in implementing projects financed by international institutions. This shortcoming of MAIL is being addressed with technical capacity and consultant inputs to the PMO and the private sector department of MAIL.

52. The PMO will be responsible for implementing the project in accordance with its design; effectively coordinating all activities and agencies involved; ensuring project compliance with environmental requirements and other safeguards; maintaining all appropriate accounts, including reports on withdrawal applications and disbursements; managing procurement in accordance with ADB guidelines; preparing progress and other reports in formats agreed with ADB; monitoring all contracts; working closely with selected contracted service providers to ensure that methodologies, approaches, and management systems are appropriate and deliver the expected results; developing and implementing an effective monitoring and evaluation system; and undertaking necessary public awareness procedures.

53. The PMO, with support from the consultants, will prepare and manage the contracts of project suppliers. These will include the contracts for slaughterhouses and small-scale infrastructure, consultants, and associated activities to be undertaken with training.

54. A MAIL tender committee will be established to review and evaluate project procurement proposals. The PMO will assist this committee in preparing bid tender documents and be responsible for the bidding process and contract award through international competitive bidding (ICB). The bid evaluation will be undertaken by the MAIL tender committee.

55. MOCI will designate a staff member in the Raisin and Other Dried Fruit Export Institute as the project coordinator for the small MOCI component under the Project.

2. Implementation Period

56. The Project will be implemented over 5 years, from January 2009 to December 2013. The first year will involve setting up the project management and implementation framework and various other preparatory tasks, including (i) preparing work and financial plans; (ii) procuring goods and services (consultants and other service contractors); (iii) designing and installing a project monitoring and evaluation system; and (iv) contracting for civil works based on the preparation of tender documents prior to project effectiveness. The project implementation schedule is outlined in Appendix 8.

3. Flow of Funds

57. The PMO will be responsible for all project grant funds except those provided by MOF to MOCI for laboratory equipment, laboratory technical consulting inputs, and laboratory training.

4. Procurement

58. Goods, services, and civil works will be procured in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). ADB will finance civil works, vehicles, materials, equipment, and training as described in the procurement plan (Appendix 9). The procurement plan will be updated at least annually, covering the next 18 months of procurement. Civil works costing over $1 million equivalent will be procured using ICB. Civil works packages estimated to cost less than $1 million equivalent will follow the national competitive bidding (NCB) annex of the procurement plan (Appendix 9, Section 3), which summarizes the necessary modifications or clarifications to the Borrower's procedures to carry out NCB under ADB finance. Contracts for goods and services valued in excess of $0.5 million equivalent will be procured through ICB. Contracts for goods and services and training valued at less than $500,000 equivalent may follow NCB. Contracts valued at less than $100,000 equivalent may follow the shopping procedure. The relevant sections of ADB's *Anticorruption Policy* (1998, as amended to date) will be included in all documents during bidding and project implementation.

5. Advance Action and Retroactive Financing

59. Advance action is required to establish the PMO, including the hiring of a project director, deputy director for finance, and senior accountant. The Government was informed that ADB approval of advance contracting does not commit ADB to financing the Project. Advance action would enable the early preparation of draft documents for the contracting of services required under the Project and would require the Government to agree to finance the PMO and staff before project effectiveness. Once the grant becomes effective, up to 20% of grant proceeds may be used to retroactively finance eligible expenditures incurred, pursuant to advance contracting, during the period not exceeding 12 months prior to the signing of the financing agreement.

6. Consulting Services

60. The selection and engagement of consultants will be in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). The Project will provide 81 person-months of international consulting services and 186 person-months of national. Consultant firm recruitment will be based on a full technical proposal and quality- and cost-based selection weighted 90% technical and 10% price. Consultant inputs are outlined in

Appendix 10. The main consultant firm contract will be for technical and management consultants.

61. The Project will engage contract employees to manage and implement the Project. This will cover all PMO professional and support staff. In addition, the Project will provide strategic business process and capacity development for the counterpart department of MAIL, the private sector department, to facilitate implementation and skills transfer and enhance its capacity to deliver services after project completion. For these capacity-development inputs, MAIL will engage consultants, as required, to support project-related activities under individual contracts. The PMO will prepare the terms of reference for the proposed input and submit them to ADB for approval before starting selection and recruitment. For training, a number of small contracts will be undertaken under shopping and NCB.

7. Anticorruption Policy

62. ADB's *Anticorruption Policy* (1998, as amended to date) was explained to and discussed with the Government and Executing Agency. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the grant regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB to audit and examine the records and accounts of the implementing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the Project. The financial management capacity of the Executing Agency and Implementing Agency has been assessed as satisfactory. MAIL will establish eligibility criteria for people serving on bid evaluation committees and require their disclosure of any conflicts of interest. The Government will undertake necessary measures to publicly disclose project-related procurement actions such as information on adopted bidding procedures; specification of goods, works, and consulting services; participating bidders; and contract awards.

8. Disbursement Arrangements

63. The grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time). To expedite implementation of the Project through the timely release of funds, an imprest account will be established at a commercial bank acceptable to ADB for exclusive use by the PMO. The imprest account will be managed, replenished, and liquidated in accordance with ADB's *Loan Disbursement Handbook* and detailed arrangements agreed by the Government and ADB. The initial amount to be deposited in the imprest account will be the estimated expenditure to be funded from it in the first 6 months or 10% of the grant amount, whichever is less. ADB statement of expenditure procedures will be used for contracts valued at $100,000 or less. For consulting services, equipment, and civil works following ICB procedures, funds will be disbursed using the direct payment method. For contracts following NCB procedures and small expenditures related to PMO reimbursement, imprest fund procedures will be applied.

9. Accounting, Auditing, and Reporting

64. MAIL, through the PMO and MOCI's Raisin and Other Dried Fruit Export Institute, will prepare and maintain separate accounts for project-related disbursements that are acceptable to ADB and in accordance with the provisions of the financing agreement, the recommendations of the financial management assessment, and the *Guidelines for the Financial Governance and*

Management of Investment Projects Financed by ADB.[13] The PMO will consolidate these accounts and submit them to MAIL, which will review the consolidated accounts and, after auditing, submit them to MOF and ADB. MAIL will establish an audit-review process and commission financial and performance audits of the PMO by an audit agency in accordance with auditing standards acceptable to ADB. The audit report will include a separate opinion on the proper use of the imprest account and the statement of expenditure procedures. MAIL and MOCI project accounts, together with disbursement documents, will be audited annually by independent auditors acceptable to ADB and submitted to ADB in English within 6 months of the end of each fiscal year. MAIL and MOCI have been advised of ADB's requirement for the timely submission of audited project accounts and financial statements and the suspension of disbursements of the ADB loan in case of noncompliance.

65. MAIL, through the PMO, will submit quarterly and annual progress reports to ADB indicating progress made, problems encountered, steps taken to remedy the problems, and a program of activities, along with expected progress during the remainder of the implementation period. The MOCI project coordinator will submit a quarterly report on MOCI project activities in an agreed format to the PMO. The reports will incorporate project performance monitoring data and all relevant financial data and may include such other reports and information relating to the Project as ADB may reasonably request. The reports are to be submitted within 1 month after the end of the quarter to which they relate. The annual progress report is to include an annual benefit monitoring report. Within 3 months of project completion, MAIL will submit a project completion report to ADB, providing a detailed evaluation of project implementation and achievements, consultants' performance, social and economic impacts, and other details as requested by ADB. The responsibility for preparing these reports, accounts, and statements, and for ensuring that they are submitted in accordance with the agreed time frame, rests with the project director.

10. Project Performance Monitoring and Evaluation

66. To monitor the Project's progress in achieving the planned outputs and outcome, the PMO will establish within 6 months of loan effectiveness a comprehensive system for monitoring and evaluating project performance. A monitoring and evaluation unit will be established in the PMO to monitor project performance, including environmental, poverty, gender, and social impacts, as specified in the summary initial environmental examination (IEE) and the poverty, social, and gender assessment. The monitoring indicators in the project design and monitoring framework (Appendix 1) will form the core of the data required for assessment. For periodic monitoring, the PMO will confirm key indicators at project inception. The project performance monitoring system will be presented to the PSC for verification. Baseline data for the agreed indicators will be updated every 6 months. Within 12 months of loan effectiveness, the PMO will undertake implementation of the project gender action plan (GAP) and ensure that it is completed in a timely manner over the project period. The plan will enable the effective involvement of women in implementing, monitoring, and evaluating the Project. Gender-related indicators will be included in the system of monitoring and evaluating project performance and reported to ADB.

11. Project Review

67. In the first 3 years of the Project, ADB will carry out semiannual reviews to determine if all proposed implementation arrangements—in particular the contractual agreements for market

[13] ADB. 2002. *Guidelines for the Financial Governance and Management of Investment Projects Financed by ADB.* Manila.

infrastructure—are appropriate and in place and to assess the effectiveness of the monitoring systems. During the third year of the Project, the Government and ADB will jointly undertake a comprehensive midterm review to assess performance; identify problems and constraints affecting project implementation, including changes in the policy and institutional environment; assess options; and reach agreement on required changes to address any shortcomings. The project midterm review will incorporate any required changes in scope, activities, and associated financial reallocation. The Government will submit a project completion report within 3 months of the Project's closing.

IV. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS

A. Project Benefits

68. The project impact will be faster agricultural growth, thereby increasing the contribution of the sector to GDP growth and stimulating the rural economy. The project investments will reduce livestock and horticulture product-processing and postharvest losses, improve product quality and productivity, and increase returns and sales in export markets. Project investments will increase domestic consumption of selected horticulture and meat products. The major civil works investment is for the construction of two slaughterhouses in Kabul and three provincial ones, which will add value to the retail butcher value chain, improve the quality of meat products and hide and casing by-products, and have significant community public health benefits.

69. The infrastructure interventions to address horticulture product quality; reduce postharvest losses; and improve the grading, storage, and drying of products will involve strategic support through small-scale infrastructure investments in farmers' associations and other farmers' groups, which will boost the quality and volume for marketing. These facilities will be the focal point for improved postharvest technology and market support. It is anticipated that approximately 200 small-scale interventions will be supported across the seven regional project areas. This will mean that at least 8,000 producers will directly participate. This number is very conservative, given the larger number of producers linked to such facilities, replication effects, and the adoption of improved postharvest practices. Traders and processors will benefit from access to larger quantities of better-quality products, which will enable improved grading and product marketing to higher-value markets and value-adding activities.

70. Improved product quality and standards—and the strengthening of the enabling environment toward ensuring that Afghan products can be exported with valid, recognized product certification and standards—will help these products get improved grading and prices based on quality and will facilitate access to new, higher-value markets for exports.

1. Financial Analysis

71. **Investment in Market Infrastructure Facilities.** The financial analysis of the slaughterhouses is based on a representative modular unit, as a standard size is planned in the different locations. For the farm-level marketing facilities, representative market infrastructure investments have been prepared for four of the small-scale facilities (commodity collection, sorting, and grading centers; treatment facilities; packinghouses; and small cold storage facilities) to indicate the type of investment and the potential returns involved. In the models, lease payments are made by the enterprises undertaking long-term management, and all working capital is sourced from the enterprise. Based on commercial industry practice, enterprises would structure operations to keep working capital needs feasible, and pre-selling output and forward contracting with agents would offer potential to reduce them.

72. The slaughterhouse investments are financially viable, offering over 15 years a financial internal rate of return (FIRR) before financing of 20% and a financial net present value of $520,000 when discounted at the indicative commercial cost of capital of 15%. The results of the financial analysis for the four small-scale market facilities yield FIRRs ranging from 41% to 68%, which indicates financial viability. The enterprises with export potential have the opportunity for further increase returns over the base case FIRR, should the traders increase export sales of improved products or sales into new markets for a portion of the annual throughput above the estimated level. The enterprises will generate other unquantifiable benefits in terms of improved hygiene, food safety, and environmental management. More details are provided on the financial and economic analysis in Appendix 11 and Supplementary Appendix B.

2. Economic Analysis

73. The economic analysis is based on prices converted to their border equivalents by applying a standard conversion factor of 0.97 and, for consulting services, of 0.80. A shadow wage rate factor of 0.75 has been used in calculating the economic cost of civil works and the direct labor costs in slaughterhouses, reflecting demand for labor in the project area.

74. The project economic return is based on the with-project incremental economic return from improved slaughterhouses in terms of meat and by-product quality, and on commodity market facilities with reduced commodity losses and improved prices partly reflecting commodity quality improvements through better postharvest handling. The economic return is conservative, as it does not include the significant public health benefits from the hygienic slaughter of livestock in urban areas or the likely incremental returns from agribusiness market investments. The Project is economically viable with an economic internal rate of return of 29.5%.

B. Environmental Impact

75. An IEE conducted during project preparation confirms that the Project will have positive environmental impacts. A summary of the IEE is provided in Supplementary Appendix A. The proposed Project is classified as category B. In the slaughterhouses, wastewater management systems will be established as an integral aspect of their design and operation, with waste products to meet national and international standards, in line with ADB policy. Such regulations have yet to be established in Afghanistan.

C. Impact on Living Standards

76. Socioeconomic analysis based on a social assessment indicates that the Project will improve rural living standards by increasing employment opportunities in expanding agribusinesses for semiskilled and skilled workers, as well as by providing benefits at the production level through the adoption of improved harvest and postharvest practices and technologies that will improve productivity, quality, and market returns. These interventions will have a major social impact and reduce poverty.

77. In the targeted commodity chains of the Project, the interventions will improve marketing infrastructure and the operation of these facilities by farmers' and industry associations. Strengthened supply lines will facilitate expansion and the establishment of new trading and processing businesses. The proposed project interventions will help existing small-scale and cottage enterprises through replication and the adoption of improved practices. The summary poverty reduction and social strategy is in Appendix 12.

1. Gender and Development

78. Women are already heavily involved in agricultural production and processing and, to a lesser extent, in trading agricultural produce. The Project's strengthening of commodity value chains from the postharvest stage will create an opportunity to support women's producer associations interested in improving the quality of their produce, thereby enabling rural women to benefit. Women will benefit as employees in agribusinesses, entrepreneurs, and members of women's groups involved in production or supply.

79. Although reliable gender-disaggregated data is lacking, Afghanistan's gender indicators are very poor, as indicated by gender gaps in health, education, access to and control over resources, economic opportunities, justice, and political participation. Women are important economic actors, but there is limited data on their contribution and the role they play. While Afghanistan's constitution enshrines women's equality, progress toward this ideal will take time, given prevailing cultural, social, and religious sensitivities.

80. A project-specific GAP has been developed and will be revised during project implementation. A summarized version is in Appendix 13. The project GAP will ensure that a certain percentage of the stakeholders participating in project planning are women, as will be a certain percentage of the management staff of the Project and supporting institutions responsible for implementing the Project, and that women-headed households, associations, and businesses participate. The different groups will require different strategies and activities to get their involvement. A gender assessment will be conducted during monitoring and evaluation.

2. Land Acquisition and Resettlement

81. Project and construction activities will be undertaken on existing Government land in Kabul and the provinces. No land acquisition or resettlement will be necessary for the planned physical infrastructure under the Project, as slaughterhouses and small buildings will be built on Government land.

