



Technical Assistance Report

Project Number: 38525
December 2006

Eleventh Agriculture and Natural Resources Research at International Agricultural Research Centers

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ANRR	–	agriculture and natural resources research
AVRDC	–	The World Vegetable Center (formerly the Asian Vegetable Research and Development Center)
CGIAR	–	Consultative Group on International Agricultural Research
CLV	–	Cambodia, Lao People’s Democratic Republic, and Viet Nam
DMC	–	developing member country
EA	–	executing agency
GMS	–	Greater Mekong Subregion
IA	–	implementing agency
IARC	–	International Agricultural Research Center
IFPRI	–	International Food Policy Research Institute
IPRC	–	International Poverty Reduction Center in China
LGOPAD	–	State Council Leading Group Office of Poverty Alleviation and Development
MDG	–	Millennium Development Goal
NARS	–	national agricultural research system
PRC	–	People’s Republic of China
RETA	–	regional technical assistance
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Agriculture and natural resources
Subsector	–	Agriculture production, agroprocessing, and agribusiness
Themes	–	Sustainable economic growth, environmental sustainability, regional cooperation
Subthemes	–	Developing rural areas, natural resources conservation, regional public goods

NOTE

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

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I. INTRODUCTION

1. Since the adoption of the agriculture and natural resources research (ANRR) policy paper in 1995, the Asian Development Bank (ADB) has supported Consultative Group on International Agricultural Research (CGIAR) centers and other non-CGIAR international agricultural research centers (IARCs) through an annual regional technical assistance (RETA) grant. ADB's policy on ANRR addresses three strategic objectives: sustainable management of natural resources, increases in agricultural productivity, and poverty reduction. Ten RETA grants have so far been approved, each supporting one or several projects of IARCs.

2. A special evaluation study¹ of the ANRR policy carried out in 2000 recommended continued support to the IARCs based on high returns on investments, relevance of the policy and research outputs of supported projects, and overall effectiveness of the annual RETA modality. While the ANRR policy specifies yearly ADB funding of \$5.0 million to support ANRR, the support has been decreasing since 2000, and amounted to \$3.0 million in 2003 and 2004 and \$1.0 million in 2005. The RETAs have played an integral role in fulfilling ADB's operational objectives in participating developing member countries (DMCs). They have also addressed, in varying degrees, ADB's overarching goal of poverty reduction and related priorities such as regional cooperation and sustainable environmental management.

3. The proposed RETA² will be the Eleventh RETA on ANRR.³ Based on the criteria established in the *Guidelines on Submission of Project Proposals*⁴ for RETAs on ANRR, the regional directors of the agriculture, environment and natural resources divisions and the agriculture, natural resources and social services division assessed the three concept notes that had been received by September 2006 for consideration under the Eleventh RETA on ANRR. Project proposals were prioritized based on the level of preparation, links with ADB's poverty reduction strategy, and relevance and synergy with ADB operations. Considering the total funds available for 2006, two proposals were selected for inclusion in the proposed RETA: (i) one submitted by The World Vegetable Center (AVRDC, formerly the Asian Vegetable Research and Development Center), and (ii) one by the International Food Policy Research Center (IFPRI). These projects are expected to promote the development, application, and dissemination of scientific research on problems faced by poor farmer households in Asia.

II. ISSUES

4. In September 2000, heads of states adopted the Millennium Declaration confirming their countries' commitment to achieving the Millennium Development Goals (MDGs), a set of eight quantified and specific time-bound targets for addressing the many dimensions of extreme poverty—from income poverty, hunger, and health to education, environment, and gender. One of the Millennium Declaration's most decisive goals, the first goal, aims at eradicating extreme poverty and hunger by reducing by half between 1990 and 2015 the proportion of people living on less than \$1 a day, and of people suffering from hunger.

¹ ADB. 2000. *Special Evaluation Study on the Policy Implementation and Impact of Agriculture and Natural Resources Research*. Manila.

² The TA first appeared in *ADB Business Opportunities* on 2 October 2006.

³ It was originally part of the interregional RETA program for 2006–2008 of the Regional and Sustainable Development Department, and was transferred to the East Asia Department with the reassignment of the ADB-wide focal point responsibilities for the agriculture and natural resources sector in August 2006.

