# ASIAN DEVELOPMENT BANK

TAR: IND 37091

## TECHNICAL ASSISTANCE
(Financed by the Government of the United Kingdom)

## TO

## INDIA

## FOR PREPARING THE

## AGRIBUSINESS DEVELOPMENT SUPPORT PROJECT

**October 2004**

## CURRENCY EQUIVALENTS
(as of 8 September 2004)

| | | |
|---|---|---|
| Currency Unit | – | rupee/s (Re/Rs) |
| Re1.00 | = | $0.0216 |
| $1.00 | = | Rs46.31 |

## ABBREVIATIONS

| | | |
|---|---|---|
| ADB | – | Asian Development Bank |
| CSO | – | Central Statistical Organization |
| DAC | – | Department of Agriculture and Cooperation |
| HP | – | Himachal Pradesh |
| IEE | – | initial environmental examination |
| J&K | – | Jammu and Kashmir |
| NAS | – | National Accounts Statistics |
| NCDC | – | National Cooperative Development Corporation |
| NGO | – | nongovernment organization |
| NSSO | – | National Sample Survey Organization |
| TA | – | technical assistance |

## TA CLASSIFICATION

| | | |
|---|---|---|
| **Poverty Classification** | – | Poverty 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 |
| | – | Catalyzing private sector investment |
| | – | Private-public partnerships |

Following the Board approval of the R-Paper, *Review of ADB's Poverty Reduction Strategy*, staff instructions to replace the PI/CPI classification with a new tracking system are under preparation in line with paragraph 83 of the R-Paper.

## NOTE

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

This report was prepared by S. K. Sahni.

## I. INTRODUCTION

1. The Government of India requested the Asian Development Bank (ADB) to provide project preparatory technical assistance (TA) to prepare the agribusiness development support project. The aim is to develop economically viable projects in agribusiness, with a particular focus on improved storage and greater value added in the processing and marketing chains so as to improve efficiency and reduce postharvest losses.[1] A TA Reconnaissance Mission visited India on 11–22 March 2004, and a TA Fact-Finding Mission on 1–17 July 2004 reached an understanding with the Government on the goals, purpose, scope, implementation arrangements, cost, financing arrangements, and terms of reference for the TA. These were defined through a consultative process as part of advisory TA, and included central Government, state governments, external funding agencies, private sector, nongovernment organizations (NGOs), policy researchers, and farmer groups.[2] The TA is included in ADB's 2004 program for India.[3] A preliminary project framework is in Appendix 1.

## II. ISSUES

2. The agriculture sector is the core of India's Tenth Five-Year Plan (2002–2007). The Plan notes the achievements of the food security perspective that guided agriculture sector policies and programs for three decades, but suggests that the true potential of Indian agriculture will be realized only with diversification of agricultural products. Agricultural production and linked processing, distribution, trade, financial, and commercial activities have a large potential for sustaining the demand for labor, improving the quality of employment, and meeting the consumption needs of a growing population. The Government's economic objectives place emphasis on generating gainful employment in agriculture. Food processing is seen as an important employment-generating activity. However, its success is linked to close integration of the value chain, including production, manufacturing, distribution, and wholesale and retail sales of agricultural commodities. It is clear that more efficient outcomes can generally be achieved if the private sector is involved in developing market-driven opportunities. Ongoing reforms recognize the need for participation of the private and cooperative sectors in agricultural marketing. At the same time, complementary public investments are needed to correct market failures and efficiently provide core public goods.

3. While India is the second largest producer of food in the world, value addition is low and the size of the processing sector is small. The supply chain for agricultural commodities—which is the core that sustains agribusiness—is marked by serious inefficiencies. The supply chain is long, but with incommensurate value added in terms of sorting, grading, storage, and bulk-handling facilities. Physical wastage is high and so are marketing margins.[4] Large-scale investment is necessary to overcome these inefficiencies. The world over, large agribusinesses are commodity processors and chain retailers. These businesses have prospered by investing in the supply chain—in production (by disseminating better varieties), procurement and collection centers, grading, bulk storage, and handling facilities. As a result, food chains in the developed countries have evolved to become efficient. A similar pattern is emerging in rapidly developing countries of Asia, such as the People's Republic of China, Indonesia, Malaysia, and Thailand.

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[1] ADB. 2003. *Country Strategy and Program (2003–2006): India*. Manila.

[2] ADB. 2003. *Technical Assistance to India for the Agribusiness and Commercial Agriculture Assessment*. Manila.

[3] The TA first appeared in *ADB Business Opportunities* (Internet edition) on 24 November 2003.

[4] According to one estimate, 30% of horticulture products are wasted every year due to rough handling, inadequate packaging, and lack of temperature control. Wastage occurs even in less perishable grains because of inefficient handling, repeated bagging, and poor storage. Apart from physical wastage, there are inefficiencies in the supply chain in terms of loss in quality and excessive cost of the large number of intermediaries in the chain.

4. The major constraints to agribusiness and commercial agriculture development at the national level are well-documented.[5] They include (i) agriculture not being market-driven; (ii) distorted incentive structures; (iii) a multiplicity of laws, regulations, and taxes; (iv) inadequate backward and forward linkages; (v) poor infrastructure, especially for marketing; (vi) the poor state of markets and the way they transact; (vii) inadequate outreach of services and credit to farmers; (viii) lack of modern storage techniques and transportation methods; and (ix) inadequate information on and linkage with standards and requirements for exports. In addition to a national overview of sector issues, five states were identified for an initial assessment of agribusiness and commercial agriculture investment constraints and opportunities (footnote 2). The states represent a diverse spread of agricultural development and agro-ecological potential (Appendix 2). From stakeholder consultations at the central and state levels, broad investment priorities have been identified for each state.

5. Access to credit for the agriculture sector remains a constraint. Major concerns identified by recent studies on rural finance include (i) declining outreach, (ii) unsustainable credit delivery institutions, and (iii) high transaction and risk costs. An Advisory Committee on the Flow of Credit to Agriculture and Related Activities from the Banking Sector recently examined some of these issues, and its recommendations are being finalized.[6] In view of weaknesses in the delivery of credit by the formal sector, informal private suppliers play an important role by providing not only access to credit without collateral (especially to small and marginal farmers, and in inaccessible areas), but also services, transport, and other logistical support.