3. Project Impact on Indigenous Peoples

82. Afghanistan has several ethnic groups, but they participate equally in national socioeconomic processes. No vulnerable groups identifiable under the indigenous people definition of ADB's indigenous people's policy will be affected by the Project.

D. Risk Assessment

83. Security remains the single greatest risk affecting private business investment and project implementation. Changes in the security environment may affect proposed project activities in certain regions, implementation duration, and the ability of project staff and consultants to effectively undertake planned interventions. If increased security is required, it will have cost implications and affect the quality of the consultants prepared to participate in the Project. The Project will be flexible regarding geographic areas in case the security environment will not allow implementation. The Government will assist with any required security support. Producer and business investment and financial sector activity will be affected by these changes.

84. The Government is committed to the Project and to key policy reforms. This is required by the Project to improve product standards and product certification. Institutional capacity is a constraint, and the Project will provide strategic capacity building in the private sector

department of MAIL and consultant support to MAIL for project management and procurement. The Government's adoption of the planned public administration reforms is required. Project investments will support business development and result in a stronger private agribusiness sector. These networks and marketing channels have the ability to operate should the security environment change.

85. The project market infrastructure will make a big difference to producers and businesses. It will facilitate business development and the building of a stronger private agribusiness sector. One risk is the maintenance and repair of the facilities, particularly the horticulture facilities. Careful management and supervision by the private companies operating the slaughterhouses, and their eventual ownership of the assets, will mitigate most of the risk. For the farmer associations and cooperatives operating the small-scale horticulture facilities, careful management and supervision will mitigate some of this risk. While management support will be provided by the Project to build their capacity, the magnitude of the risk should not be underestimated.

V. ASSURANCES

A. Specific Assurances

86. The following assurances, in addition to the standard assurances, have been agreed with the Government and will be incorporated in the legal documents:

(i) Within 6 months of grant effectiveness, MAIL will put in place appropriate and adequate financial control and accounting systems, so that PMO can apply international accounting standards during project implementation.

(ii) With respect to the slaughterhouses and the market infrastructure facilities, MAIL will follow the selection criteria and approval procedures set forth.

(iii) MAIL will ensure that the terms and conditions for the transfer of ownership of the slaughterhouse facilities to the relevant private sector entities are agreed upon in advance with ADB, and that such transfer takes place in a timely manner on such terms and conditions.

(iv) Prior to commencement of any evaluation of bids and within 1 month of grant effectiveness, MAIL will have established eligibility criteria acceptable to ADB for persons serving on the bid tender committee, including but not limited to disclosure by such persons of any conflicts of interest. During the project implementation period, MOF and MAIL will disclose, on their websites and in at least one local newspaper, project-related procurement actions such as adopted bidding procedures, specifications of goods, works and consulting services, participating bidders, and awards of contracts.

(v) Prior to commencement of civil works for any market infrastructure facility, MAIL and the relevant party (e.g., farmers association or agricultural cooperatives) will have entered into a written agreement regarding respective responsibilities relating to construction, operation and maintenance of such facilities, including financing and any in-kind counterpart contributions.

(vi) MAIL will ensure that all civil works contracts contain provisions: (a) requiring contractors to comply with applicable workplace occupational safety norms and applicable labor laws, (b) prohibiting the use of child labor, and (c) ensuring that there is no differentiation in wages between men and women for the same work.

(vii) Within 24 months of grant effectiveness, the Government will ensure that (a) MAIL reviews existing quality standards and certification systems and prepares updates for such standards and systems, so that they are consistent with internationally recognized levels for fruit and vegetable commodities and products (e.g., Codex Alimentarius), and (b) the Afghanistan National Standardization Authority adopts such standards and certification systems within 24 months of grant effectiveness.

(viii) Within 24 months of grant effectiveness, MAIL will have prepared the Afghan agriculture sector inputs as required for Afghanistan's WTO accession process.

(ix) Within 24 months of grant effectiveness, MOCI will have approved improved laboratory procedures and management practices. Within 6 months after approval of such procedures and practices, MOCI will have provided the necessary training on such procedures and practices.

(x) MAIL will ensure that the Project is carried out in accordance with all applicable environmental laws and regulations, ADB's *Environment Policy* (2002), and initial environment examination.

(xi) The Government will ensure that the carrying out of the Project will not involve any land acquisition or resettlement of persons, and will not have any adverse impact on indigenous peoples.

(xii) MAIL will ensure that the gender action plan is implemented in a timely manner over the entire project implementation period, and that adequate resources are allocated for this purpose.

(xiii) The Government will exercise its best efforts to provide adequate security for the smooth and uninterrupted implementation of the Project. In addition, for each civil works contract, the Government will ensure that an action plan for adequate security and smooth and uninterrupted implementation of the Project is prepared, the cost of implementing such a plan is included in the budget for civil works, and such plan is fully implemented.

B. Conditions for Grant Effectiveness

(i) The PMO shall have been established with a project director and a finance administration manager acceptable to ADB.

(ii) The Government shall have established the project steering committee to be chaired by the Minister of Agriculture, Irrigation and Livestock or his designate and with representatives from MOCI, MOF, and the private sector.

VI. RECOMMENDATION

87. I am satisfied that the proposed grant would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the grant not exceeding $30,000,000 to the Islamic Republic of Afghanistan from ADB's Special Funds resources, for the Agriculture Market Infrastructure Project, on terms and conditions that are substantially in accordance with those set forth in the draft Grant Agreement presented to the Board.

Haruhiko Kuroda
President

29 October 2008

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
Impact Agricultural growth increased	 Agriculture's contribution to gross domestic product (GDP) increased by 2% by 2013	 Government's national statistics Project completion report	**Assumptions** • Government policies continue to support private sector-led economic growth • Government and other sector projects achieve expected outcomes
Outcome More efficient horticulture and livestock agribusiness industries	 Increased value of horticulture commodities (export and domestic) by 7% by 2013 7% increase in domestic consumption of horticulture products by 2013 Increased consumption of hygienically slaughtered meat in Kabul and major provincial cities by at least 15% by 2013 Increased value of livestock by-products (hides and casings) by 7% by 2013	 Government statistics, agribusiness surveys, and reports Ministry of Commerce and Industries (MOCI) trade statistics Project monitoring system Export Promotion Agency of Afghanistan reports Ministry of Agriculture, Irrigation, and Livestock (MAIL) agricultural commodity statistics	**Assumptions** • Government policies support agribusiness development • Expansion in rural finance **Risk** • Unstable security conditions
Outputs 1. Improved marketing infrastructure 1.1 Slaughterhouses constructed and operational	 Five slaughterhouses constructed—2 in Kabul and 3 in provincial cities—by 2012 Management contracts with private entities signed and implemented by beginning 2011 Throughput of at least 3,000 head of large ruminants and 15,000 head of small ruminants per slaughterhouse realized at full capacity by 2013	 Project monitoring system Project records on infrastructure facilities Progress reports Enterprise records	**Assumptions** • Financial institutions are able to meet increased demand for agribusiness equipment investments and working capital • Operators of slaughterhouses and small-scale market facilities maintain them in good working condition

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
	Reduced urban waste from animal slaughter by at least 20% by 2012	Project monitoring records	**Risks** • Adverse seasonal conditions affect agricultural commodity supply • Slow progress on simplifying trade and nontrade barriers in neighboring countries
1.2 Farm-level collection and marketing facilities set up and operational	About 200 farmer market facilities[a] constructed and operational by 2013 (collection centers; packing houses; and cold storage, drying, and processing facilities) Farmers' associations and groups, including women's producer associations, manage the facilities efficiently	Association business records and accounts	
1.3 Product standard laboratories established and operational	MOCI dried fruit and nut testing laboratories internationally accredited by 2012	MOCI fruit and nut testing lab accreditation certificates	
2. Effective project management and capacity support	**Project Management:** Project management office (PMO) functional by first 6 months of Project Project reports submitted on time according to ADB standards Timely mobilization and coordination of project resources **Technical Capacity Support:** **Farm Market Infrastructure** Selection criteria developed and standard designs approved by mid-2009. At least 200 targeted market facility users (traders, processors, exporters, suppliers), including women, trained in market opportunities, product quality, management, and marketing practices by 2011	Project monitoring and evaluation system, which will include gender-disaggregated data on beneficiaries ADB review missions Project progress reports, quarterly and annual Project records and infrastructure designs Project monitoring systems Training needs assessment	**Assumptions** • Livestock commodity grades and standards are prepared with the support of other development partners • World Trade Organization (WTO) accession remains a priority of the Government. • Trained laboratory technicians are retained **Risks** • Delays in meeting grant effectiveness conditions • Delays in obtaining procurement approvals

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
	Product Standards: MAIL establishes agricultural product grades for priority commodity value chains, and Afghanistan National Standardization Authority (ANSA) establishes with MAIL's assistance agricultural product standards that are consistent with Codex Alimentarius by 2011 MAIL's Afghan agricultural policy developed by 2010 as input into WTO accession process All MOCI laboratory technicians in Kabul, Kandahar, and Mazar-e-Sharif laboratories trained in improved laboratory procedures and laboratory management practices by 2011	ANSA documentation ANSA technical committee meeting minutes	

Activities with Milestones	Inputs
1. Improved agricultural marketing infrastructure **1.1 Slaughterhouses contract package** 1.1.1 Prepare tender documents (year 1) 1.1.2 Evaluate bids (year 1) 1.1.3 Award contract (year 1) 1.1.4 Construct slaughterhouses (year 2-4) 1.1.5 Undertake oversight of slaughterhouse construction (year 1 onwards) **1.2 Farm collection and marketing infrastructure contract package** 1.2.1 Prepare tender documents (year 1) 1.2.2 Evaluate bids (year 2) 1.2.3 Award contract (year 2) 1.2.4 Undertake contract for small scale infrastructure (year 2 onwards). 1.2.5 Undertake oversight of small scale infrastructure construction (year 2 onwards) **1.3 Product Standards Laboratories, MOCI** 1.3.1 Prepare laboratory equipment specifications (year 2) 1.3.2 Prepare tender documents (year 2) 1.3.3 Evaluate bids (year 2) 1.3.4 Procure and install equipment (year 2) 1.3.5 Implement procedures for international accreditation (start in year 2; need 3 years of operation before accreditation)	**Inputs** • ADB $30.0 million • Government $1.0 million

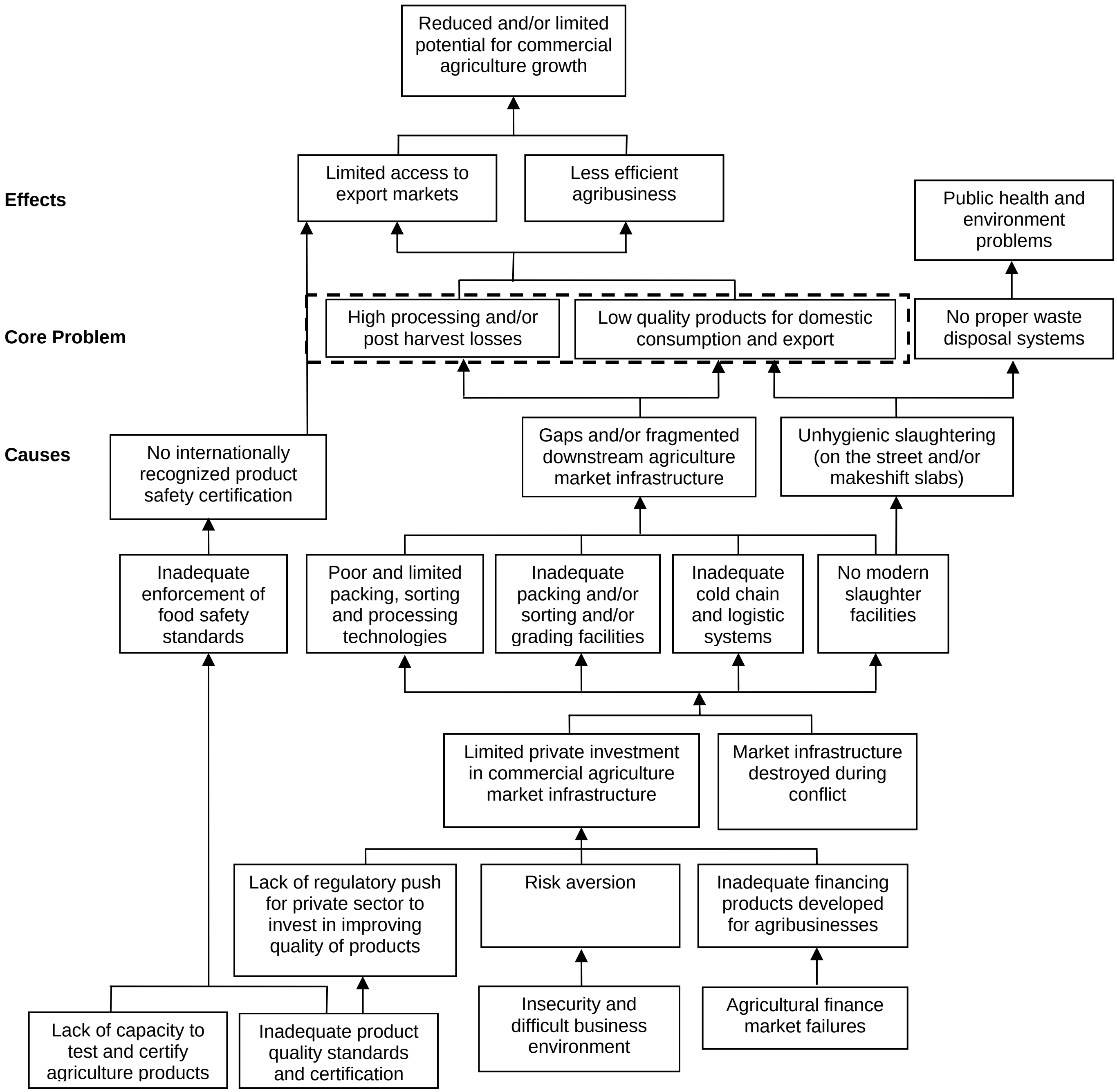
2. Project Management and Capacity Support **2.1 Project Management** 2.1.1 Project director appointed by MAIL (start year 1) 2.1.2 Project staff appointed to PMO by MAIL (early year 1) 2.1.3 Equipment for PMO procured and installed (mid-year 1) 2.1.4 Establish MAIL project tender committee (early year 1) 2.1.5 Establish project steering committee (mid-year 1) 2.1.6 Mobilize international and domestic project consultants (mid-year 1 onwards). 2.1.7 Undertake baseline survey (mid-year 1) 2.1.8 Prepare annual work plans (yearly) 2.1.9 Carry out midterm and completion evaluations and semiannual ADB review missions (continuous) **2.2-2.5 Technical Capacity Support** **2.2 Farm Market Infrastructure** 2.2.1 Update commodity value chain gap assessment (year 1) 2.2.2 Evaluate priority needs for small-scale infrastructure, technology support, and training (year 1) 2.2.3 Prepare selection criteria 2.2.4 Develop standard infrastructure designs (year 1) 2.2.5 Undertake selection (year 1) 2.2.6 Train agribusinesses, traders, marketers and MAIL in targeted commodities in market and product management (year 2) **2.3-2.5 Product Standards Development** **2.3 MAIL** 2.3.1 Assist MAIL in establishing policies, grades, and standards for Project's targeted commodities (years 1–2) 2.3.2 Strengthen MAIL capacity in implementing SPS policy and regulatory issues for priority value chains (mid-year 1 to end of project) 2.3.3 Prepare laboratory system design and specification (year 2) **2.4 MOCI** 2.4.1 Design and implement improved lab system management (year 2) 2.4.2 Undertake laboratory technical training (year 2) **2.5 WTO accession** 2.5.1 Assist MAIL and MOCI in integrating the agriculture sector's needs and special considerations on sensitive products into the WTO accession process (year 1)	

ADB = Asian Development Bank, ANSA = Afghanistan National Standardization Authority, MAIL = Ministry of Agriculture, Irrigation and Livestock, MOCI = Ministry of Commerce and Industries, PMO = project management office, SPS = sanitary and phytosanitary, WTO = World Trade Organization.