⁴ ADB. 2005. *Guidelines for Project Proposal Submissions as Part of the Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila.

5. Despite recent progress, especially in the People's Republic of China (PRC), Asia continues to be home to two thirds of the world's absolutely poor and food-insecure people. About 650 million people in Asia are absolutely poor, living on less than \$1 a day, down from 934 million in 1990. Around 520 million people lack sufficient access to food to lead healthy, productive lives—down from 570 million in 1990. Given that the majority of poor people live in rural areas and/or rely on agriculture, and that agriculture paves the way for economic growth in poorer nations, the agriculture sector continues to underlie progress on the broad array of economic and social indicators emphasized by the MDGs, in particular the first goal.⁵

6. Investing in ANRR is one of the most effective means of reducing poverty and stimulating agricultural and economic growth, through improvements in productivity. A recent study carried out a comprehensive survey of the literature on agricultural research since 1953 and statistically analyzed reported rates of return. Its results showed that, despite a wide variability, average rates of return are very high. Furthermore, the study found no evidence to support the view that rates of returns have declined over time.⁶

7. CGIAR, created in 1971, is a strategic alliance of countries, international and regional organizations, and private foundations supporting 15 IARCs that work with national agricultural research systems (NARSs) and civil society organizations, including the private sector. It aims to achieve sustainable food security and reduce poverty through scientific agricultural research. CGIAR's areas of focus are sustainable production, enhancing NARSs, germplasm collection and improvement, and policy. CGIAR has been the driving force behind the Green Revolution; it has spearheaded international agricultural research and acted as the focus for global investment in research for development. A recent study on the benefits of CGIAR research against the cost of operating the whole system up to 2001 found that the value of documented benefits generated by CGIAR surpasses the total investment in the system even when analyzed from the most conservative perspective.⁷

8. Most outcomes of agricultural research are of the public goods type, so they can be justified under grant financing. In Asia, ANRR has played an important role in promoting agricultural and rural development over the past three decades, and ADB as the key development institution in Asia has significant potential to further expand that role. Changes that ANRR has set in place have contributed to agricultural productivity increases and a reduction of poverty. According to the special evaluation study (footnote 1), ADB investments have paid large dividends. For the subset of projects assessed in the special evaluation study, the average internal rate of return for all funds invested in the projects was 65%. A summary of ADB's assistance to the IARCs, including CGIAR, is in Appendix 1.

9. The proposed RETA builds on the experience of previous ADB-funded RETAs on ANRR. It notes the finding of the special evaluation study that, given ADB's limited resources to contribute to ANRR, a focused agenda that more closely follows ADB's overarching goal of poverty reduction is required. The design of the RETA also incorporates key lessons from the previous RETAs, including the need for greater emphasis on (i) strengthening NARS capacity;

⁵ Rosegrant, Mark W., Claudia Ringler, Todd Benson, Xinshen Diao, Danielle Resnick, James Thurlow, Maximo Torero, and David Orden. 2005. *Agriculture and Achieving the Millennium Development Goals*. Washington, DC: Agriculture and Rural Development Department, World Bank, and IFPRI.

⁶ Alston, Julian M., Connie Chan-Kang, Michele C. Marra, Philip G. Pardey, and T.J. Watt. *A Meta-Analysis of Rates of Return to Agricultural R&D: Ex Pede Herculem?* International Food Policy Research Institute Research Report 113. Washington, DC.

⁷ Raitser, D.A. 2003. *Benefit-Cost Meta-analysis of Investment in the International Agricultural Research Centers of the CGIAR*. Washington, DC: CGIAR Science Council Secretariat, and Rome: Food and Agriculture Organization of the United Nations.

(ii) improving linkages among researchers, practitioners, and policy makers to better disseminate research results; and (iii) increasing the focus of research themes on issues related to resource-poor farmers.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

10. The proposed RETA is consistent with ADB's policy on ANRR, and reinforces the priorities outlined in ADB's Medium-Term Strategy II and the Enhanced Poverty Reduction Strategy. The RETA aims at increasing the incomes of farmer households and reducing rural poverty and hunger in the participating DMCs. The outcome of the RETA is expanded pro-poor agricultural research and dissemination, and improved awareness of policy makers and the public of appropriate strategies and actions to reduce and ultimately end hunger and poverty.