6. The agribusiness sector is affected by a number of policies and laws—including those relating to agricultural marketing, storage, rural credit, international trade, taxes, transport of agricultural commodities, cooperatives, food processing, and food safety. The Government has reviewed existing policies, and recommended legal reforms to free marketing and processing of agricultural commodities from controls under the existing Agricultural Produce Marketing (Regulation) Act (APMC Act). A Model Act, the (name of state) Agricultural Produce Marketing (Development & Regulation) Act, September 2003 was drafted, to (i) enable nationwide integration of agricultural markets, (ii) facilitate emergence of competitive agricultural markets in the private and cooperative sectors, (iii) create a conducive environment for large investments in marketing-related infrastructure, and (iv) lead to modernization and strengthening of existing markets. So far, 10 states have initiated legal or administrative action for direct marketing and contract farming arrangements in line with the Model Act.

7. The agribusiness sector is estimated to account for at least 10% of India's gross domestic product. The manufacturing component of the agribusiness sector in India is characterized by the significant presence of small household production units: unorganized, small players (handling less than 0.5 ton per day) process more than 75% of the industry output in terms of volume and 50% in terms of value. For this, as well as the fact that trading services are usually labor-intensive, the agribusiness sector is likely to employ a significant fraction of the country's workforce.[7] The growth of the agribusiness sector is positively affected by agricultural productivity, changes in consumption

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[5] For example, (i) Federation of Indian Chambers of Commerce and Industry. 2002. *Indian Agriculture Unbound: Making Indian Agriculture Globally Competitive*. New Delhi; (ii) Industrial Development Bank of India. 2001. *Value Addition in Indian Agriculture*. Mumbai; (iii) Export-Import Bank of India. 2001. *Agro & Processed Foods: A Sector Study*. Mumbai; and (iv) McKinsey and Company. 2003. *FAIDA: Modernizing the Indian Food Chain*. New Delhi.

[6] ADB is also processing a loan in 2004, based on ADB. 2003. *Technical Assistance to India for Preparing the Rural Finance Sector Restructuring and Development Program*. Manila.

[7] Studies have shown that the labor share of value added in agro-industry is 48% compared with 35% in other industries; and that food-related agro-industries are relatively more labor-intensive.

patterns away from food staples, improvements in transport and communication infrastructure, international trade, and supportive government policy. For example, expansion of the rural roads network gives improved access to markets. In India, components of commercial agriculture such as fruits and vegetables, and oilseeds and sugars are growing faster than food grains. Such supply behavior has its counterpart in consumption pattern changes, with a more rapid growth in the consumption of items such as fruits and vegetables, oils and milk products rather than food grains. In the future, international trade may reinforce these trends.

8. Horticultural products include fresh, frozen, and processed fruit and vegetables, and products such as medicinal herbs and cut flowers. The Government recognizes horticulture as an important way to diversify agriculture and create employment opportunities. Horticulture production is seen to have a comparative advantage because of favorable agroclimatic conditions, low labor costs, and seasonality. It also provides the rural poor with opportunities to increase skills, employment, and incomes. However, because the produce is perishable and seasonal, it has high technological and managerial requirements. An integrated, demand-oriented production and marketing system, supported by cold chain infrastructure and technical inputs, is needed to realize the potential benefits of horticultural production. To make the environment conducive to private investment, government action may be required to overcome market failures, reduce unduly high transaction costs, and provide support to a nascent industry. For example, building certification capacity to comply with market grades and standards has public goods aspects. High investment costs for postharvest and transport infrastructure may need public sector financing or cofinancing, with private sector management and maintenance responsibilities.

9. Contract farming—a forward agreement between growers and processing and marketing enterprises—can provide the necessary backward and forward market linkages for profitable smallholder production. It has been used in India for cash crops (*basmati* rice, cotton, sugar), as well as fruits and vegetables, and dairy. Well-managed and regulated contract farming will allow small farmers to participate in and benefit from commercial agriculture. The arrangements provide farmers improved access to production services, credit, and new technology. Contract farming requires a long-term commitment from both farmers and firms, and often involves trial-and-error learning. Experience has shown that incentive structures between partners (particularly growers and agribusinesses) must be designed to minimize enforcement problems. The Government can facilitate contract farming arrangements by promoting the development of growers' associations, establishing appropriate contract regulation frameworks, and providing the required infrastructure.

10. Agricultural workers, small and marginal farmers, and casual workers engaged in non-agricultural activities constitute the majority of the rural poor. Small landholdings and low productivity are the main causes of poverty among the rural population that depends mainly on agriculture for livelihood. Although India has made progress in poverty reduction, with a decline in numbers of the poor, regional disparities remain. Rural-urban and gender disparities continue to exist between and within states. An initial poverty and social analysis was conducted (Appendix 3). It will be important to consider the range of farmer, input provider, or processor arrangements appropriate in each state and identify those that can optimize returns and reduce risks for small and marginal farmers.

## III. THE TECHNICAL ASSISTANCE

### A. Purpose and Output

11. The TA will assist the Government in designing an investment project suitable for external financing that will focus on enhancing income and employment opportunities through increased and sustainable commercialization of agriculture and development of agribusiness. The investments will promote production, processing, and marketing of high-value crops, and the

building of capacity of all stakeholders so as to support and sustain the process. The TA will design a project that will assist economically and financially viable investments in market facilities and infrastructure, as well as support services for agribusiness development and commercialized farming. The project will encourage private sector investment in all stages of the value chain in agriculture.