[a] Mix of facilities is demand-driven and the actual breakdown of the facilities will be determined in 2009.

Source: ADB staff estimates.

PROBLEM TREE ANALYSIS



Source: Asian Development Bank staff.

SECTOR AND SUBSECTOR ANALYSIS

A. Introduction

1. In Afghanistan, commercial agriculture and rural enterprise development is the key economic driver for sustainable economic growth and employment generation and improved livelihoods for large numbers of people in rural areas. With agriculture accounting for half of the country's gross domestic product (GDP), developing commercial agriculture and building on the traditional commodity value chains in which Afghanistan has a comparative advantage will support economic growth and provide legal alternatives to opium poppy production. The rural economy is the major source of employment and income for most Afghans, as nearly 80% of the population, or 19 million people, live in impoverished rural areas. Rural economic growth—in agricultural production, diversification, and value addition—is essential for any sustained improvement in livelihoods. In 2005/2006, a year affected by drought, agriculture—including cereal crops, horticulture, and livestock but excluding opium—was the largest legal domestic source of income, accounting for approximately 37% of the GDP.

2. While wheat is the major agriculture output, accounting for over two thirds of the cultivated area and for 80% of the cereal area, it is typically a subsistence crop. About 40% of cereal area is rain fed, and 60% receives some irrigation. Afghan commercial agriculture has traditionally produced significantly high-value horticultural and livestock products for domestic and export markets. It had a comparative advantage in these commodities. In the late 1970s, Afghanistan supplied 20% of the global market for raisins, dominated the world pistachio market, and regionally exported livestock and wool products. During the long period of conflict and severe drought in the late 1990s, the production base for these commodities was severely damaged. Combined with the loss of irrigation infrastructure and technical and market support, this reduced the productivity of most agricultural commodities and created high postharvest losses of 30%–40%.

3. Since 2001, a number of projects have supported reestablishing the horticulture and livestock subsector with large investments in irrigation rehabilitation and technical, production, and some market support. Livestock numbers have increased, and horticulture area and production is expanding, with new plantings estimated at 12,000 hectares (ha) per year. These commercial agricultural activities will further grow with improved access to irrigation following recent investments in irrigation projects. In 2006, exports of fruit were $70 million and of dried fruits and nuts $110 million. Livestock product exports are also expanding. In 2007, the estimated value added by small and mechanized agribusinesses was over $500 million.

4. Slaughterhouses were destroyed during the conflict, and almost all livestock slaughtering is now undertaken in urban backyards and streets and in rural areas, which harms product quality and endangers public health. Approximately 240,000 cattle and buffalo are slaughtered per year in Kabul, out of the total 1 million slaughtered in the country, and 1 million sheep and goats are slaughtered annually in Kabul, out of the country kill of 5 million.

5. The potential to expand commercial agriculture in terms of volume, quality, and value added, starting at the production base, exists in the markets in which Afghanistan has a comparative advantage for domestic production and import substitution, as well as in the expansion of exports. While existing projects have focused on the production base in horticulture and livestock in some regional areas, a key priority is to complement these activities with a focus on strengthening postharvest standards and commercial agriculture development.

6. The informal sector dominates in agriculture, as in the broader economy. Addressing constraints that limit movement from the informal to the formal economy is critical in an environment of weak regulatory processes, poor infrastructure, limited access to finance, and security issues. This shift will be essential if the economy is to generate sustainable medium-term growth and increase employment, productivity, and government revenue.

7. Afghan agribusinesses and enterprises—covering production, processing, distribution, marketing, manufacturing, and services—provide some level of mechanization and scale in processing raisins, nut shelling, sorting and packing, drying vegetables, ginning cotton, cleaning grain seed, and milling wheat. For the remaining commodities, agribusiness enterprises in fresh fruit sorting and packing; dried fruit processing; dairy; wool spinning; carpet weaving, cutting, and washing; butchering; and hide and skin tanning have tended to operate as cottage industries using traditional technologies and producing products of lower quality and price. In terms of export commodities, quality and traceability issues constrain access and growth.

8. While there has been the establishment and growth of agribusinesses, the existing ones generally use low technology and add little value. There is significant potential for existing small agribusinesses to expand to meet growing domestic demand for value-added products and into export markets. Such development and expansion is constrained by limited market access, poor quality and volume of production, high investment risk, a weak enabling environment, limited access to finance for lack of financial sector coverage and capacity to invest, ineffectual technical and management support services, and limited access to market information and public–private support services. Interventions to mitigate these constraints will bring higher prices and returns for agribusinesses and the rural economy.

B. Government Strategy

9. The Government agricultural sector master plan details opportunities for growth and value addition in the core horticulture and livestock subsector and the need to develop a market-based regulatory environment with access to inputs, services, and markets. MAIL is establishing the regulatory environment and building its capacity to undertake the required certification and product quality assessment. It has removed previous barriers to private enterprise. The ADB country strategy and program[1] sector road map supports the Government agenda.

10. The weak institutional and enabling regulatory environment, which lacks legislation in the form of a leasing and secure transactions law, regulations, product standards, quality assurance systems, or a trade policy, is an issue. The provision of public and private support services from the relevant government ministries, chambers of commerce and industry, business development and technical service providers, and agribusiness associations is weak, which limits agribusinesses' access to improved technologies and vital business planning and management skills and their ability to improve product quality and organize themselves in more competitive, integrated industries.

C. Horticulture Subsector

11. Traditional horticulture crops of dried fruits and nuts and fresh fruits and vegetables have played a dominant role in Afghanistan's exports, accounting in 1979 for approximately $230 million in exports. The horticulture area has expanded since 2001 and, in 2005, totaled approximately 122,000 ha. Perennial nut crops totaled 12,000 ha and fruit 106,000 ha, of which

[1] ADB. 2005. *Country Strategy and Program (2006–2008): Afghanistan.* Manila.

grapes accounted for 58,000 ha, apricots 8,000 ha, berries 9,000 ha, and figs 7,000 ha. Nurseries' current sales of nut and fruit seedlings indicate area expansion of 12,000 ha per year. This, combined with improved irrigation, will bring rapid expansion in production volume and of the opportunity and need to support commercial market development and quality production.

12. Domestic demand for fresh fruits and vegetables and key commodities is strong, as is export demand. In 2006, the value of exports was $70 million for fresh fruits and $111 million for dried fruits and nuts. Experts have estimated that, if productivity and quality can be improved, the sector can contribute $1.5 billion in exports in 10 years.[2] The Government's lower target is $250 million by 2015. Achieving these outcomes will require improved harvest and postharvest practices; infrastructure investment in storage, packing and cold storage, processing, and product quality; improved planting material; and better access to technology and management services. The small-scale farmers that dominate production will benefit from establishing and strengthening farmers' groups which will improve market opportunities.

13. **Almond Value Chain.** Exports of almonds in 2005 were 11,000 tons, out of total production of 39,000 tons from an area of 12,000 ha. Market demand is increasing domestically, in traditional importing countries such as India and Pakistan, and in new markets. India is the key buyer of soft-shelled almonds and the highest-quality kernels. Pakistani demand is more for the second-quality kernels for their confectionary industry. Smaller markets are in the Middle East. Traders indicate that 2% of almonds of the hard-shelled varieties are bitter, which is an issue in international markets but to date has not affected the Indian market.

14. Almond trading centers in Kabul, Kandahar, Kunduz, and Mazar are also used for trading other types of nuts and dried fruit, as well as for export. Kabul is the major trading marketplace, and traders indicate that they export almonds in a ratio of two to one in shells and as kernels. Farmers sell through traditional market systems to local markets and field agents for traders without doing much if any grading and sorting. Key issues are bitter taste, immature kernels, and high moisture content. Generally, traders are interested in buying almonds from district traders or farmers, repackaging, and shipping. By so doing, they add little value.

15. Limited processing is currently undertaken. Three almond-cracking plants have been acquired but are not operational or are being modified for local conditions such as variable size before coming into production. As their stated capacity is 600 tons per year, even when these three plants are in operation, there will still be a lot of unmet demand. It would take a further 16 such plants to shell 30% of production. The Dried Fruit Processing Association in Mazar has taken delivery of a processing plant to add value by mechanically shelling and manually sorting the nuts. The association intends to hire in management and marketing expertise to run the business in their new factory. A plant has also been acquired in Kandahar.

16. The lack of grading and sorting machinery constrains the industry from achieving better efficiency, maintaining hygienic standards, or reaching the product quality required in export markets where product certification is necessary. Links between producer associations and trader associations needs to be strengthened so that traders can provide better market feedback to growers in terms of quality. Growers also need quality inputs and improved technology. Packing systems need to be improved, to reduce damage during transport to market. Existing testing laboratories are limited, and the certification they provide does not carry international credibility. Forming and strengthening producer associations would be one way for

[2] The OTF Group. 2006. *Strategy and Action Plan for Afghanistan's Dried Fruit and Nuts Cluster*. USAID.

producers to improve product volume and quality and provide direct market opportunities with traders.

17. **Pistachio Value Chain.** Until the 1980s, wild pistachios were a major agricultural export. Pistachios were harvested from natural pistachio forests located mostly in the Herat region, which operated under government- and community-based management systems. These forests were damaged during the conflict, with more than half of the trees estimated to have been lost. In 2005, the harvest was estimated at 23,000 tons, which had an in-shell value of $12 million.

18. Afghanistan has comparative advantages in pistachio production and a product preferred in India. The potential for pistachio production in Afghanistan is enormous, with world demand increasing faster than supply. Iran alone supplies more than 66% of world demand, but production conditions are declining due to salinity and irrigation problems. The current lack of management of these forests is resulting in early harvesting of pistachios by households, which reduces yield, and the product is sold as a whole nut to traders, wholesalers, or directly to large trading houses in Herat. The traders have the nuts shelled by households, sorted, graded, and packed for export to India, Pakistan, and the Middle East. Scope exists to mechanize processing similar to that for almonds.

19. **Raisin Value Chain.** Raisins are one the largest and most important horticultural crop in Afghanistan, where they are a by-product of fresh grape production. This is in contrast to raisin production in developed countries, especially in dominant California, where fresh grapes and raisins are two different crops with very different production and marketing strategies. While grapes are grown in almost all regions of Afghanistan, certain areas such as the southern provinces and Ghazni have reputations for producing better-quality products, and the regional varieties *shindukhani*, *geerduk*, and *taifee* are in demand in certain export markets. During the 1960s and 1970s, raisin exports from Afghanistan supplied 60% of the world market.

20. Domestic and export demand has increased, and the various raisin products have different destinations. *Kishmish*, the green raisin dried in the shade, is a more valuable product than *aftabi*, which is the sun-dried black or red raisin. *Kishmish* is sold almost entirely in India and Pakistan. *Aftabi* is also sold in South Asia, but its main markets are in Europe and the former Soviet Union. The harvest and sale of the fresh grapes removes about 30%–40% of the crop from the orchard, and the harvest and hanging of the other grapes for *kishmish* production removes a similar portion. Thus about 20%–30% of the crop remains—the poorest quality—and this is the fruit from which the sun-dried *aftabi* raisin is prepared. These grapes are dried on any available surface with minimum inputs and are not generally of good quality. The drying technique almost guarantees that they will not compete with the higher-quality Californian or comparable sun-dried raisins. They require double washing and careful hand sorting to render them acceptable for a discriminating developed market.

21. Raisin producers either sell at harvest at low prices or store the crop for later sale. Producers most commonly sell at local markets in 50–100 kilogram consignments to traders, but some sell to field agents at the farm gate or to wholesale markets, if such outlets are close. Local markets operate with small consignments, but when purchasers want large volumes the price can be volatile. As selling is done by individual producers, their bargaining power is low, and the industry fails to expand as it is difficult for traders to acquire large volumes. Strengthening farmers' associations would enable producers to improve postharvest practices, collect larger volumes, and negotiate contracts with buyers that would lower marketing costs.

22. Traders and exporters undertake limited grading, sorting, packing, and processing prior to sale. There is relatively little processing of green *kishmish*, which cannot easily be washed without damaging the quality. In the wholesale markets, the product is usually sorted into different quality grades based on shape, size, and color. *Aftabi* for export undergo factory processing, but only for certain markets. Raisins that are exported to Dubai or Pakistan often do not undergo factory processing in Afghanistan, as they are often double washed in factories at their destination. While there used to be at least 31 raisin-processing factories in Afghanistan, few of these survived the conflict. Approximately 13 processing plants currently operate, using American processing lines that are over 30 years old. After the mechanical processing, manual sorting occurs. The raisins are then boxed for export. The quality of the processing and packing is generally poor. Consignments for European and increasingly Russian markets are often double washed, processed, and manually sorted to make sure all capstems are removed. Lengthy transit times from Afghanistan to the port of Karachi and delays damage the product and worsen losses.

23. **Fresh Grape Value Chain.** Grape area is expanding. In 2005, an area of 58,000 ha produced 400,000 tons, making grape the largest horticultural product in Afghanistan.

24. **Local Marketing of Fresh Grapes.** The producer decides the allocation of the crop between fresh grape and shade-dried *kishmish* based on price differentials, provided that he or she owns a *kishmish khana* in which grapes can be shade-dried. The remainder will be sun-dried raisins. Most grape growers currently use contractors to harvest fresh grapes, though they themselves harvest and process the grapes they keep for raisin production. Fresh fruit demands immediate marketing within a week of harvesting, and farmers currently rely on traders for packing and market connections. The farmer will agree to sell about 30%–40% of his or her crop fresh to the harvesting contractor. Payment to the producer is split, with 30% of the estimated value of the crop paid at the time of the deal, another 30% paid halfway through the harvest, and the final 40% paid at the end of the harvest. It is common for the contractor to delay payment; misrepresent the weight of the grapes harvested; attempt to renegotiate the deal halfway through, claiming bad market conditions; or simply not pay for a portion of the grapes harvested. Few growers see these arrangements as ideal, but options are limited unless farmers' groups develop to strengthen their marketing position.