11. The key RETA outputs are (i) development and dissemination of postharvest operations and processing technologies for vegetable commodities with a pro-poor focus, and (ii) promotion of a multi-stakeholder research-based dialogue on new strategies and actions to end hunger and poverty for those not reached by the MDG processes. The design and monitoring framework of the RETA is in Appendix 2.

B. Methodology and Key Activities

12. The proposed RETA will support two stand-alone projects, both of which contribute toward the strategic objectives of ADB's policy on ANRR: sustainable management of natural resources, increased agricultural productivity, and poverty reduction. The projects have been identified in close consultation with participating DMCs, and will be implemented independently by two IARCs: AVRDC and IFPRI. The synopses of the projects are in paras. 13–16, and the detailed project descriptions are in Appendixes 3 and 4.

13. **Supporting Pro-Poor Vegetable Value Chains in Greater Mekong Subregion (GMS) Countries.** By expanding postharvest operations and processing technology development, the AVRDC project will contribute toward reducing losses of vegetable commodities in rural upland areas of the GMS countries. It will build on and expand the activities carried out under the Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project,⁸ which focused on peri-urban areas in Cambodia, Lao People's Democratic Republic (Lao PDR), and Viet Nam. The pro-poor orientation of the research efforts will be greatly strengthened by a shift in the focus to poverty-stricken upland areas. The project will further build the capacity of the NARs to conduct research on postharvest operations and processing technologies by expanding into leafy vegetables. Regional experience sharing and training activities will be expanded to all GMS countries, including Myanmar, Thailand, and Yunnan and Guizhou provinces of the PRC.

14. Key activities will include (i) identifying market opportunities in poverty-stricken upland areas, including Kampong Seam and Ba Koug districts in Cambodia; Van Viang and Kasy districts in Lao PDR;⁹ Tam Nong, Lac Thuy, Thanh Chuong, and A Luoi districts in Viet Nam; (ii)

⁸ ADB. 2004. *Technical Assistance for the Ninth Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila (TA 6208-REG, approved on 16 December).

⁹ The AVRDC project has potential synergy with the ongoing ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Lao People's Democratic Republic for the Smallholder Development Project (Summary Procedure)*, Manila (approved on 28 November, for \$12.0 million equivalent), that will be sought to be capitalized on.

providing technical training programs on postharvest handling, transporting, and processing; (iii) supporting the development of suitable, low-cost postharvest and processing technologies for leafy vegetables; and (iv) strengthening partnership among the GMS countries and between the private and public sectors through expanded experience sharing and information dissemination activities.

15. Promoting a Multi-Stakeholder Dialogue on New Strategies and Actions for Reducing Hunger and Poverty with a Focus on Agriculture and Rural Development in Asia. The project will contribute to a high-level dialogue, including the preparation of background research papers and other documents for a global conference organized by IFPRI and the State Council Leading Group Office of Poverty Alleviation and Development (LGOPAD) of the PRC, to be held in Beijing in the fourth quarter of 2007—halfway between 2000 when the Millennium Declaration was adopted, and 2015 when the MDGs are planned to be achieved. The conference is provisionally titled “Halving Hunger and Poverty is Not Enough: New Strategies and Actions beyond the Millennium Development Goals.”

16. Key activities comprise (i) in the lead-up to the conference, undertaking research, sharing international experiences, and improving the knowledge base on strategies and actions for reducing hunger and poverty; (ii) a high-level policy dialogue at ADB in mid-2007 focused on the role of small-scale agriculture and rural development for alleviating poverty and hunger in Asia; (iii) convening the global conference with thematic sessions and regional forums, including an Asia Forum that will facilitate sharing ADB’s experience; and (iv) following the conference, strategic briefings on the outcomes of the conference at ADB, and additional briefings for DMCs and key Asian institutions.