## B. Methodology and Key Activities

12. The TA will short-list and evaluate investment options in five states, and prepare project components for each state.[8] A modular design approach will enable scaling up and replication. The project will contribute to (i) greater efficiency in agribusiness through enhanced value added in processing and reduced postharvest losses; (ii) demand-driven and private sector-led production and processing for national and international markets; and (iii) higher incomes for farmers and throughout the marketing chain. The TA will draw on the outputs of a recently completed agribusiness sector assessment (footnote 2), and other relevant TA.[9] The strategic approach and initial identification of investment needs documented by the assessment will be a basis for further prioritizing and selecting investment proposals with the greatest potential for profitable, private sector-led growth. The TA will undertake a detailed analysis of constraints and opportunities at the state level, to identify subsectors and commodities with rapid growth potential. Identification of possible project components will be based on factors including (i) market analysis, (ii) supply chain, (iii) competitive advantage, (iv) potential profitability, (v) extent of postharvest losses, and (vi) potential number of farmers benefited.

13. Steps will be identified, at the state level, to remove legal impediments to investments in the supply chain. Measures required to facilitate and assist markets, institutions, standards and infrastructure in the agribusiness sector will also be detailed. Lessons learned from documented experiences in contract farming will be taken into account in project design and implementation. An option to consider is to organize farmers through self-help groups, growers' associations, and cooperatives. Existing experiences and contracts will be reviewed, and recommendations will be made on an appropriate framework and dispute resolution mechanism.

14. To contribute to rural and small farmer development, agribusiness growth calls for innovative models of organization. The experience with several models (cooperative, public, private, and public-private partnership) will be reviewed and evaluated, with reference to key success factors: (i) creating incentives for farmers to produce the required quantity and quality of raw materials, and to supply the produce as per contractual arrangements; (ii) providing required farm inputs and technology, and clarifying who bears what costs and risks; (iii) access to efficient and cost-effective processing technology; (iv) providing effective market intelligence to assess changing consumer demand; (v) attracting investment capital; and (vi) attending to issues of ownership, organization, management, and quality control. Based on the evaluation, appropriate models will be formulated for agribusiness development in the project area.

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[8] The five states may be prioritized for interventions under the ensuing loan depending among others, on the commitment to initiate complementary reforms and institutional capacity to support the ensuing project. Depending on the results of the initial analysis under the TA, two or three states may be identified for initial interventions upon approval of the proposed project, with the others to follow in a phased manner during the project's implementation.

[9] ADB. 2003. *Technical Assistance to India for Preparing the Chhattisgarh Irrigation Sector Development Project*. Manila. Recommendations on crop diversification in Chhattisgarh will be taken into account. See footnote 6.

## C. Cost and Financing

15. The TA is estimated to cost $1,250,000 equivalent, comprising $565,000 in foreign exchange and $685,000 equivalent in local currency. The entire foreign exchange cost and $435,000 equivalent of the local currency cost will be financed on a grant basis by the Government of the United Kingdom, and administered by ADB. The Government will contribute the balance of the local currency cost of $250,000 equivalent through the provision of counterpart staff, office space, administrative services, and data. Details of the cost estimates and financing plan are given in Appendix 4. The Government has been advised that approval of the TA does not commit ADB to finance any ensuing project.

## D. Implementation Arrangements

16. The Department of Agriculture and Cooperation (DAC) of the Ministry of Agriculture will be the Executing Agency for the TA, while the National Cooperative Development Corporation (NCDC) will be the Implementing Agency at the central level (Appendix 2). Each state will nominate a nodal department and a project director to work closely with the consultants' team, facilitate their interactions with other state government agencies, facilitate access to data and information from other government departments and organizations, and assist in arranging field visits. Steering committees will be established at the central and state levels, chaired by the secretary of DAC and the chief secretaries of respective states. A central coordination committee, chaired by the managing director of NCDC, will oversee TA implementation. The Government assured that (i) a project director will be nominated in each state prior to TA contract negotiations; (ii) furnished office space, utilities, and local communication facilities will be provided for the TA team at Delhi in the NCDC premises; (iii) similar facilities will be provided for the TA team in each state capital; (iv) assistance will be provided for surveys, stakeholder workshops, and field visits; and (v) assistance will be provided for local transportation.

17. About 60 person-months of consulting services (20 international and 40 domestic) will be required. International consultants will have expertise in agribusiness, project economics, horticulture industry, agricultural marketing, social development, and environmental analysis. Domestic consultants will have expertise in institutional development, legal aspects, business development services, agricultural economics, horticulture development, financial analysis and management, social analysis, and environmental assessment. ADB will recruit an international consulting firm (or consortium) in association with domestic consultants, in accordance with its *Guidelines on the Use of Consultants* and other arrangements for engaging domestic consultants satisfactory to ADB. Consultants will be selected using the simplified technical proposal procedure. Outline terms of reference are in Appendix 5.

18. The TA will start in November 2004 and be completed in June 2005. The following reports will be produced: (i) an inception report at the end of 3 weeks of the TA, (ii) an interim report at the end of 2.5 months, (iii) a second interim report at the end of 4.5 months, (iv) a draft final report, at the end of 6 months, and (iv) a final report incorporating feedback and comments. The TA will provide equipment that the consultant will purchase in accordance with ADB's *Guidelines for Procurement*. Equipment to be procured under the TA will be handed over to DAC upon TA completion.

# IV. THE PRESIDENT'S DECISION

19. The President, acting under the authority delegated by the Board, has approved ADB administering technical assistance not exceeding the equivalent of $1,000,000 to the Government of India to be financed on a grant basis by the Government of the United Kingdom for preparing the Agribusiness Development Support Project, and hereby reports this action to the Board.

## PRELIMINARY PROJECT FRAMEWORK [a]

| Design Summary | Performance Indicators and Targets | Monitoring Mechanisms | Assumptions |
|---|---|---|---|
| **Goal**<br>Raise rural employment and incomes, and reduce rural poverty in the project area | Rural poverty reduced by 10 percentage points by end of 11th Five-Year Plan (2012)<br><br>Employment in agro-based industries increased by 5 percentage points by 2012 | Central Statistical Organization (CSO) annual survey of industries<br><br>National Accounts Statistics (NAS)<br><br>National Sample Survey Organization household surveys | |
| **Purpose**<br>Diversify agricultural production and enhance value added in the marketing system | Value addition in agriculture raised (above 20% by 2010).<br><br>Postharvest losses for fruits and vegetables reduced (below 20% by 2010). | NAS<br><br>CSO annual survey of industries<br><br>Department of Agriculture statistics at central and state levels | An enabling policy, legal and regulatory environment established for private agribusiness activity<br><br>Adequate investments made in agricultural marketing and other supporting infrastructure |

[a] The project framework (including outputs, activities and inputs) will be further developed during implementation of the technical assistance.