25. Exports to Pakistan are mostly through wholesale market auctions, but some negotiated sales go directly through commission agents to retailers. In India, traders and exporters seek priced contracts, including cost insurance and freight, with importers or, as currently is being piloted, contract sale to supermarket chains in India. With few cold chains in operation, the sale needs to occur quickly. Small volumes are currently exported using cold chains. A limited number of farmer marketing associations and cooperatives exist, and growers need a real incentive in the form of increased returns to use value-increasing horticultural techniques, such as girdling, bunch-thinning, or crop thinning, to improve quality.

26. Key issues affecting value chain performance stem from production, with producers not differentiating between fresh grapes and raisins; producers generally having limited knowledge of the quality requirements of the market, which affects picking, sorting, and packing; water scarcities affecting production; access to and the adoption of new technologies and improved varieties constrained; and postharvest handling poor, with very limited access to cold storage or shipping freshly harvested grapes.

27. **Pomegranate Value Chain.** Afghanistan is a traditional cultivator of pomegranates and is known for the excellent quality of its native varieties, in particular in Balkh, Kandahar, Kapisa,

and Samangan provinces. Estimates in 2007 indicated the area under pomegranate orchards at 5,700 ha, producing 99,000 tons of fruit. The value of the output of these orchards was $30 million, equal to that of apricots. Iran is currently the leading world producer, at 670,000 tons. With regional and international demand increasing, prices have risen. There is scope for significant expansion in domestic consumption, exports, and returns once constraints are overcome. Improved technology and postharvest handling and the use of refrigeration for transport on the ground and by air will improve quality and returns and enable expansion beyond existing markets.

28. **Apricot Value Chain.** Afghanistan has a long history of producing and exporting apricots, both fresh and dried. In 2005, the production of fresh apricots was estimated at 100,000 tons, and of dried apricots 66,000 tons. Since 2001, area and production have increased, and domestic consumption and exports are again expanding. Pakistan is the main trading partner for stone fruits (including apricots in the Peshawar market), watermelons, and apples. Afghanistan exports dried fruits through the Central Asian republics, Iran, and Pakistan to markets in India, the Middle East, and the Russian Federation. Limited access to improved technology and inputs, low productivity, poor harvest and postharvest management, the lack of certification, and limited refrigerated transport by road or air depress product quality and price and market expansion. Market channels are similar to those of other horticultural commodities.

29. **Apple Value Chain.** Apple production is expanding. In 2005 it was approximately 570,000 tons, focused on meeting domestic demand. Competition in the market from fruits imported from Iran and Pakistan provides an opportunity for import substitution. Estimates are that 10,000 tons were exported to Pakistan. The challenges for the value chain are similar to those for apricots, except that the target market is domestic. Key issues are low productivity, high harvest and postharvest losses of 40%, poor packing and grading, and the lack of cold storage.

D. Livestock Subsector

30. Livestock plays a part in all farming systems of Afghanistan, where agricultural and pasture areas account for 45% of land area. Livestock numbers fell dramatically from the late 1970s to the late 1990s because of war, prolonged drought, and the collapse of veterinary care and services. This decline in livestock numbers has left Afghanistan short of milk, red meat, chicken meat, eggs, and wool, fueling the substantial import of live animals and products of animal origin. Most inedible products are exported after first-stage processing—such as salting and washing skins, hides and intestines and dehairing for cashmere—or without any processing at all. Current agribusiness added value to Afghan livestock products is very limited. There are a few wool-spinning factories, but most processing of products of animal origin is still a cottage industry.

31. Official livestock numbers are indicative only (FAO 2003 census), with estimates for cattle at 4 million, sheep 9 million (half of the census number in the 1980s to early 1990s, which was 19 million), goats 7.3 million, and poultry 12 million.[3] These are considered underestimates, as the livestock of nomadic *kuchis* was largely not included. Over time, with improved rainfall and fodder production, and with further development in animal production and veterinary service delivery systems, the livestock population is expected to rise. It is estimated that this development will take 10 years for small ruminants and 20 years for large ones. The country's

[3] Food and Agriculture Organization of the United Nations. 2003. *Afghanistan National Livestock Census*. Rome.

border, veterinary, and sanitary inspection services are not able to keep track of the movement of livestock imports or of their quality or health status.

32. Interventions to address constraints in the livestock value chain should (i) increase livestock production that is competitive with imports and improve the quality of livestock products through compliance with food safety requirements; (ii) remove bottlenecks for developing livestock agribusiness so that livestock agribusinesses in Pakistan return to Afghanistan and add more value to products locally; (iii) build up supply channels and/or a production base for such necessary inputs as stock feeds, parent stock, hatchlings, and vaccines; and (iv) set up milk-collection centers, dairy plants for processing local milk, improved livestock markets, slaughterhouses, tanneries, and casing-preparation plants with European Union licenses for aggregation and processing.

33. **Red Meat Value Chain.** The red meat value chain includes cattle, buffaloes, goats, and sheep. All major cities are supplied with live animals from the rural areas and imports from Pakistan. Estimates are that at least 90,000 buffaloes are slaughtered per year in Kabul (based on averaging butchers' association and skin and hides' association estimates) and 180,000 buffaloes are slaughtered in the whole country. The total number of cattle slaughtered is estimated at 800,000 for the whole country (approximately 40% local) and 150,000 for Kabul city. About 1 million small ruminants are slaughtered in the Kabul market, and 5 million are slaughtered in the whole country.

34. **Livestock Marketing.** Basic livestock markets exist in all major towns. In Kabul there are four markets, two large ones for butchers and other wholesalers and two smaller markets for retail to consumers. Livestock traders are organized in associations and have committees with a director working as a broker between butchers and traders. The common practice is that most traders take the animals from the villages with payment made after the sale of the livestock. Of the total number of animals sold on the market, at least 60% are sold on credit to butchers, with the butcher having a maximum of 7 days to pay.

35. **Slaughterhouses.** The only proper slaughterhouse in Kabul is owned by the Ministry of Defense, with small-scale and basic slabs-type slaughtering facilities being built or considered in Ghazni, Jalalabad, and Kunduz. The situation in respect to slaughtering in Kabul and other cities is poor for the quality of the meat and the by-products and for protecting public health. Animals are slaughtered near livestock markets in backyards, and carcasses are transported in and the open, exposed to the elements. As there is no provision for hanging carcasses, often requiring that skinning take place on the ground, skins often suffer more damage than they would if they were hung.

36. **Hides, Skins, and Casings.** Hides and skins have always been important exports for Afghanistan. Most hides and skins are collected, salted, and exported to Pakistan for further processing. However, there has been little or no investment in maintaining the hides and skins in the process, and only a few companies with limited capacity add value to them. The four major hide and skin collection centers in Kabul are situated in the center of town, posing health and environmental threats. Casings, or intestines, from sheep and goats are collected by trader associations and exported to Pakistan, where they are further cleaned, graded, processed, and exported. The Western European market is particularly important for casings, which must meet stringent European Union standards.

37. **Wool and Carpet Value Chain.** Ghazni wool, from white, fat-tail sheep around Ghazni, is important for the carpet industry. The wool fetches a premium price because of its excellence

as carpet wool. Wool traders situated in different towns are usually small-scale entrepreneurs using limited working capital to purchase and store wool. They typically purchase between 5 and 10 tons of wool, which is contracted to local women to spin. Pakistani and Afghan wool traders in Pakistan compete for this wool, which is spun in Pakistan. Afghanistan's wool requirements can be only partly satisfied with local wool. Wool traders estimate that only 40% of all wool used is local, with the rest imported from Iran, Iraq, New Zealand, and Saudi Arabia.

38. **Carpets.** While Afghan carpets are the largest export product from Afghanistan, it is difficult to get an accurate estimate of the scale of carpet production in Afghanistan. The Export Promotion Agency of Afghanistan estimates production to be about 2 million carpets annually. As the average carpet measures 3.2 square meters, this equates to 6.4 million square meters of carpet. Industry estimates indicate that this would be a conservative figure. Afghan carpets are in demand internationally, and the industry needs to maintain and improve quality and promote them in export markets to strengthen Afghan branding. Currently 80% to 95% of carpets are finished in Pakistan and re-exported as Pakistani carpets. Official estimates are that $176 million worth of carpets were exported through formal channels in 2006. Considering industry estimates of production and informal trade, the value of exported carpets is likely double the official figure.

39. The carpet value chain is based around four main centers: Andkhoy, Herat, Kabul, and Mazar. The carpet companies and associations of which they are members operate by providing such inputs as wool, designs, advance payment, and looms for rent and sale to household weavers. Or, in some cases, the companies provide only the design, and the weavers provide other inputs. When carpets are finished and graded, payment is made. The industry is based on weavers, mostly women, working at home. Clusters of production exist in many parts of the country. Pakistan is closely involved in the production of carpets, including the provision of capital and designs and washing and cutting before export to Europe or the United States. Opportunities exist to add more value in Afghanistan, but this will require access to such inputs as wool, finance, quality chemicals, and cutting and washing facilities. A new cutting and washing facility is currently planned in Jalalabad. Facilitating this value addition will require improved raw material and wool treatment; training for weavers; more secure transport; and access to international markets, finance, and other inputs.

40. **Cashmere.** As Afghanistan has 8 million goats, cashmere is a resource to be developed. Traditional cashmere collection and processing was and still is common in Badakhshan and Hazarajat, though producers operated during the conflict with a domestic focus. Improved harvesting and processing techniques need to be adopted. The main center for the cashmere trade in Afghanistan is Herat, with export via Iran to either the People's Republic of China or Europe.

41. **Dairy.** Afghanistan is a large net importer of milk powder and other dairy products. As there are an estimated 4 million local cows, milk is already used as feed for calves, for family consumption, and, to a limited extent, for sale in processed form. A significant increase in milk production through increased productivity and increased numbers of cows would be required for a milk surplus to be generated that could be used for processing and thereby substituting for the large quantity of imported dairy products. Dairy projects are being developed and considered in different parts of the country.

E. Sector Potential

42. Across the seven agro-ecological zones represented by the major regional centers of Gardez, Herat, Jalalabad, Kabul, Kandahar, Kunduz, and Mazar, the opportunity exists for some regional specialization. Such pilot innovations as farmers' association cold stores, storage, and export marketing in some development partners' projects indicate that opportunities exist for further market development. It is essential to use an approach focusing on the critical gaps from production to market, developing distribution infrastructure. This will require both small and larger-scale infrastructure. The type of infrastructure is expected to range from producers' and farmers' associations' collection and packing houses, drying facilities, small cold storage facilities, and logistical support to larger market infrastructure such as slaughterhouses and wholesale markets. Feasibility assessment and strategic public–private partnerships will need to be undertaken to address these gaps that affect efficiency, transaction costs, and returns.

43. The level of agribusiness expansion in each of the agro-ecological regions will depend upon existing enterprise scale and market potential for growth. For the raisin industry, it could entail a focus on Kandahar, the Shomali Plains, and Mazar, where the majority of the grapes are produced and where the 13 existing raisin-processing plants are located. For the nut industry, focus could fall on the main production regions including Kabul-Parwan, Balkh-Samangan, and Kandahar-Zabul and across regions in targeted small-scale infrastructure investment, technology transfer, and improved practices to improve harvest and postharvest handling and storage to reduce losses and increase sales of fresh fruits, dried fruits, and nuts. The installation of slaughterhouses in Kabul and regional centers would centralize livestock slaughtering and improve the efficiency and cost effectiveness of meat and by-product processing and marketing. Profits from carpets could follow increased Afghan trader purchases of Ghazni wool, with processing and the expansion of the carpet industry in the key production centers of Faryab, Kabul, Kunduz, Herat, and Mazar, as well as clearer Afghan branding of carpets in international markets.

EXTERNAL ASSISTANCE

Project Title	Duration	Implementing Agency	Development Partners	Approximate Amount ($ million)
Agriculture Sector Program Loan	2004–2014	MAIL	ADB	55.0
Rural Business Support Project	2007–2010	MAIL	ADB	18.0
Support to Strategic Planning for Sustainable Rural Livelihoods	2003–2009	MAIL and MRRD	DFID	8.0
Helmand Agriculture and Rural Development Program	2006–2009	MRRD	DFID	60.0
Perennial Horticulture Development Project	2006–2010	MAIL	EC	16.0
Afghanistan Seed Industry Development Project	2006–2011	MAIL	EC	12.8
Animal Health Development Project	2006–2010	MAIL	EC	11.1
Northern Economic Infrastructure Development Program	2008–2011	Ministry of Public Works	German Financial Cooperation	30.0
Accelerating Sustainable Agriculture Program	2006–2009	MAIL	USAID	70.0
Alternative Livelihoods Project	2004–2009		USAID	475.0
Afghanistan Small and Medium Enterprise Development	2006–2009	Business enterprises	USAID	
Afghanistan Rural Investment and Enterprise Development	2006–2009	Financial institutions	USAID	105.0
Economic Governance and Private Sector Strengthening	2005–2010	MOCI	USAID	
Afghan's Building Capacity Program	2007–2012	Multi-ministry	USAID	125.0
Horticulture and Livestock Productivity Project	2006–2009	MAIL	World Bank	
Private Sector Development Support Project	2007–2011	MOCI	World Bank	25.0

ADB = Asian Development Bank, DFID = Department for International Development of the United Kingdom, EC = European Commission, MAIL = Ministry of Agriculture, Irrigation, and Livestock, MOCI = Ministry of Commerce and Industries, MOPW = Ministry of Public Works, MRRD = Ministry of Rural Rehabilitation and Development, USAID = United States Agency for International Development.
Source: ADB staff.

MARKET INFRASTRUCTURE SUBPROJECT SELECTION CRITERIA

1. The priority commodity value chains identified for support are (i) dried fruit and nuts; (ii) fresh fruits and vegetables; and (iii) livestock (red meat), hides, skins, and casings. The proposed Agriculture Market Infrastructure Project will undertake market infrastructure investments and provide support to improve the commercial operation of facilities, including the adoption of improved postharvest technologies and marketing practices. Infrastructure investments will be in slaughterhouses in Kabul and in three provincial centers; small-scale infrastructure investment in horticultural market distribution systems to address critical gaps affecting productivity, product quality, market access, and demand in domestic and regional markets; and the development of improved laboratories for commodity certification. The proposed Project will target a limited number of commodities and industries in selected areas in each of the seven regions that have been identified as production centers.

1. Slaughterhouses

2. The proposed Project will establish slaughterhouses with support facilities for holding livestock; handling such by-products as hides, skins, and casings; and waste management in Kabul and three provincial cities. The criteria for selecting locations is based on livestock production and market demand, technical factors including the environment and site availability, financial and economic viability, and institutional and operational sustainability.

3. The preliminary selection is Kabul for two slaughterhouses and three provincial cities, Herat, Kundus, and Mazar for one each. Suitable sites are currently being identified in some locations, but the construction of the facilities will start with prepared sites. The slaughterhouses will be constructed using a modular unit on land belonging to the Ministry of Agriculture, Irrigation, and Livestock (MAIL), with long-term management and operation to be undertaken by private entities. Livestock market analysis undertaken as part of the financial and economic analysis in Supplementary Appendix B indicates that a number of major regional centers have demand for a slaughterhouse and that the facilities would be financially viable. A detailed outline of slaughterhouse structure, waste management systems, costs, and management and operation plan is provided in Supplementary Appendix F.

2. Farm-Level Collection and Marketing Facilities

4. The proposed Project will establish small-scale horticulture infrastructure investments that will include commodity collection, sorting, and grading centers; drying facilities; packinghouses and small cold storage facilities in production areas to address key constraints on efficient postharvest handling and marketing that impede market expansion. These investments will be undertaken with farmers' organizations and agricultural cooperatives. They will have a catalytic role, demonstrating the incremental returns to be achieved through improved postharvest handling and marketing and strengthened linkages between producers' groups and traders. This investment by the Government of Afghanistan is required to support sector growth, as private sector and financial institutional engagement in long-term agribusiness infrastructure is very limited, especially in those investments that involve producers' organizations.

5. Infrastructure investments are expected to range in cost from $20,000 to $75,000. The Government will fund these investments through the Project, with facilities constructed on MAIL-owned land. The facilities will be managed and operated by the farmers' associations. An indicative 200 small-scale market investments are included. Standard designs will be developed for the different types of small-scale infrastructure. Included in the contract package for

constructing these small-scale facilities will be a small component to facilitate their adoption of improved postharvest technologies and marketing practices and for strengthening management and operation systems.

6. The selection criteria will be based on (i) prioritized commodities under the Project (dried fruits and nuts, fresh fruits and vegetables, red meat, hides, skins, and casings) in key production areas, (ii) technical and financial viability, (iii) institutional and operational sustainability of the facility, and (iv) integration with other project activities.

3. Subproject Selection Criteria

7. The criteria for selecting subproject locations are based on the indicators outlined in Table A5.

Table A5: Subproject Selection Criteria

Criteria
Financial The subproject enterprise is financially viable, with a financial internal rate of return of at least 12%. Operations and maintenance and financial sustainability established.
Technical Suitable site (topography, land use, drainage) is available on Government land for the slaughterhouse or small-scale market facility. Locations of facilities to have a regional spread, especially for the small-scale infrastructure, to reflect the concentration in production areas; are identified project priority commodities with opportunities for growth and value added; and may enable integration with other agricultural and agribusiness projects.
Enterprise Institution and Operation That private companies, including farmers' associations and agricultural cooperatives for the small-scale market infrastructure, have the capacity to manage and operate the market facilities. Expression of interest sought from private entities for long-term slaughterhouse management and operation contracts prior to construction.
Environment The subprojects will have environmental management systems that meet environmental protection agency standards. In the slaughterhouses, wastewater management systems will be established as a integral aspect of design and operation to meet national and international standards, in line with the Asian Development Bank's policy (such regulations have yet to be established in Afghanistan). The subprojects will not harm existing or proposed protected areas or historical, cultural, or religious sites.
Social Small-scale facilities: Farmers' associations and agricultural cooperatives have expressed interest and demonstrated capacity to participate. They stand to benefit from improved postharvest returns and managing a small-scale facility. Organization willingness to operate and manage the facility equitably. The facility will benefit farmers. The slaughterhouse will increase employment and opportunities for value addition.
Security The security environment in the location will enable the construction, establishment, and operation of the slaughterhouse or small-scale facility.

Source: Asian Development Bank staff.

DETAILED COST ESTIMATES

Table A6.1: Detailed Cost Estimates by Expenditure Category

($ million)

Item	Total	Base Costs (%)
I. Investment Costs		
A. Civil Works		
1. Kabul - Slaughterhouse Complex	4.0	15
2. Provinces - Slaughterhouse Complex	5.9	22
3. Farmer Collection Centers	5.0	19
Subtotal (A)	**15.0**	**56**
B. Equipment		
1. Kabul - Slaughterhouse Complex	1.2	5
2. Provinces - Slaughterhouse Complex	1.8	7
3. Laboratory	0.5	2
4. PMO equipment	0.1	–
Subtotal (B)	**3.6**	**14**
C. Vehicles		
1. Kabul - Slaughterhouse Complex	0.3	1
2. Provinces - Slaughterhouse Complex	0.3	1
3. PMO Vehicles	0.1	0
Subtotal (C)	**0.6**	**2**
D. Management Operations Support		
1. Kabul - Slaughterhouse Complex	0.3	1
2. Provinces - Slaughterhouse Complex	0.4	2
3. Market infra facility support	0.9	3
Subtotal (D)	**1.6**	**6**
E. Training	0.3	1
F. RBM Surveys and Workshops	0.2	1
G. Consultant Services		
1. International Consultants	1.8	7
2. National Consultants	0.8	3
Subtotal (G)	**2.6**	**10**
H. Duties and Taxes	1.3	5
Total Investment Cost	**25.2**	**95**
II. Recurrent Costs		
A. Project Management Operating Costs	0.6	2
B. Project Management staff	0.7	3
C. Duties and Taxes	0.1	–
Total Recurrent Cost	**1.4**	**5**
Total Base Cost	**26.6**	**100**
Physical Contingencies	3.8	14
Price Contingencies	0.6	2
Total Project Cost	**31.0**	**117**

PMO = project management office, RBM = results-based management.
– = value less than 1%
Notes:
1. In mid-2008 prices.
2. Price contingencies computed using ADB cost escalation factors and include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

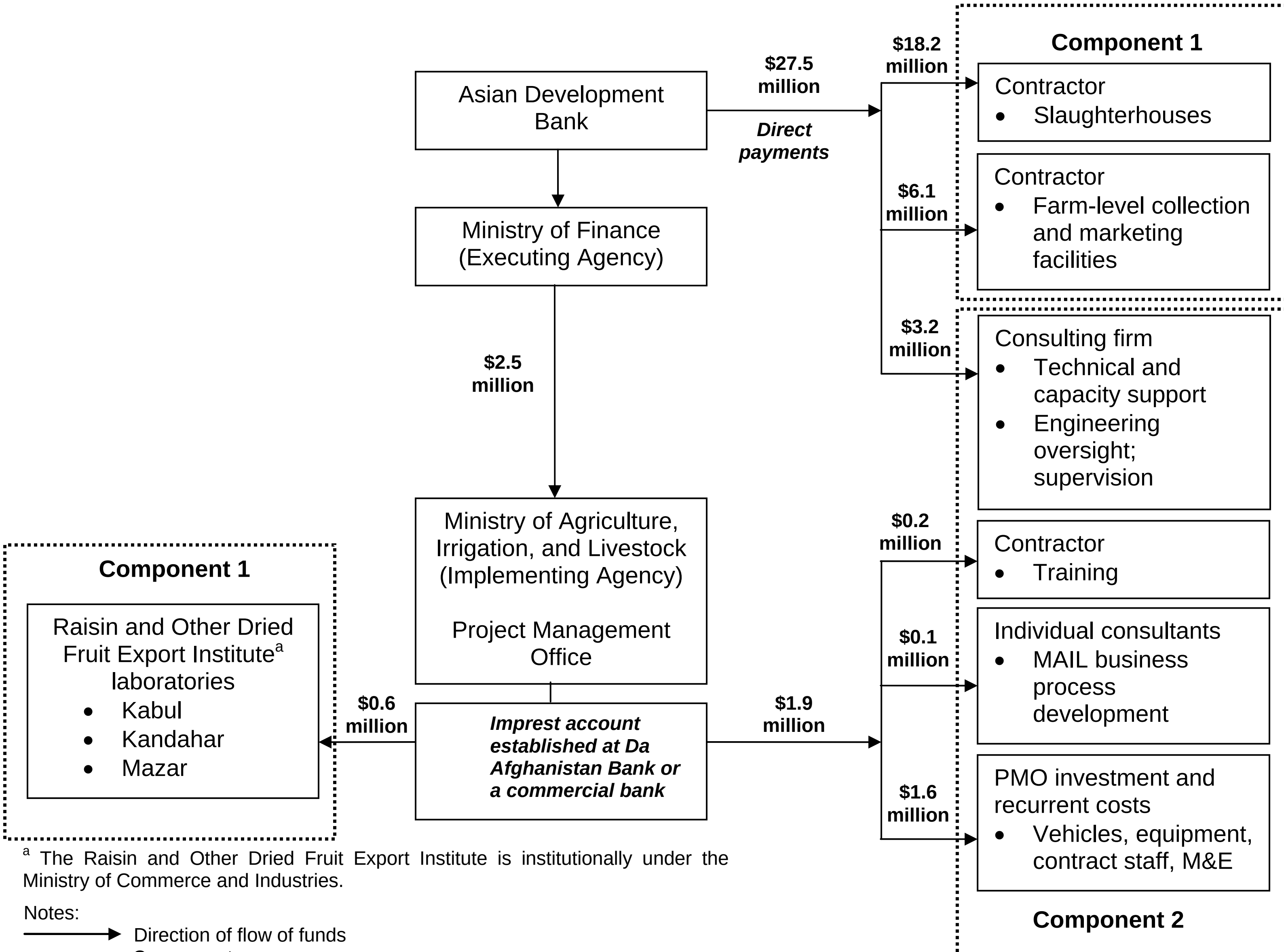
Source: Asian Development Bank staff estimates.

Table A6.2: Detailed Cost Estimate by Financier
($ million)

Item	Cost	Asian Development Bank (ADF Grant) Amount	Asian Development Bank (ADF Grant) % of Cost Category	The Government of Afghanistan Amount	The Government of Afghanistan % of Cost Category
I. Investment Costs					
A. Civil Works					
a. Kabul - Slaughterhouse Complex	4.2	4.0	97.0	0.1	3.0
b. Provinces - Slaughterhouse Complex	6.1	5.9	97.0	0.2	3.0
c. Farmer Collection Centers	5.2	5.0	97.0	0.2	3.0
Subtotal (A)	**15.4**	**15.0**	**97.0**	**0.5**	**3.0**
B. Equipment					
a. Kabul - Slaughterhouse Complex	1.3	1.2	97.0	0.0	3.0
b. Provinces - Slaughterhouse Complex	1.9	1.8	97.0	0.1	3.0
c. Laboratory	0.5	0.1	97.0	0.0	3.0
d. PMO equipment	0.1	0.1	97.0	0.0	3.0
Subtotal (B)	**3.7**	**3.6**	**97.0**	**0.1**	**3.0**
C. Vehicles					
a. Kabul - Slaughterhouse Complex	0.3	0.3	97.0	0.0	0.0
b. Provinces - Slaughterhouse Complex	0.3	0.3	97.0	0.0	0.0
c. PMO vehicles	0.1	0.1	97.0	0.0	0.0
Subtotal (C)	**0.6**	**0.6**	**97.0**	**0.0**	**0.0**
D. Management Operations Support					
a. Kabul - Slaughterhouse Complex	0.3	0.3	97.0	0.0	3.0
b. Provinces - Slaughterhouse Complex	0.4	0.4	97.0	0.0	3.0
c. Market infrastructure facility support	0.9	0.9	97.0	0.0	3.0
Subtotal (D)	**1.6**	**1.6**	**97.0**	**0.0**	**3.0**
E. Training	0.3	0.3	100.0	0.0	0.0
F. RBM Surveys and Workshops	0.2	0.2	100.0	0.0	0.0
G. Consultant Services					
a. International Consultants	2.2	2.2	100.0	0.0	0.0
b. National Consultants	1.1	1.1	100.0	0.0	0.0
Subtotal (G)	**3.3**	3.3	100.0	0.0	0.0
Total Investment Costs	**25.2**	**25.2**	**97.4**	**0.6**	**2.6**
II. Recurrent Costs					
A. Project Management Operating Costs					
a. Office Space	0.2	0.0	0.0	0.2	100.0
b. PMO Equipment and Vehicle Operating Costs	0.4	0.4	100.0	0.0	0.0
Subtotal (A)	**0.6**	**0.4**	**64.2**	**0.2**	**35.8**
B. Project Management Staff					
a. MOCI Coordinator	0.0	0.0	0.0	0.0	100.0
b. PMO Staff	0.8	0.8	100.0	0.0	0.0
Subtotal (B)	**0.9**	**0.8**	**96.6**	**0.1**	**3.4**
Total Recurrent Costs	**1.4**	**1.2**	**85.7**	**0.3**	**14.3**
Total Base Costs	**26.6**	**25.7**	**96.7**	**0.9**	**3.4**
III. Contingencies	**4.4**	**4.3**	**97.7**	**0.1**	**2.3**
Total Project Costs	**31.0**	**30.0**	**96.8**	**1.0**	**3.2**

ADF = Asian Development Fund, MOCI = Ministry of Commerce and Industries, PMO = project management office, RBM = results-based management.
Note: Totals may not add up due to rounding.
Source: Asian Development Bank estimates.

ORGANIZATION CHART AND FLOW OF FUNDS

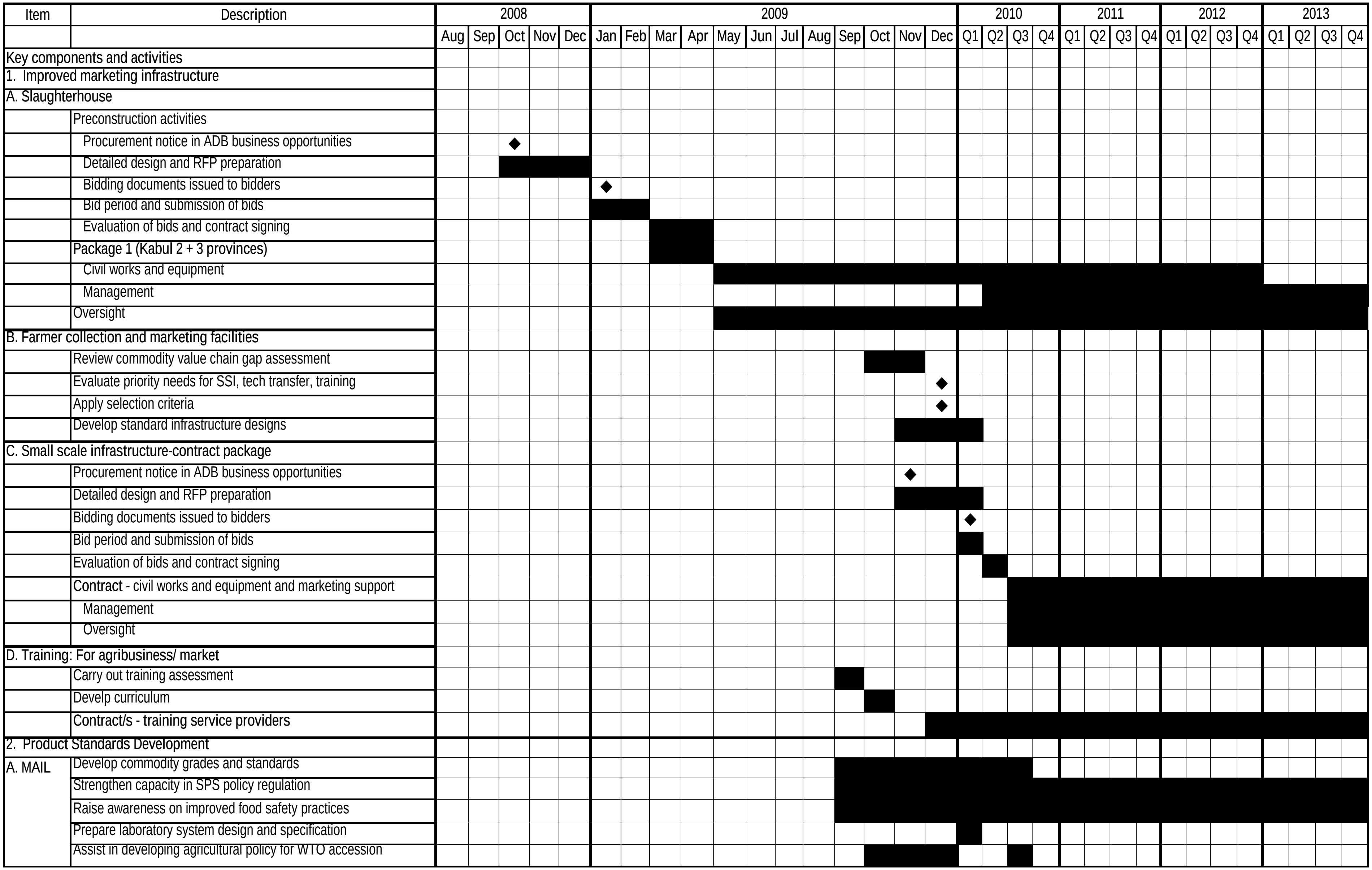


[a] The Raisin and Other Dried Fruit Export Institute is institutionally under the Ministry of Commerce and Industries.