## GOVERNMENT PRIORITIES AND SELECTED STATES

1. The Government, through the Interministerial Task Force on Agricultural Marketing Reforms, 2002, has estimated an investment requirement of Rs122.3 billion (about $2.7 billion) for infrastructure development during the Tenth Five-Year Plan period, a major proportion of which will have to come from private investment. In the case of fresh produce, infrastructure is needed in the form of collection centers, packing houses with pre-cooling facilities, and transportation under controlled conditions. In addition, systems need to be developed for postharvest management and logistics—including grading, standardization and quality certification of agricultural produce—at the farm and market levels to improve efficiency and competitiveness, and provide greater transparency in pricing to help the farmer get a higher value for his produce. Many laws and regulations govern agribusiness, and a large number of agencies are involved, making private investment difficult. The continuance of restrictive legislation, such as the existing Agricultural Produce Marketing (Regulation) Act and the Essential Commodities Act, also deters private investment. A complex and burdensome tax regime is a further constraint. Ongoing reforms recognize the need to enable the private and cooperative sectors to participate in agricultural marketing.

2. The Government's economic objectives emphasize generating gainful employment in agriculture. The annual budget presented in July 2004 underscores that growth will be sustained among others by increased production and value addition in agriculture. It notes the need for large investments in agriculture, but emphasizes that these have to be through credit-enabled private investment as well as enhanced public investment. To encourage diversification into horticultural production, a National Horticulture Mission is to be launched with the aim of doubling horticulture production by 2011–2012. Raising agricultural growth through diversification and development of agroprocessing is also stressed.

3. Five states were identified for an initial assessment of agribusiness and commercial agriculture investment constraints and opportunities:[1] (i) Chhattisgarh in central India; (ii) Himachal Pradesh (HP) in the western Himalayas; (iii) Jammu and Kashmir (J&K), the northernmost state in India; (iv) Punjab in northwestern India; and (v) Sikkim in the eastern Himalayas. The considerations for selecting these states were as follows:

(i) Planned ADB assistance to Chhattisgarh for development of irrigation and rural roads will support and have synergy with diversification of agriculture.

(ii) J&K has been given high priority by the Government, and appears to have comparative advantage for certain horticulture crops.

(iii) Punjab has been at the forefront of the green revolution, and is now trying to shift from agriculture to agribusiness. The need for crop diversification is in part driven by soil degradation and depleting water resources from the rapid rotation of rice and wheat crops. Initiatives in the state can be considered for replication and expansion in other states.

(iv) Sikkim is part of the Government’s priorities to support development of the northeastern states.

(v) HP has potential in horticulture similar to that of J&K and Sikkim, and was included at the Government’s request.

[1] Asian Development Bank. 2003. *Technical Assistance to India for the Agribusiness and Commercial Agriculture Assessment*. Manila.

4. These five states represent a diverse spread of agricultural development and agri-ecological potential. Their key features are outlined in para. 5-9. After stakeholder consultations at the central and state levels, broad investment priorities were identified for each state.

5. Chhattisgarh has three agroclimatic zones—the northern hills, suitable for horticultural production; the central flatlands, where monocropping of rice predominates; and the Bastar plateau, with a large tribal population dependent on forest produce, in the south—and a diversity of produce. The state has one airport and only 9 of 16 district headquarters are linked by rail. Although Chhattisgarh is a rice-surplus state, it is relatively backward in agriculture development. Cropping intensity is only 113% (compared with 183% in Punjab). Irrigation is limited, and agriculture is largely rain-fed. The state, however, started a crop diversification program in 2000–2001, and made a beginning in introducing pulses, oilseeds, and horticultural crops. Proposed ADB assistance for water resource management will support further crop diversification.[2] Banana is an important fruit crop, and a private sector tissue culture facility has developed a significant capacity to produce banana plants. However, production costs are high, even though yields are considerably higher, and small farmers usually lack the capacity to invest in better plantation. Mushroom cultivation is also being taken up in the state; although on a small-scale, it can meet the nutritional and income-generating needs of small farmer households. Modernization of wholesale markets is a longer-term need, in particular to provide common facilities for cleaning, grading, and storing grain and oilseeds. Primary processing centers, including packing houses, will be needed to support expansion of banana cultivation.

6. HP is a leading state in growing temperate fruits, second only to J&K, with an area of over 0.2 million hectares under fruit cultivation, and a total production of almost 0.5 million tons annually. Apple cultivation has made progress, with production of over 0.3 million tons. However, public sector apple juice processing units have not been very successful, and a cold chain is still lacking. The state is also a major producer of off-season vegetables, and supplies other parts of the country during the summer months (April to September). Potato is a major cash crop, with cultivation of seed potato in the higher hills, and contract farming for processing in the low hills. National agriculture research centers for potatoes and mushrooms are located in HP. The hilly terrain in most of the state limits road connectivity. As in other states, there is a need for primary processing centers in the production areas. There is also a need for modern packing houses and controlled atmosphere storage and transportation for apples at strategic locations in the state. A longer-term need also exists for renewing the root-stock for apple, and a technical assistance project recently started in HP (and Uttaranchal) funded by the FAO will look at establishing some pilot sites over the next 18 months.

7. J&K has three distinct regions: the Jammu plateau with a subtropical climate, the Kashmir valley, and the Ladakh high-altitude desert. The state is the largest producer of almost all temperate crops grown in India. Its most important crops are apples (0.9 million tons annually), walnuts (over 32,000 tons, 90% of India's annual production), and saffron. Other fruit crops are almonds, apricots, cherries, and pears. A World Bank-assisted project in the early 1980s had helped to establish apple processing facilities, including cold stores, in the public sector. However, during the past 15 years of conflict, the cold stores were abandoned and became unusable. More recently, an apple juice concentrate plant was established by the private sector near the Srinagar airport (some distance away from the producing areas). Declining prices of apple juice concentrate in the world market adversely affected the viability of the export-oriented unit. In the present system, without appropriate grading and storage

[2] ADB. 2003. *Technical Assistance to India for Preparing the Chhattisgarh Irrigation Sector Development Project*. Manila, based on which a loan is being processed in 2004.

facilities, apple procurement is controlled by traders in Delhi, and growers often sell the crop in advance to the traders in exchange for credit facilities. The state's distance from major consuming centers, the lack of infrastructure for postharvest handling of fruit, and limited processing facilities prevent growers from realizing their comparative advantage in horticultural produce.