Notes:
Direction of flow of funds
Components

ADB = Asian Development Bank, MAIL = Ministry of Agriculture, Irrigation, and Livestock, M&E = monitoring and evaluation, PMO = project management office.
Source: ADB estimates

IMPLEMENTATION SCHEDULE



Item	Description	2008					2009												2010				2011				2012				2013			
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Key components and activities																																		
B. MOCI	Design and implement improved lab system management																		■															
	Undertake laboratory technical training																		■															
	Prepare equipment specifications																																	
	Mazar lab - re-equip																		◆															
	Kabul lab - HPLC																		◆															
	Prepare tender documents																			■														
	Tender evaluation																				■													
	Procurement and installation																				◆													
	Implement procedures for international accreditation																			■	■	■	■	■	■	■	■	■	■	■	■			
3. Effective project management and monitoring																																		
	Implementing agency recruits PMO staff						◆																											
	Establish and equip PMO						■	■	■																									
	Establish project steering committee										◆																							
	PSC meets quarterly													◆			◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	Establish MAIL project tender committee						◆																											
	Implement consulting services contract										■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Establish M&E unit and performance monitoring											◆																						
	Undertake baseline survey												◆																					
	Establish finance, procurement, and administration										◆																							
	Establish and implement GAP											■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Prepare project annual workplan											◆						◆																
	Prepare project progress reports														■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Undertake mid term review																							◆										
	Undertake annual audit																		◆				◆				◆							◆
	Prepare completion report																																	◆

ADB = Asian Development Bank, GAP = gender action plan, HPLC = high performance liquid chromatograph, M&E = monitoring and evaluation, MAIL = Ministry of Agriculture, Irrigation, and Livestock, MOCI = Ministry of Commerce and Industries, PMO = project management office, PSC = project steering committee, RFP = request for proposal, SPS = sanitary/phytosanitary, WTO = World Trade Organization.

PROCUREMENT PLAN

Project Name: Agriculture Market Infrastructure Project	**Loan (grant) Number:** To be decided
Grant Amount: $30.0 million	**Executing Agency:** Ministry of Finance
Date of first Procurement Plan: (loan/grant approval date) To be decided	**Date of this Procurement Plan:** 27 October 2008

Section 1: Process Thresholds, Review, and 18 Month Procurement Plan

A. Project Procurement Thresholds

Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to the procurement of goods and works.

Procurement of Goods and Works	
Method	**Threshold**
International competitive bidding (ICB) for works[a]	≥ $1,000,000
International competitive bidding for goods[a]	≥ $500,000
National competitive bidding (NCB) for works[a]	< that stated for ICB works
National competitive bidding for goods[a]	< that stated for ICB goods
Shopping for works	< $100,000
Shopping for goods	< $100,000
List here any other methods of procurement approved for use (see Section III of the Procurement Guidelines)	None envisaged

[a] Refer to para. 3 of Project Administration Instructions 3.04 on national competitive bidding.

B. ADB Prior or Post Review

Except as ADB may otherwise agree, the following prior or post-review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement of Goods and Works		
Procurement Method	**Prior or Post**	**Comments**
ICB works	Prior	
ICB goods	Prior	
NCB works	First use, prior	
NCB goods	First use, prior	
Shopping for works	First use, prior	
Shopping for goods	First use, prior	

ICB = international competitive bidding, NCB = national competitive bidding.

Recruitment of Consulting Firms		
Quality- and cost-based selection	Prior	
Other selection methods: consultants' qualifications	Prior	
Recruitment of Individual Consultants		
Individual consultants	Prior	For Ministry of Agriculture, Irrigation, and Livestock business process development, detailed terms of reference with performance criteria and deliverables must have the prior approval of the Asian Development Bank.

C. Goods and Works Contracts Estimated to Cost More than $1 Million

The following table lists goods and works contracts for which procurement is either ongoing or expected to begin within the next 18 months.

General Description	Contract Value ($ million)	Procurement Method	Prequalification of Bidders (Yes or No)	Advertisement Date (quarter year)	Comments
Slaughterhouses (2 in Kabul and 3 provincial)	18.2	International competitive bidding	No	3rd quarter 2008	Advertisement preparation to be carried out with inputs from existing Ministry of Agriculture, Irrigation, and Livestock project.
Small-scale infrastructure	6.1	International competitive bidding	No	4th quarter 2009	Includes the management support facility

D. Consulting Services Contracts Estimated to Cost More than $100,000

The following table lists consulting service contracts for which procurement activity is either ongoing or expected to begin within the next 18 months.

General Description	Contract Value ($ million)	Recruitment Method	Advertisement Date (quarter year)	International or National Assignment	Comments
Technical and management consultants	3.2	Quality- and cost-based selection (90:10)	4th quarter 2008	International and national	One contract

E. Goods and Works Contracts Estimated to Cost Less than $1 Million and Consulting Services Contracts for Less than $100,000

The following table groups smaller-value goods, works, and consulting service contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Cumulative Value of Contracts ($ million)	Number of Contracts	Procurement / Recruitment Method	Comments
Office equipment (PMO)	0.1	1	Shopping	
Vehicles (PMO)	0.1	1	NCB	
Training	0.2	1	CQS (national and international)	
Baseline survey	0.1	1	CQS (national)	

CQS = consultant qualification selection, NCB = national competitive bidding, PMO = project management office.

Section 2: Project Procurement Plan

F. Indicative List of Packages Required Under the Project

The following table provides an indicative list of all goods, works, and consulting services to be procured over the life of the Project.

General Description	Estimated Cumulative Value ($ million)	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
Goods					
Laboratory equipment	0.6	2	ICB	No	
Office equipment	0.1	1	Shopping		
Vehicles	0.1	1	NCB		
Works					
Slaughterhouses	18.2	1	ICB	No	
Small-scale infrastructure	6.1	1	ICB		
	Estimated Cumulative Value	**Estimated Number of Contracts**	**Recruitment Method**	**Type of Proposal**	**Comments**
Consulting Services					
Technical and management consultants	3.2	1	QCBS International (90:10)	Full technical proposal	
MAIL business process consultants	0.1	To be decided	Direct contracting		
Training	0.2	To be decided	CQS (national/ international)	Simplified technical proposal	
Surveys	0.1	To be decided	CQS (national)		

CQS = consultant qualification selection, NCB = national competitive bidding, PMO = project management office, QCBS = quality- and cost-based selection.

Section 3: National Competitive Bidding Procedures

1. General

National competitive bidding (NCB) for the procurement of goods and services shall conform to the provisions for open tender without prequalification, as prescribed in the *Procurement Law* of October 2005 and elaborated in the *Rules of Procedure for Public Procurement*, issued by the Ministry of Finance in April 2007, with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of ADB's *Procurement Guidelines* (2007, as amended from time to time).

2. Registration and Other Pre-Bid Requirements

(a) Bidding shall not be restricted to shortlists or standing lists.

(b) No bid shall be declared as ineligible of the grounds of debarment without ADB's prior concurrence.

(c) No bid shall be declared ineligible on the grounds of government regulations that restrict sources without ADB's prior concurrence.

(d) Foreign suppliers and contractors from ADB member countries shall be allowed to bid without registration, licensing, and other government authorizations. However, in case these foreign suppliers and contractors are declared winning bidders, the requirements may be completed after award and before signing of the contract, without unreasonable costs or additional requirements.

3. Prequalification

Post qualification shall be used unless prequalification is explicitly provided for in the loan agreement or procurement plan. Irrespective of the procedure applied, whether prequalification or post qualification, no domestic or foreign contractor shall be precluded from participation.

If prequalification is undertaken, the prequalification criteria should include eligibility requirements, financial situation, pending litigation, and experience. Technical capacity of personnel and equipment should not be part of the prequalification criteria.

Interested bidders shall be given a minimum period of 28 days to prepare and submit prequalification applications.

4. Advertising

Bidding of NCB contracts estimated at $500,000 or more for goods and related services and NCB contracts estimated at $1,000,000 or more for works shall be advertised on ADB's website via the posting of the procurement plan.

5. Bidding Documents

Procuring entities shall use standard bidding documents acceptable to ADB, ideally based on the standard bidding documents issued by ADB.

6. Bidding Period

Procuring entities shall allow for a minimum of 4 weeks for the submission of bids.

7. Bid Security

Where required, bid security shall be in the form of a bank guarantee or check from a reputable bank and should not be more than 2% of the estimated value of contract to be procured.

8. Preferences

No preference of any kind shall be given to domestic bidders or for domestically manufactured goods.

9. Evaluation

No bid shall be rejected on the grounds of price, or for any other reason(s) not related to the evaluation and qualification criteria, without ADB's prior concurrence.

Prompt payment discounts offered by bidders shall not be considered in bid evaluation.

10. Price Negotiations

Price negotiation shall be allowed only after receiving ADB's prior concurrence.

11. Advance Payments

No advance payment shall be made without an advance payment security in the form of a bank guarantee or check from a reputable bank.

12. Government-Owned Enterprises

Government-owned enterprises in Afghanistan shall be eligible to participate only if they can establish that they are legally and financially autonomous, operate under commercial law, and are not a dependent agency of the procuring entity, the project Executing Agency, or the Implementing Agency.

13. Right to Inspect/Audit

A provision shall be included in all NCB works and goods contracts financed by ADB requiring suppliers and contractors to permit ADB to inspect their accounts and records and other documents relating to the bid submission and the performance of the contract, and to have them audited by auditors appointed by ADB.

14. Anticorruption Policy

a. The Borrower shall reject a proposal for award if it determines that the bidder recommended for the award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the contract in question.

b. ADB will declare a firm or individual ineligible, either indefinitely or for a stated period, to be awarded a contract financed by ADB, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, an ADB-financed contract, as indicated in paragraph 1.14 (a) of ADB's *Procurement Guidelines*.

15. Disclosure of Decision on Contract Awards

At the same time that notification of the award of a contract is given to the successful bidder, the results of bid evaluation shall be published in a local newspaper or well-known, freely accessible website, identifying the bid and lot numbers and providing information on (i) the name of each bidder who submitted a bid, (ii) bid prices as read out at bid opening, (iii) the name of bidders whose bids were rejected and the reasons for their rejection, and (iv) the name of the winning bidder and the price it offered, as well as the duration and summary scope of the contract awarded. The Executing Agency, Implementing Agency, or contracting authority shall respond in writing to unsuccessful bidders who seek explanations of the grounds on which their bids were not selected.

16. Member Country Restriction

Bidders must be nationals of member countries of ADB, and the offered goods, works, and related services must be produced in and supplied from member countries of ADB.

CONSULTANT SERVICES

Component 2: Project Management and Capacity Support	Number of person months					
	2009	2010	2011	2012	2013	Total
2.1 Technical Capacity Support						
2.1.1 Improved Agricultural Marketing Infrastructure						
1. Commodity and market based infrastructure						
International consultants						
Design Engineer	3	0	0	0	0	3
Training Specialist	0	0	2	0	0	2
Subtotal	**3**	**0**	**2**	**0**	**0**	**5**
National consultants						
Training Specialist	0	0	2	0	0	2
Subtotal	**0**	**0**	**2**	**0**	**0**	**2**
Total	**3**	**0**	**4**	**0**	**0**	**7**
2.1.2 Product Standards Development						
A. Agricultural and food safety policies, laws and regulations						
International consultants						
Food Safety Grades and Standards Specialist	5	3	0	0	0	8
WTO Accession Specialist	2	2	0	0	0	4
Laboratory Management and Equipment Specialist	0	4	0	0	0	4
Subtotal	**7**	**9**	**0**	**0**	**0**	**16**
National consultants						
Food Safety/Trade Policy Specialist	6	12	12			30
Subtotal	**13**	**21**	**12**	**0**	**0**	**46**
B. Upgrading MOCI dried fruit and nut laboratories						
International consultants						
Laboratory Systems Specialist	1	2	0	0	0	**3**
Laboratory Technician	0	5	2	0	0	**7**
Subtotal	**1**	**7**	**2**	**0**	**0**	**10**
Total	**14**	**28**	**14**	**0**	**0**	**56**
2.2 Project Management Support						
A. Supervision						
International consultants						
Agribusiness Specialist-Oversight/Team Leader	4	6	4	2	0	16
Oversight engineer(slaughterhouse, small infrastructure)	2	4	2	2	1	11
Environmental Management Specialist	2	2	0	0	0	4
Subtotal	**8**	**12**	**6**	**4**	**1**	**31**
National consultants						
Agribusiness Specialist - Deputy Team Leader	7	12	12	12	12	55
Environment Management Specialist	2	12	12	0	0	26
Subtotal	**9**	**24**	**24**	**12**	**12**	**81**
Subtotal Supervision consultants	**17**	**36**	**30**	**16**	**13**	**112**
B. Procurement						
International consultants						
Finance and Procurement Specialist	5	3	4	0	0	12
National consultants						
Procurement Specialist	6	12	12	6	0	36
Subtotal Procurement consultants	**11**	**15**	**16**	**6**	**0**	**48**
C. M&E Results-Based Management						
International consultants						
Monitoring and Evaluation Specialist	2	2	1	1	1	7
National consultants						
Monitoring and Evaluation Specialist	7	12	6	6	6	37
Subtotal M&E Results Based Management consultants	**9**	**14**	**7**	**7**	**7**	**44**
Total	**37**	**65**	**53**	**29**	**20**	**204**
Others						
MAIL Business Process Development						
(allocation of $15,000 per year for 5 years)						
Project Summary						
International consultants	26	33	15	5	2	81
National consultants	28	60	56	24	18	186
Project Total	**54**	**93**	**71**	**29**	**20**	**267**

MAIL = Ministry of Agriculture, Irrigation, and Livestock, M&E = monitoring and evaluation, MOCI = Ministry of Commerce and Industries, WTO = World Trade Organization.
Source: Asian Development Bank estimates.