8. Punjab, which has been at the forefront of the green revolution and has led India in achieving its goal of food self-sufficiency, is rapidly becoming a victim of its own success. With just 2.4% of India's arable land, the state produces 21% of India's wheat and 10% of its rice. However, the continuing focus on production of wheat and paddy is depleting both groundwater and soil fertility. The state realizes the problems, and is implementing a strategy to diversify its cropping pattern. An ambitious program was launched to shift about 1 million hectares of land from paddy and wheat to higher value crops like barley, maize, oilseeds, and horticultural crops, as well as higher value *basmati* rice and durum wheat. Punjab has also developed experiences of contract farming, some of which were reviewed under TA 4192-IND (footnote 1); the key issue appears to be to "manage the social interface."[3] The challenge is to get farmers to change, from relatively easy-to-grow cereals with predictable prices, to oilseeds, potatoes, fruits, and vegetables that have potentially higher returns but are subject to higher risks. Infrastructure investments needed to support the diversification program include establishing primary processing centers in the growing areas for collecting, grading, sorting, packing, and storing produce. The State Agricultural Marketing Board has plans for improving the marketing infrastructure in the state, including establishing a wholesale fruit and vegetable market similar to that recently established by the National Dairy Development Board at Bangalore. Bulk storage is also needed for oilseeds.

9. Sikkim, a mountainous state comprising four districts, is the world's largest producer of large cardamom, a prized spice. High-value crops with potential for agribusiness development are hill ginger, large cardamom, mandarin oranges, and orchids. Most of the produce is sent in a raw form to other states for value addition through grading and processing. A proposed road link to Tibet via the Nathu La pass (about 25 kilometers from the state capital) could open up international trade opportunities. Primary processing centers are a possible area for investment, particularly for processing and packaging of ginger and cardamom. It is expected that development and upgrading of road connectivity will provide better market access for higher value products from the state. The northeastern region of India, including Sikkim, is an area of special focus for centrally sponsored schemes such as the technology mission on horticulture, which can support private investment in agribusiness.

10. The Government has formulated a number of schemes to support the development of commercial agriculture and agribusiness. These include agri-export zones, food parks, technology mission on horticulture, and technology (agribusiness) incubators. Some of these were reviewed by the recent sector assessment (footnote 1). Proposed investments with ADB assistance will complement and leverage funding available under these schemes.

11. The National Cooperative Development Corporation (NCDC) was established as a development finance institution for the cooperative sector. A major objective of NCDC is to promote, strengthen, and develop the institution of farmers' cooperatives for increasing production and productivity, and instituting postharvest facilities. The Government sees an

[3] The TA also undertook a survey of about 100 farmers in Punjab, to identify what factors motivate them to diversify (or not). The study suggested strategies for making farmers more aware of the benefits of diversification, as well as providing them with the information needed to add value to the diversified crops.

important role for NCDC in developing primary processing centers to support farmers' cooperatives in commercial agriculture. Another relevant organization is the National Agriculture Cooperative Marketing Federation, which has a mandate to promote cooperative marketing of agricultural produce for the benefit of farmers. These organizations play a key role in organizing and assisting farmers' cooperatives.

# INITIAL POVERTY AND SOCIAL ANALYSIS

## A. Linkages to the Country Poverty Analysis

| | | | |
|---|---|---|---|
| **Is the sector identified as a national priority in country poverty analysis?** | ☒ Yes ☐ No | **Is the sector identified as a national priority in country poverty partnership agreement?** | ☒ Yes ☐ No |

**Contribution of the sector or subsector to reduce poverty in India:**

The Indian economy is an overwhelmingly rural economy with nearly 75% of the population residing in rural areas. Agriculture is the mainstay for this economy, with the sector contributing 24.2% to India's gross domestic product in 2001–2002. The sector employs 56.7% of the workforce, and provides livelihood to about two thirds of the country's population. In 1999–2000, 748 of every 1,000 employed women were employed in agriculture and related activities. Hence the development of this sector has considerable gender implications.

Given the high inefficiencies and extremely high postharvest losses, there is a large untapped potential in the agribusiness industry, which if developed will have strong multiplier effects on employment, equitable income growth throughout the economy, reduced vulnerability, household food security, higher farm and nonfarm incomes, that can lead to poverty reduction. Diversification of Indian agriculture and increased efficiencies in the value chain will contribute to the goal of reducing poverty by raising the productivity of land and water resources in a sustainable manner and augmenting the accrued economies. Private sector participation in such activities can reduce the burden on central and state finances, and ensure greater efficiency.

## B. Poverty Analysis

**Proposed Poverty Classification:** Poverty Intervention [a]

**What type of poverty analysis is needed?**

To the extent that markets facilitate commodity production and integrate producing regions with consuming regions, they help farmers in choosing the most profitable cropping pattern. It must be recognized that small and marginal farmers in poorly integrated areas are especially vulnerable to falling commodity prices because of their inability to switch rapidly to alternatives. An analysis of the project area indicates that measures need to be designed that can protect the livelihoods of the vulnerable groups as well as promote agricultural growth.

## C. Participation Process

| | | | |
|---|---|---|---|
| **Is there a stakeholder analysis?** | ☒ Yes | ☐ No | Will be further developed under the TA. |
| **Is there a participation strategy?** | ☐ Yes | ☒ No. | Will be developed under the TA. |

## D. Gender Development

**Strategy to maximize impacts on women:**

Women in India constitute only about 30% of the workforce, and 90% of women workers are in rural areas. Punjab, which is agriculturally developed and among the more prosperous states in the country, registers the lowest work participation rate for women and one of the lowest ratios of women to men. Agriculture continues to be the most significant area of women's work participation, whether as workers on household farms owned or tenanted by their families, or as wage workers. Women make 45% of the total agricultural labor force, and 84% of all economically active women are in agriculture. Cultivators constitute only 25% of the women's workforce.

Women in agriculture are often significantly underemployed, being engaged in seasonal jobs and for short durations. Their jobs are repetitive, monotonous, and arduous. Gender wage differentials also exist: for example, women's wages in rural casual agricultural labor were only 71% of those of men. Recent time-use surveys show that a substantial amount of women's time is devoted to unpaid labor, and that this has been increasing over the past decade.

[a] Following the Board approval of the R-Paper, *Review of ADB's Poverty Reduction Strategy*, staff instructions to replace the PI/CPI classification with a new tracking system are under preparation in line with paragraph 83 of the R-Paper.

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| However, there are also examples of women entrepreneurs in commercial agriculture, and of increased opportunities for women to earn income through related activities. An improved market system, together with mobilization and training, can encourage women entrepreneurs to enter agribusiness. |
| **Has an output been prepared?** ☐ Yes ☒ No. Will be prepared by the TA. |

## E. Social Safeguards and other Social Risks

| Item | Significant/ Not Significant/ None | Strategy to Address Issues | Plan Required |
|---|---|---|---|
| **Resettlement** | ☐ Significant<br>☐ Not significant<br>☒ None | No involuntary resettlement is anticipated. In designing infrastructure-related components, the TA will avoid land acquisition or right-of-way changes that can displace the population. | ☐ Full<br>☐ Short<br>☒ None |
| **Affordability** | ☐ Significant<br>☐ Not significant<br>☒ None | | ☐ Yes<br>☒ No |
| **Labor** | ☐ Significant<br>☒ Not significant<br>☐ None | The proposed project will have a positive impact on labor by creating new employment opportunities. Small farmers, rural labor (including women) will benefit. A case study on contract farming in Punjab and Andhra Pradesh has indicated that child labor is sometimes involved. This will be reviewed, and if any such issue is anticipated in the project area, project design will incorporate appropriate measures to address it. | ☐ Yes<br>☒ No |
| **Indigenous Peoples** | ☐ Significant<br>☒ Not significant<br>☐ None | Chhattisgarh and Sikkim have tribal populations. Potential impacts, positive and negative, on these populations will be assessed and appropriately addressed in the project design. The TA will also draw on studies done in this regard for preparing the Chhattisgarh Irrigation Sector Development Project. [b] | ☐ Yes<br>☒ No |
| **Other Risks and/or Vulnerabilities** | ☐ Significant<br>☐ Not significant<br>☒ None | | ☐ Yes<br>☒ No |

[b] ADB. 2003. *Technical Assistance to India for Preparing the Chhattisgarh Irrigation Sector Development Project*. Manila.

**COST ESTIMATES AND FINANCING PLAN**
($'000)

| Item | Foreign Exchange | Local Currency | Total Cost |
|---|---|---|---|
| **A. United Kingdom Financing** [a] | | | |
| 1. Consultants | | | |
| a. Remuneration and Per Diem | | | |
| i. International Consultants | 420.0 | 0.0 | 420.0 |
| ii. Domestic Consultants | 0.0 | 200.0 | 200.0 |
| b. International and Domestic Travel | 60.0 | 40.0 | 100.0 |
| c. Reports and Communications | 0.0 | 20.0 | 20.0 |
| 2. Focus Group Discussions, Surveys, Workshops | | | |
| a. Facilitators | 0.0 | 5.0 | 5.0 |
| b. Other Costs | 0.0 | 40.0 | 40.0 |
| 3. Equipment [b] | 0.0 | 10.0 | 10.0 |
| 4. Miscellaneous Administration and Support Costs | 0.0 | 30.0 | 30.0 |
| 5. Vehicle Hire | 0.0 | 30.0 | 30.0 |
| 6. Representative for Contract Negotiations | 5.0 | 0.0 | 5.0 |
| 7. Contingencies | 80.0 | 60.0 | 140.0 |
| **Subtotal (A)** | **565.0** | **435.0** | **1,000.0** |
| **B. Government Financing** | | | |
| 1. Office Accommodation, Facilities and Transport | 0.0 | 100.0 | 100.0 |
| 2. Remuneration and Per Diem of Counterpart Staff | 0.0 | 100.0 | 100.0 |
| 3. Others [c] | 0.0 | 50.0 | 50.0 |
| **Subtotal (B)** | **0.0** | **250.0** | **250.0** |
| **Total** | **565.0** | **685.0** | **1,250.0** |

[a] Administered by the Asian Development Bank.
[b] Four desktop computers, two printers, and software and accessories.
[c] Including reports, publications, and other facilities.
Source: Asian Development Bank estimates.

## OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The technical assistance (TA) will require the services of about 20 person-months of international consultants in the areas of agribusiness (team leader, 7 person-months), project economics (3), horticulture industry (3), agricultural marketing (3), social development (3), and environmental analysis (1); and about 40 person-months of domestic consultants in the areas of institutional development (deputy team leader, 7 person-months), legal aspects (2), business development services (5), agricultural economics (4), horticulture development (5), financial analysis and management (4), social analysis (6), and environmental assessment (3); about 4 person-months will be provided for additional expertise requirements that may emerge during TA implementation. The international consultants will have adequate knowledge and experience of commodity trade-related aspects of agribusiness.