FINANCIAL AND ECONOMIC ANALYSIS

A. Approach and Methodology for the Financial and Economic Analysis

1. The financial and economic analysis is based on the quantifiable benefits that will be achieved from the investment in market infrastructure and product standards through the Agriculture Market Infrastructure Project. The financial analysis is based on returns on the individual investments, and the economic analysis is based on the efficiency improvements that these investments will provide and the increased sector returns to the economy. The economic analysis of the slaughterhouses and small-scale market infrastructure is carried out as a single unit and then for each subcomponent, including the project management and capacity support costs of delivering the subcomponent, before integration into a single overall project economic rate of return. The costs of product standards development and the laboratory investment for certified products are included in the small-scale market infrastructure subcomponent costs.

2. The overall project economic analysis is based on the with-project incremental economic return from the improved slaughterhouses in terms of meat and by-product quality and from the commodity market facilities with reduced commodity losses and the improved prices that partly reflect commodity quality improvements through postharvest handling in the marketing facilities. The economic return is conservative and it does not include the significant public health benefits from the hygienic slaughter of livestock in urban areas or from improved food safety. The full financial and economic analysis is provided in Supplementary Appendix B.

B. Financial Analysis

1. Slaughterhouses

3. **General Description.** Under the Project, five modular slaughterhouses will be constructed in the priority sites identified, two in Kabul and three in provincial cities, under a turnkey contract. In addition, the contractor will provide management supervision and operational support during the first year following the commissioning of the slaughterhouses. The proposed modular slaughterhouse is designed to have a slaughtering capacity of 100 large ruminants and 500 small ruminants per 8-hour shift operating 30 days per month, or a 10-hour shift operating 25 days per month. This amounts to handling a minimum of 3,000 large ruminants (with 200 kilograms [kg] of red meat per animal) and 15,000 small ruminants (with 20 kg of red meat per animal), equivalent to 900 tons of red meat per month or 10,800 tons per year. The expected throughput is equivalent to 15% of the large ruminant slaughter and 18% of small ruminant slaughter in Kabul per year. The facility will reach full capacity on a single shift after 3 years. The potential exists to increase throughput with additional shifts. Using a modern facility that centralizes the slaughter will assist pre- and postmortem inspection; add value by recovering blood; and provide higher-quality hides, skins, and intestines for further processing. The capital costs of the proposed Kabul site in district 18, inclusive of physical contingencies, are estimated at $2.9 million and, with inclusion of site infrastructure costs, $3.3 million.

4. **Enterprise Management and Operation.** The facility will be established as a public–private partnership, with the investment undertaken by the Government and enterprise management contracted by tender to a private entity with one of the two following options: (i) a long-term management contract with an annual service fee estimated at about $139,000 per year or (ii) a lease-to-purchase management contract with a lease service charge of approximately $267,800 per year. The final fee paid will be determined by the private companies as part of the bid process.

5. **Financial Analysis.** Analysis indicates that the facility is financially viable. Income is estimated based on the daily throughput of 100 large ruminants and 500 small ruminants at a per-unit slaughter fee of $12.00 and $2.40, respectively. This charge is assessed as competitive when compared with existing slaughter fees charged by small, private slab slaughtering facilities, which charge between $7.00 and $10.00 per large ruminant.[1] The modern facilities will maintain the casing and hide by-products at improved quality for better returns and will produce more hygienic meat products. At full development, the annual cash net margin before lease/repayment fee is $562,200, or 59% of turnover. After including the proposed lease management fee of $139,000, the net margin is $423,200, representing 45% of turnover. For the lease-to-purchase option, the annual net margin is $294,000, or 31% of turnover. The net cash margin indicates that the investment as structured would be financially attractive to an investor and that the private entity tendering for the facility would have the potential to lower slaughter fees or meet a higher lease payment and still have a viable enterprise.

6. The base case financial internal rate of return (FIRR) of 20% before financing for the slaughterhouse investment indicates that the facility is financially viable. The financial net present value is $520,400 for 15 years, discounted at the indicative opportunity cost of commercial finance of 15%. The analysis indicates that the FIRR is reasonably robust.

2. Farm Collection and Market Facilities

7. The proposed Project will establish small-scale horticulture infrastructure investments that will include commodity collection, sorting, and grading centers; drying facilities; packinghouses; and small cold storage facilities in production areas to address key constraints in postharvest and marketing practices that impede market expansion. These investments will be undertaken with producers' associations, farmers' organizations, and agricultural cooperatives. They will have a catalytic role, demonstrating the incremental returns to be achieved through improved postharvest handling and marketing and strengthened linkages between producers' groups and traders. The incremental benefit translates into reduced postharvest and processing losses of approximately 20% and the export of approximately 25% of the throughput to higher-value markets at prices 10% to 50% higher than the domestic Kabul wholesale price.

8. Representative market infrastructure investments for the small-scale marketing infrastructure facilities (commodity collection, sorting, and grading centers; treatment facilities; packinghouses; and small cold storage facilities) have been prepared for analysis. It is anticipated that a wide range of agribusiness investments will be undertaken, and the examples used are to indicate the type of investment in priority areas and the potential returns involved. During project implementation, selection criteria, as detailed in Appendix 5, will be applied.[2] A financial analysis has been prepared. The working capital needs will be sourced from enterprise equity, presale of output, forward contracting with agents, and, if possible, from borrowings. Based on commercial practice, the enterprises would structure operations to keep working capital needs at feasible levels.

9. The indicative types of market infrastructure anticipated and the results of the financial analysis before financing charges are as follows:

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[1] If the butchers pass on the cost of the slaughter fee on to the consumer, the incremental cost of the meat from the slaughterhouse is estimated at approximately 1.5%, or AF3 per kg of beef, and 2.5%, or AF6, per kg of mutton.

[2] One criterion is on the financial viability and sustainability of the subproject.

(i) **Packing, grading, and cold storage facilities for apples, grapes, and other fruit.** The two examples provided are for apples and grapes and involve slightly different levels of investment of $60,000 to $75,000, which covers buildings and equipment. In additional, smaller-scale cold-storage modules for $25,000 to $30,000 are feasible options for horticulture. The enterprises operated by farmers' or producers' associations or agricultural cooperatives are financially viable. FIRRs before financing are 31% and 68%, respectively.

(ii) **Raisins.** Sorting, grading, and packing *aftabi* raisins will involve investments in processing equipment and building. The model is for processing 1,250 tons per year, with a total investment of $35,000. The enterprise will be managed and operated by a farmers' association and is financially viable with an FIRR before financing of 48%.

(iii) **Almonds.** Sorting, grading, and packing almonds will involve investment in mechanical deshelling equipment and buildings, with an indicative investment of $20,000. The enterprise will be managed and operated by a farmers' association and is financially viable with an FIRR before financing of 42%.

10. The results of the financial analysis show FIRRs of 31% to 68%, which indicate that the horticulture enterprise opportunities are financially viable. The enterprises with export potential may improve upon the base case FIRR if traders increase export sales of improved products or sales into new markets for a portion of the annual throughput. The enterprises will generate other, unquantifiable benefits in terms of improved hygiene, food safety, and environmental management. The sensitivity analysis based on switching values indicates that the enterprises are sensitive to export price variations and for two of the enterprise models also sensitive to changes in quantity throughput.

C. Economic Analysis

1. Slaughterhouses

11. **Assumptions.** The economic analysis uses constant mid-2008 prices. The project life base case is assumed to be 15 years, with sensitivity analyses for 10 and 20 years. The financial costs have been converted to economic costs using a standard conversion factor of 0.97 to exclude taxes and duties estimated at 3% and a standard conversion factor of 0.80 for consulting services. Unit rates for civil works include materials (30%), equipment and fuel (30%), and unskilled labor (40%). In view of the significant levels of seasonal underemployment in urban areas, a shadow wage rate factor of 0.75 has been used in calculating the economic cost of civil works and the direct labor costs of operating the slaughterhouse. As is standard practice, the derived economic analysis includes physical contingencies but excludes price contingencies. The value of Government land in the Kabul area and the provinces is difficult to estimate with certainty, as it is recognized that distortions to values occur because of the difficulties in establishing clear title and ownership and the inflationary impact of cash generated in the opium economy, particularly in Kabul. For the economic analysis, it has been assumed that land is valued at $100,000 per hectare in Kabul and $10,000 per hectare in the provinces. The residual value of the slaughterhouse and equipment by year 10 is estimated at 10%. No reduction in the value of the land has been incorporated.

12. **With- and Without-Project Situation.** The without-project situation is the existing state, whereby live cattle, buffaloes, goats, and sheep are sold by livestock traders to butchers and slaughtered in backyards, on improvised private slaughter slabs, or on the street. Provision for hanging carcasses is absent or very limited, and the skin is often damaged during skinning a

carcass on the ground more than it would be if it were hung. It is also far more likely for a carcass to be contaminated when slaughtered on the ground and in the skin.

13. The with-project situation is with the slaughter facilities and incremental improvements in the regulatory environment and assumes an environment with improved power supplies and increased opportunities for butchers to improve the cool storage capacity of their outlets. The quantifiable economic benefits derived from the slaughterhouse subcomponent have been identified as the (i) incremental value of improved quality and more hygienically prepared meat that is produced through the slaughter facility (the assumption is that consumers are willing to pay for higher-quality and hygienic meat, and the proxy for this value is the cost of the animal slaughter, which is passed on to the consumer in the meat price at approximately 1.5%, or AF3 per kg); (ii) opportunity cost of the time saved by butchers by using the slaughterhouse; (iii) increased value associated with reduced damage to skins, hides, and casings; and (iv) total value of blood collected, which, once treated and dried, can be used for chicken feed. Other benefits that have not been included in the economic analysis model include the (i) reduced waste products in streets and public areas and the resulting savings in the municipal costs of removing it; (ii) improved ability of the municipality to enforce legislation requiring the slaughter of animals in licensed premises; (iii) increased ability of butchers to comply with public health and hygiene regulations; (iv) improvement in public health; (v) jobs created during slaughterhouse construction and subsequent operation, each requiring up to 20 slaughterers per shift; and (vi) increased potential for further value-adding enterprises that utilize the by-products or provide inputs to the facilities.

14. **Results of Economic Analysis and Sensitivity Analysis.** The economic internal rate of return (EIRR) for the slaughterhouse subcomponent over 15 years is estimated at 21%.

15. Sensitivity analysis shows that the EIRR is very responsive to the incremental value of the meat from the slaughterhouse, which is used as the indicator for consumers' willingness to meet the full incremental cost. A 20% decrease in the economic value of meat (i.e., a price increment of AF2.6 per kg beef, or 1.2%, and of AF4.8 per kg lamb, or a 2% increase) will reduce the EIRR to 17%. An EIRR at this level allows the investment to remain economically viable. For this variable, the EIRR has a high sensitivity indicator and a low switching value. A 20% increase in the economic value of the meat indicates an EIRR of 30%. The corresponding low sensitivity indicator and relatively high switching value for the other variables indicate that the EIRR is considerably less sensitive to changes in these when deriving incremental benefits.

2. Farm Collection and Market Facilities

16. **Assumptions.** The standard conversion factors used to derive economic prices from financial prices are as per those estimated for slaughterhouses. The economic analysis assumes the same provincial land value of $10,000 per hectare. The four types of indicative enterprise investment to be undertaken are between $22,400 and $70,250, including land cost. Based on the four indicative enterprises that have been used in this analysis, the following allocation has been used for the distribution of the small-scale infrastructure investments: apples (5%), table grapes (15%), raisins (30%), and almonds (50%). Based on the investment cost and this distribution, there would be 160 small market facilities. The phasing in of the small-scale infrastructure investments will be from year 2 through year 5 of the Project.

17. **With- and Without-Project Situation.** The without-project situation is based on the existing situation, with farmers selling in local markets to traders. It further assumes that individual small-scale farmers will not be able to reduce harvest and postharvest losses or

improve product quality without collection centers or packing sorting and grading facilities, as well as the absence of improved postharvest technologies to support value addition. And it assumes that the existing regulatory environment remains, with regional sales based on industry standards in the absence of international certification or sanitary and phytosanitary standards.

18. The with-project incremental returns are the quantifiable economic benefits generated by the improved market facilities that add more value, by decreased losses of product to postharvest mishandling and limited sorting and packing, and the improved return from better product quality. Markets exist for the export and domestic consumption of the incremental volume and improved quality product. The project investment is expected to have a demonstration effect, showing that small, strategic investments in similar civil works and equipment can add value and return to farmers' associations and agricultural cooperatives, as indicated in the financial enterprise models. Further, traders and exporters with access to larger quantities of commodities will have incentives to undertake further value addition.

19. Using the four representative models as the basis for the analysis, and given the level of investment planned, the market facilities will have the capacity to improve the sorting, packing, grading, and storage of approximately 3.5% of the total national throughput of fresh grapes, 10% of raisins, 12% of almonds, and 1% of apples. The apples will be consumed mainly in the domestic market, though there is opportunity for directly marketing higher-quality apples in Peshawar. The other three products—grapes, raisins, and almonds—have established export opportunities, but traders have been constrained in developing some export markets by their inability to gain guaranteed access to reliable quantities of a certain quality. And they have been constrained from further developing regional and international markets by the lack of certification of product quality or sanitary and phytosanitary compliance.

20. The with-project situation includes an investment to upgrade laboratories under the Ministry of Commerce and Industries with the target of achieving international certification. This is in line with the Government's efforts on national standards and will help strengthen the horticulture subsector as a whole.

21. **Economic Analysis and Sensitivity Analysis.** The economic internal rate of return (EIRR) at the subcomponent level is indicative, as returns on these small market facility investments are driven by demand. The final mix of investments will be determined by the selection process in year 1 of the Project and will be based on selection criteria including financial and economic returns. The EIRR for the subcomponent, including the project-related costs of product standard development and certification and project management and capacity support, is 48% over 10 years. This indicates that the subcomponent investments are economically viable. Sensitivity analysis has been undertaken to identify the effect of changes on the EIRR and on the economic net present value of the investment. The sensitivity analysis confirms that the EIRR is not significantly affected by assumptions regarding initial project management costs or by lags in implementation. The high FIRR for the representative enterprises studied and the high subcomponent-wide EIRR indicate that the subcomponent is economically viable as designed.

3. Overall Project Economic Analysis

22. The project EIRR is 29.5% over 10 years, which indicates that the investment package is economically viable and provides a sound return to the sector and the economy. A lag of 1 year

in all planned investment activities reduces the EIRR to 16.7%, which indicates that the Project would remain economically viable.