2. The team of consultants will design and carry out a feasibility study for a private sector-led agribusiness development support project. The feasibility study will be prepared in accordance with Asian Development Bank (ADB) policies, operations manual, and relevant guidelines.[1] The project framework will be developed with the participation of stakeholders.[2] The work will be organized as follows:

(i) An inception phase (about 3 weeks) will involve intensive desk review of available reports and documents (including the outputs of TA 4192-IND),[3] to prepare an assessment of the agribusiness sector context in each of the five states. Detailed discussions with the Department of Agriculture and Cooperation and other stakeholders will finalize the criteria for selecting alternatives for further assessment in each state. Based on the discussions, a detailed work plan will be prepared, including plans for workshops and surveys. The outputs will be documented in an inception report, giving (a) an assessment of the sector context in each state based on a review of existing reports and documents, (b) criteria for selecting alternatives for further assessment, and (c) a detailed work plan for the remaining period of the TA. A tripartite meeting will review the inception report, and confirm the basis on which the consultants will proceed to the next phase.[4]

(ii) Phase 2 (about 8 weeks) will focus on prioritizing problems and alternative solutions toward formulating a project that will catalyze and facilitate private sector investment in agribusiness. Stakeholder workshops, focus group discussions, and surveys will be conducted. A supply, demand and market analysis will be prepared, based largely on secondary data, and supplemented by sample surveys as needed. The analysis will be the basis for defining the economic rationale for selecting project components. Recommendations for addressing impediments and constraints at central and state levels will be formulated. Roles of public, private, and cooperative sectors, and nongovernment organizations (NGOs) in agribusiness development will be outlined. The first interim report will document the outputs of this phase, incorporating (a) the results of stakeholder workshops and initial surveys, (b) a demand analysis, (c) the economic rationale for selecting project components, (d) recommendations for addressing constraints and impediments, and (e) recommendations on the roles of public, private and cooperative sectors, and NGOs. A tripartite meeting will review this report, give feedback to guide the consultants, and confirm the basic project design.

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[1] All available on the website http://www.adb.org

[2] Stakeholders will include public, private and cooperative sectors at the central and state levels, as well as farmers, entrepreneurs, trade organizations, and financial institutions at the state and local levels.

[3] ADB. 2003. *Technical Assistance to India for the Agribusiness and Commercial Agriculture Assessment*. Manila.

[4] The consultants will ensure adequate discussion and acceptance of reports at the state level, before tripartite reviews.

(iii) Phase 3 (about 8 weeks) will detail the project design features, incorporating results of social and environmental analyses, and an assessment of costs and benefits. Stakeholder workshops to be conducted in each state will disseminate and validate the detailed design. A second interim report (building on the first interim report) will be submitted at the end of this phase, detailing the project design features, incorporating results of social and environmental analyses, and an assessment of costs and benefits. This will be followed by a tripartite review meeting

(iv) The final phase (about 6 weeks) will complete the feasibility study, including financial and economic analyses, and implementation arrangements. The draft final report to be submitted at the end of this phase will be a comprehensive document, with the completed feasibility study, a reform agenda, financial and economic analyses, and implementation arrangements, incorporating all the findings and recommendations of the TA; and will give sufficient basis for further processing of the proposed investment project. A final tripartite review meeting will consider this report, and give feedback for finalizing the report.

3. The five states may be prioritized for interventions under the ensuing loan depending among others, on the commitment to initiate complementary reforms and institutional capacity to support the ensuing project. Depending on the results of the initial analysis under the TA, two or three states may be identified for initial interventions upon approval of the proposed project, with the others to follow in a phased manner during the project's implementation. Specific tasks (para. 4–9) are grouped in the areas of analyses that will be required.

## A. Institutional and Legal Aspects

4. The following tasks will primarily be based on the study of documents and reports, focus group discussions with stakeholders and external experts, and review of institutional and regulatory aspects from case studies of recent and ongoing initiatives in agribusiness.

(i) Review relevant legislation and regulations at the central and state levels. Identify constraints to agribusiness development (including any gender-based discriminatory practices), suggest remedial measures, and, in consultation with stakeholders, prepare a time-bound action plan for introducing needed changes.

(ii) Review the public, private, and cooperative sector institutions in consultation with stakeholders to determine their performance, effectiveness, and responsiveness to agribusiness needs during key stages of input supply, production, and marketing. Recommend institutional reforms and reorganization, if needed, to strengthen and improve their effectiveness and accountability. Describe strategies for institutional strengthening, particularly in respect of policy support, human resource development, and supply of input and services.

(iii) Assess the extent to which private sector organizations and NGOs have helped develop agribusiness, and their functions and effectiveness.

(iv) Review experiences of contract farming, and identify success factors for design of such arrangements. Recommend means of organizing the private agribusiness sector, with emphasis on small-scale farmers, to enable industry organizations to ensure agricultural product quality control. Given the mixed experiences in contract farming, such arrangements should be designed to ensure that marginal farmers are not exploited.

(v) Indicate mechanisms that allow for partnership between government agencies and the private sector in development activities.

(vi) Identify needs for training and for consultant and NGO/community-based organization support, including detailed terms of reference.

(vii) Examine the possibility of designing state-level projects that address local gaps in agribusiness systems and, at the same time, help integrate local agribusiness into national and export systems.

(viii) In consultation with stakeholders and government agencies, recommend implementation arrangements (including an implementation schedule) for the proposed project, and delineate the respective roles and responsibilities of the private and public sector, and NGOs in project implementation.

## B. Agribusiness Aspects

5. Taking note of assessments in TA 4192 (footnote 3) the consultants will do the following:

(i) Rapidly assess the agribusiness sector in the selected states, from input distribution and production to processing, handling, marketing, and exports, to identify subsectors with the greatest potential for growth. Document specific issues and constraints (including gender-based constraints) in each subsector, and recommend remedial measures.

(ii) Review central and state government development strategies and plans pertaining to agribusiness and horticulture, and determine how they affect agribusiness development.

(iii) Identify key constraints on adoption of new technology by farmers (women and men), processors, and marketers; and the responsiveness of each group to new technology, including information and communications technology.

(iv) Based on the technical, financial, and marketing assessments, select priority subsectors for intervention, and recommend specific, detailed development strategies for each.

(v) Recommend interventions to modernize the handling, processing, storage, and transportation of selected commodities.

(vi) Determine the need to strengthen management support including enterprise development needs to the private sector. Assess the effectiveness and applicability of the technology incubator scheme for agribusiness.

## C. Marketing-Related Aspects

6. A supply and demand analysis in the context of overall market conditions will be required. The focus will be to identify market and institutional failures, underperformance and gaps in farm and nonfarm production and marketing, and needs for improving incentives, institutions, and infrastructure. Situation, problem, and need analyses will be prepared for on-farm and nonfarm enterprise production, marketing, and transactions. Any issues specific to market access by women for their products will be identified.

(i) Assess supply-side issues in terms of (a) physical factors; (b) resource access and costs; (c) access to technology; (d) price, quality, timing of outputs, procurement arrangements; (e) taxes and subsidies; (f) legal requirements and trade barriers; (g) industry structure and transaction costs; and (h) financial and economic performance.

(ii) Assess demand-side issues in terms of (a) consumer analysis, at the aggregate and segment levels; (b) supply chain, storage, and marketing costs; (c) collaborators and suppliers; (d) consumer and buyer concerns, especially export markets; and (e) competitor analysis for differentiated and export products.[5]

[5] There are two sources of consumption expenditure data in India: the National Sample Survey Organization (NSSO) surveys and National Accounts Statistics (NAS). NSSO Household Consumer Expenditure Surveys provide consumption expenditure data separately for different states in rural and urban areas. NAS estimates of private consumption are available for the country as a whole.

(iii) Assess the effectiveness of market information and market intelligence systems and facilities, and recommend measures for improvement.
(iv) Assess the status of postharvest and marketing systems and facilities, and recommend improvements.
(v) Identify key quality issues and recommend assistance to overcome them. Recommend measures to enable agribusinesses to qualify for certification under internationally accepted quality control programs.

## D. Economic and Financial Aspects

7. Economic and financial analyses will be prepared and presented in accordance with *Guidelines for the Financial Governance and Management of Investment Projects Financed by the Asian Development Bank*, *Guidelines for the Economic Analysis of Projects, Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects, and Handbook for Integrating Risk Analysis in the Economic Analysis of Projects*. The consultants will do the following:

(i) Using the domestic resource cost approach, determine the comparative advantage of the different crops and agricultural commodities that have growth potential in domestic and export markets.
(ii) On the basis of comparative advantage analysis and agronomic and social conditions, identify the subsectors and commodities that the proposed project should focus on in the selected states to realize the greatest benefits to the largest number of farmers, the agribusiness sector, and the national economy.
(iii) Identify the constraints on farmers' and enterprises' access to credit, and examine mechanisms to overcome them.
(iv) Prepare detailed cost estimates for the Project using the Costab computer software, and model farm enterprise budgets using the Farmod computer software. In addition to farm producers, financial analysis will also be undertaken for processors, agribusinesses, and marketing agents to assess the likely incentive structure for these stakeholders.
(v) Provide detailed economic and financial analyses including estimates of economic and financial internal rates of return, and sensitivity and risk analyses.
(vi) Assess the distribution of project economic benefits among different stakeholders, and the poverty impact ratio.

## E. Poverty and Social Aspects

8. A focused poverty and social analysis will be carried out during the project design phase, in accordance with ADB's *Handbook on Poverty and Social Analysis*, to assess and highlight ways in which the eventual project might best address poverty reduction and social development issues in the project area. An in-depth analysis will allow prediction of likely outcomes for different groups in the project area. It will also help establish an effective participatory process and prepare specific design measures. ADB policies and guidelines on indigenous peoples and involuntary resettlement will be followed in the analysis and design. Field investigations—surveys, participatory workshops with farmers and other stakeholders, and focus group discussions—will contribute to the following tasks:

(i) Confirm the dimensions of poverty and vulnerability, and the expected direct and indirect contribution of the project to poverty reduction. Identify the people likely to be affected either positively or negatively, and identify barriers and constraints, demand problems, institutional weaknesses, absorptive capacity constraints, gender gaps, sustainability issues, and other social and institutional risks.
(ii) Identify risks and their human and financial costs, and measures that may turn these risks into opportunities. Identify measures that will contribute to maximizing the poverty reduction and social development outcomes of the project.

(iii) Progressively incorporate the findings of the analysis into the design process, in parallel with the findings of the technical and economic analyses. This will include defining (a) social development objectives, (b) effective mainstreaming and targeting mechanisms, (c) affordable and accessible services that meet specific needs, (d) strategies to address the absorptive capacity of beneficiaries and implementation arrangements, and (e) mitigation plans to address social risks and vulnerability.

(iv) Identify project beneficiaries by income groups, and assess the likely distribution of project benefits among the various groups.

(v) Based on the large labor absorption potential of agribusiness development, make a quantitative and qualitative assessment of labor market implications, potential for and effects of reduction in underemployment, and gender-disaggregated implications for employment.

(vi) Prepare a gender plan to identify strategies, mechanisms, and components for addressing gender concerns. Use ADB's *Gender Checklist for Agriculture* to identify key issues and strategies for gender mainstreaming in project design.

(vii) Analyze how agribusiness development in the selected states will contribute toward reducing interregional disparities in poverty within the country.

(viii) Assess any potential impacts on indigenous or vulnerable populations, particularly tribal populations in Chhattisgarh, and prepare an indigenous people's plan in accordance with ADB policy, if impacts are significant.

(ix) Prepare a summary poverty reduction and social strategy to be implemented as part of the project.

## F. Environmental Aspects

9. Environmental sustainability issues vary greatly among the five states, and the different environmental conditions will need to be assessed. An initial environmental examination (IEE) will be prepared in accordance with ADB's *Environmental Assessment Requirements and Environmental Guidelines for Selected Agricultural and Natural Resources Development Projects* and keeping in view relevant guidelines and regulations of the central and state governments. The IEE will involve the following:

(i) Review the environmental impact of crop production systems and agroprocessing enterprises to identify practices detrimental to the environment.

(ii) Evaluate the extent and impact of project activities, recommend mitigation measures and monitoring programs—taking into account implementation capacity—and estimate their share in the total project cost.

(iii) Specify the institutional arrangements, necessary capacity, and the process of environmental assessment of project elements during implementation.

(iv) Develop environmental guidelines and criteria to identify environmental implications of selected project elements.

(v) Review possible indirect or cumulative environmental impacts that may be generated by the Project, keeping in view that policy reform may produce positive or negative environmental impacts.