D. Overall Project Distribution Analysis

23. **Slaughterhouses.** Key stakeholders that will be directly affected by the project investment in slaughterhouses are the municipalities and the Ministry of Agriculture, Irrigation, and Livestock, which will be better able to regulate slaughter in cities; new slaughterhouse operators, either private or butchers' associations; current slaughter operators that, for example, operate slaughter facilities adjacent to livestock markets; by-product traders for casings and hides; butchers and retailers; and consumers. Indirect stakeholders are livestock farmers and pastoralists who will see changes in livestock marketing and purchase patterns; consumers of the improved meat; and urban residents that will enjoy public health benefits.

24. **Farm Collection and Market Facilities.** Direct beneficiaries include farmers producing products in the targeted commodities, who will benefit from the proposed farmers' associations and agricultural cooperative market infrastructure investments; traders; marketers; and exporters. The agribusiness subsector is relatively labor intensive and provides employment for significant numbers of skilled and unskilled workers. Expansion in the subsector is expected to generate labor demand in the facilities and additional employment for service providers. The adoption of good practices related to product quality and grade standards and compliance with food safety standards will have indirect beneficiaries, particularly domestic consumers. The Project will provide technical support to the market facilities on postharvest technologies and practices, management, and operation. The main indirect beneficiaries will be consumers, who will benefit from improved access to quality and hygienic horticultural and livestock products. Service providers, including transporters, packing material suppliers, and processing input suppliers, will benefit from increased demand for their products and services.

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

Country/Project Title: Afghanistan: Agriculture Market Infrastructure Project			
Lending/Financing Modality:	Project	Department/ Division:	CWRD/CWAE

I. POVERTY ANALYSIS AND STRATEGY

A. Linkages to the National Poverty Reduction Strategy and Country Partnership Strategy

The Government recognizes that employment generation is the key to poverty reduction.[a] According to the Afghanistan National Development Strategy (ANDS), there is a need to sustain high growth rates in the medium term, and such growth will reduce poverty and generate employment.[b] As indicated by the ANDS, more private investment is needed to generate employment. In turn, access to markets, infrastructure, and security, and better protection of property rights are critical preconditions for private investment. The rural economy is the major source of employment and income for most Afghans, as nearly 80% of the population, or 19 million people, live in impoverished rural areas. Rural economic growth—agricultural growth, diversification, and value addition—is essential for any sustained improvement in livelihoods. In Afghanistan, informal enterprises, mostly agriculture based, are responsible for most private investment and employment and will play the key role in economic growth and generating employment. The current shortage of skilled labor harms the competitiveness of domestic industry in comparison with neighboring economies.

According to 2005 National Risk and Vulnerability Assessment data, about 45% of rural and nomadic kuchi populations appear to be poor, as opposed to 27% of those who live in urban areas.[c] Rural populations have the highest rates of food insecurity, with 45% not meeting minimum food requirements. In addition to facing high food insecurity, rural households have less access to infrastructure and basic public services. Their level of education is low and rates of illiteracy high. Rural households depend heavily on agriculture, though off-farm activity has started to play a bigger role in the coping strategy of the rural poor.

Further agricultural growth and poverty reduction will depend on agricultural expansion and diversification, which will require improvements in the agriculture value chain from production through processing, packaging, and transport to marketing. In addition, higher rural non-farm incomes will help reduce the vulnerability of the poor to the risks inherent in agriculture and ensure more equitable economic development.

Commercial agriculture priority value chains that have been identified include, but will not necessarily be limited to, dried fruits and nuts; fresh fruits and vegetables; wool and carpets; and livestock red meat, hides, skins, and casings. In these prioritized commodity value chains, project support will improve efficiency through improved infrastructure and the adoption of improved postharvest technology and management practices and processes. The proposed activities with agribusinesses and farmers' associations will facilitate growth in production; improve commodity quality; expand capacity to meet demand in export and domestic markets; and improve returns for farmers, traders, and processors. Targeting a limited number of commodities in selected areas in each region, and focusing on priority gaps in those value chains, the Project will facilitate and support commercial agricultural development by agribusinesses.

B. Poverty Analysis

Targeting Classification: General Intervention

1. Key Issues

Afghanistan's human development indicators are among the lowest in the world, comparable to those of the poorest landlocked or war-torn countries of sub-Saharan Africa.[d] Although poverty measurement in Afghanistan is severely constrained by the lack of quality data, available figures paint a dire picture. Some 12 million Afghans, or 42% of the population, live below the poverty line, with incomes of about $14 per month per capita. Those unable to purchase sufficient food to guarantee the world standard minimum food intake of 2,100 calories per day are estimated at around 45% of the population.[e] In addition, life expectancy in Afghanistan is under 45 years, at least 10 years below that of any other Asian country. Over 20% of all Afghan children die before the age of 5, half of Afghanistan's school-age children are not in school, and 57% of the population is under 18 years of age, with little hope of full-time employment. In much of the country, over 80% of the people are illiterate, and gender inequality is rife across all sectors, resulting in particularly difficult circumstances for women.[f]

The ANDS strategic vision for agriculture and rural development is to ensure the social, economic, and political well-being of rural communities, especially poor and vulnerable people, while stimulating the integration of rural communities into the national economy. This will require transforming agriculture so that it is more productive and increasingly commercially oriented and expanding off-farm employment opportunities, thereby increasing rural incomes.[g]

Socioeconomic analysis based on social assessment indicates that the Project will improve the living standards of the rural population by increasing employment opportunities in expanding agribusinesses for semi-skilled and skilled workers, and through the benefits at the production stage from the adoption of improved postharvest practices and technologies, which will improve productivity, quality, and market returns. These interventions will have a major social impact and reduce poverty.

II. SOCIAL ANALYSIS AND STRATEGY

A. Findings of Social Analysis

Agribusiness's value addition is estimated at $540 million, largely through small-scale and cottage industries. These enterprises are family- or village-based and operate with family and local labor, generally with little mechanization. Quality control and value added is low. Given the large number of such enterprises, this subsector is a major employer. Although mechanized agribusinesses are few, their number is expected to increase. The proposed project interventions will have a significant impact on small-scale and cottage enterprises, and those participating and adopting improved practices will generate increased returns.

In the commodity chains that the Project is proposing to support, the interventions will improve growth, the performance of farmer and agribusiness activities, and the operation of farmers' associations. These market infrastructure investments will adopt improved postharvest technologies and practices that will facilitate expansion and the establishment of new trading and processing businesses and develop stronger supply lines.

Constraints on the participation of the poor are likely to be from limited social and political networks, the lack of skills and experience, and limited access to capital for lack of collateral. To address some of these constraints and increase the impact of the project on potential beneficiaries, project interventions will enable participation through farmer associations, small-scale infrastructure interventions, and targeted training.

B. Consultation and Participation

1. Provide a summary of the consultation and participation process during the project preparation.

A stakeholder analysis was undertaken as part of the project design. Stakeholders have been involved in project design through stakeholder workshops in Herat, Kabul, and Mazar, and through numerous meetings held with individuals and groups from a large range of government and private sector agencies, which has continued during processing.

2. What level of consultation and participation (C&P) is envisaged during the project implementation and monitoring?
   ☒ Information sharing ☒ Consultation ☐ Collaborative decision making ☐ Empowerment

3. Was a C&P plan prepared? ☐ Yes ☒ No

If a C&P plan was prepared, describe key features and resources provided to implement the plan (including budget, consultant input, etc.). If no, explain why.

During project implementation, project working groups and representatives of associations and private enterprises will have opportunities to raise concerns, propose and prioritize project activities, and comment on measures required to enhance the business environment. These groups need to include women and men, as well as representatives from different stakeholder groups and wealth categories.

C. Gender and Development

1. Key Issues

Women are already heavily involved in agricultural production and processing and, to a lesser extent, in trading agricultural produce. Under the Project's strengthening of commodity value chains from harvest and postharvest, there will be opportunities to support women's producer associations interested in improving the quality of their produce, thereby enabling rural women to benefit. Women will benefit as employees of agribusinesses, entrepreneurs, and members of women's groups involved in production or supply.

Although reliable gender-disaggregated data is lacking, Afghanistan's gender indicators are very poor, as indicated by gender gaps in health, education, access to and control over resources, economic opportunity, justice, and political participation. Women are important economic actors, but data is limited as to their contribution and economic role. While Afghanistan's constitution enshrines women's equality, progress toward this ideal will take time, given prevailing cultural, social, and religious sensitivities.

2. Key Actions. Measures included in the design to promote gender equality and women's empowerment—access to and use of relevant services, resources, assets, or opportunities and participation in decision-making process:

☒ Gender plan ☐ Other actions/measures ☐ No action/measure

A project-specific gender action plan (GAP) has been developed and will be updated during project processing and implementation. The GAP will ensure that a certain percentage of stakeholders participating in the project planning process will be women; that a certain percentage of the staff of the Project and supporting institutions responsible for implementation will also be female; and that women-headed households, associations, and entrepreneurs will be active participants. Women will participate in project activities. The different groups will require different strategies and activities to get their involvement. A gender assessment will be conducted during monitoring and evaluation.

III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS

Issue	Significant/Limited/ No Impact	Strategy to Address Issue	Plan or Other Measures Included in Design
Involuntary Resettlement	No impact	As Government land will be used for the infrastructure investments, they will not involve any resettlement or land acquisition. Covered under project assurances.	☐ Full Plan ☐ Short Plan ☐ Resettlement Framework ☒ No Action
Indigenous Peoples	No impact	Indigenous groups are not an issue in the project area, as all ethnic groups are mainstreamed. The Project is classified as a category C.	☐ Plan ☐ Other Action ☐ Indigenous Peoples Framework ☒ No Action
Labor ☒ Employment opportunities ☐ Labor retrenchment ☐ Core labor standards	Significant	Project interventions will generate increased employment opportunities.	☐ Plan ☐ Other Action ☒ No Action
Affordability	Limited significance	The project interventions will improve beneficiary returns and access to private business services.	☐ Action ☒ No Action
Other Risks and/or Vulnerabilities ☐HIV/AIDS ☐Human trafficking ☒Others(conflict, political instability, etc), please specify	Limited significance	Security will be provided by the Government to project consultants and contractors in areas of risk. The geographic focus of activities can respond if necessary to significant changes in the security environment.	☐ Plan ☐ Other Action ☒ No Action

IV. MONITORING AND EVALUATION
Are social indicators included in the design and monitoring framework to facilitate monitoring of social development activities and/or social impacts during project implementation? ☒ Yes ☐ No A monitoring and evaluation unit will be established in the project management office to monitor project performance, including environmental, poverty, gender, and social impacts, as specified in the summary initial environmental examination and the poverty, social, and gender assessment.

[a] There are currently no reliable data on employment, unemployment, and underemployment in Afghanistan. The Afghanistan National Development Strategy (ANDS) indicates that the unemployment rate hovers at around 40%. ANDS, p. 40.
[b] ANDS, p. 40.
[c] ANDS, p. 30.
[d] Because of unreliable or outdated statistical data, Afghanistan is not included in the United Nations Development Programme (UNDP) 2007 human development index. Various statistical indicators provided for Afghanistan, however, place it among the lowest-ranked countries, and it is certainly the lowest ranked in the entire Asia and Pacific region. UNDP. 2007. *Human Development Report 2007/2008*. *Fighting Climate Change: Human Solidarity in a Divided World.* New York. (p. 233). The 2007 Afghanistan human development report ranks Afghanistan as 174th of 178 countries, ahead of only Burkina Faso, Mali, Sierra Leone, and Niger. Center for Policy and Human Development. *Afghanistan Human Development Report 2007 Bridging Modernity and Tradition: Rule of Law and the Search for Justice.* Kabul. 2007. Afghanistan's key Millennium Development Goals and the country's economic, social, and poverty indicators are summarized in Appendix 2, Tables A2.1, A2.2, and A2.3.
[e] ANDS, p.27.
[f] Islamic Republic of Afghanistan. 2005. *Millennium Development Goals Islamic Republic of Afghanistan Country Report 2005 Vision 2020*. Kabul (pp. xviii–xix).
[g] ANDS, p. 87.

SUMMARY GENDER ACTION PLAN

1. The gender action plan (GAP) aims to ensure that women will be involved in and benefit from the Agriculture Market Infrastructure Project (the Project) by mainstreaming gender concerns throughout all its components. The full GAP is in Supplementary Appendix D. Women's participation in the Project is expected to contribute to their social and economic development through training and capacity development, support to women's entrepreneurship and leadership, and employment. This is in line with the Government of Afghanistan's three-pronged goals on gender: (i) eliminate discrimination against women, (ii) develop women's human capital, and (iii) ensure women's leadership to guarantee their full and equal participation in all aspects of life.

2. Supporting these goals will result directly and indirectly in reduced income poverty and food poverty among rural and urban households. Participation in income-generating and entrepreneurial activities will raise women's confidence, enhance their social status, and support their empowerment in decision making in households and villages, regionally and nationally. Recent surveys in Afghanistan have confirmed that the poorest households are more likely to be those headed by a single parent, often a woman, and that 67% of female-headed households are poor.[1] Women-headed households are therefore particularly vulnerable.

3. With the support of the Project, women are expected to benefit in several ways from agribusiness development, as employees of agribusinesses, entrepreneurs, leaders or partners in agribusinesses, and members of women's groups or associations involved in agricultural marketing. Women are already heavily involved in agricultural production and processing and, to a lesser extent, in trading agricultural produce. By starting value chains with the harvest and postharvest, the Project has the opportunity to support women's producer associations interested in improving the quality of their produce, thus enabling rural women to benefit who may not be able or willing to invest in large, urban agribusiness opportunities, and who may, because of their geographical location, not benefit from wage work in urban agribusiness plants. The table in Supplementary Appendix D provides indicative estimates.

4. At this stage in the development of the Afghan agribusiness subsector, it seems unlikely that project-supported slaughterhouses and small-scale marketing infrastructure facilities will adversely affect women's employment in cottage industries and backyard processing. Further, monitoring the impact of the new businesses on cottage industries will be undertaken to assess the livelihood opportunities that Afghan women currently derive from it. There is a risk that women will be sidelined by agribusiness development, because currently there are few female agribusiness professionals in Afghanistan, and very little targeted support is available to women agribusiness entrepreneurs. In terms of employment in agribusinesses, it is likely that men will be the main beneficiaries of the Project in terms of training and entrepreneurship, while the bulk of women employment generated will be through backward linkages to agricultural production. The Project will therefore make a concerted effort to promote women producers and members of farmers' associations and to increase the benefits that women obtain from employment in agribusinesses. The project management office will need to adapt gender-mainstreaming approaches to the specific requirements of each region. The Project acknowledges that supporting women's empowerment throughout the Project will require additional resources.

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[1] National Risk and Vulnerability Assessment 2005, cited in Government of the Islamic Republic of Afghanistan. 2006. *Afghanistan National Development Strategy: An Interim Strategy for Security, Governance, Economic Growth and Poverty Reduction*. Kabul.