C. Cost and Financing

17. The total cost of the RETA is estimated at \$1,300,000. ADB will finance \$1,000,000, comprising \$500,000 for the proposal by AVRDC and \$500,000 for the proposal by IFPRI. The RETA will be financed on a grant basis by ADB’s TA funding program. AVRDC will contribute \$155,000 over 3 years; and the governments of Cambodia, Lao PDR, and Viet Nam will provide \$20,000 in the form of staff time, office accommodation, transport, and operational research support. IFPRI will contribute \$125,000 over 2 years. The detailed cost estimates and financing plan are in Appendix 5.

D. Implementation Arrangements

18. The RETA will follow the implementation arrangements used in previous ADB-financed RETAs for ANRR. ADB will enter into separate technical assistance (TA) agreements with each IARC. Each executing agency (EA) will be responsible for implementing and completing its own project. AVRDC, through its head office in Shanhua, Taipei, China, will be the EA for the project on Supporting Pro-Poor Vegetable Value Chains in GMS Countries; and IFPRI, with its head office in Washington, D.C., United States, for the project on Promoting a Multi-Stakeholder Dialogue on New Strategies and Actions for Reducing Hunger and Poverty with a Focus on Agriculture and Rural Development in Asia. Under the AVRDC project, the three participating NARs will be designated as the implementing agencies (IAs), and will collaborate closely with the IARC. The participating NARs have sent letters of commitment to this effect. Each EA will appoint a project team coordinator who will coordinate, plan, and supervise all local project activities; monitor project progress; and submit required reports to ADB and other collaborating partners. Similarly, each IA will appoint a country team coordinator who will be responsible for coordination, implementation, and reporting on the project activities.

19. The RETA is expected to commence in January 2007 and be completed in December 2009. The AVRDC project will be implemented over 3 years (i.e., from January 2007 up to December 2009), and the IFPRI project over 2 years (i.e., from January 2007 up to December 2008). Each project will hold an inception workshop within 3 months after it starts to firm up project plans and implementing arrangements with partners. AVRDC will also organize annual planning and review meetings and a project completion workshop which all project partners, including ADB, will attend. Each IARC must submit the following reports to ADB: (i) an inception report, (ii) semiannual progress reports; (iii) semiannual financial statements accounting for the use of project funds; (iv) audited annual financial statements, including the use of project funds; and (v) a draft final completion report to obtain ADB comments before submission of the final report. The inception reports will be submitted within 3 months of the start of each project; the semiannual progress reports and financial statements every 6 months; and the comprehensive completion report within 3 months of project closure. Funds will be drawn down in semiannual installments based on each IARC's estimate of forthcoming expenditures, and subject to satisfactory liquidation of expenditures for previously disbursed funds. Project officers with suitable technical expertise will be assigned to administer the projects at ADB, and will undertake at least one supervisory mission yearly to each project.

20. The participating IARCs will procure goods and related services in accordance with ADB's *Procurement Guidelines* (2006, as amended from time to time). At the end of each project, equipment purchased under the RETA will be assigned to the EA/IAs that have been using the equipment during project implementation.

21. The IARCs have made plans for disseminating the outputs and outcome evaluation. AVRDC will widely distribute training materials, technical reports, and working papers through NARSs and other stakeholders, including through the postharvest webpage developed under the Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project (footnote 8).¹⁰ At least three scientific articles will be published in peer-reviewed journals. Monitoring will be based on the semiannual submission of progress reports from the participating DMCs as well as the monitoring of progress indicators, targets, and work plan identified during the initial and ensuing workshops. Community stakeholders will be involved in the consultation process. IFPRI will make all outputs—including background research papers and policy briefs, and conference and policy forum proceedings—available to conference participants and key stakeholder groups through a variety of modalities, including print and electronic means. Special efforts will be made to feed the information emerging from the conference process into key policy and decision making processes. A comprehensive conference website will be set up. Following the conference, a survey will be conducted of the participants. An impact assessment of the conference will be undertaken in the year following the conference.

IV. THE PRESIDENT'S DECISION

22. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$1,000,000 on a grant basis for the Eleventh Agriculture and Natural Resources Research at International Agricultural Research Centers, and hereby reports this action to the Board.

¹⁰ <http://www.avrdc.org/postharvest>

**RELEVANT INFORMATION ON ADB-SUPPORTED CONSULTATIVE GROUP ON
INTERNATIONAL AGRICULTURAL RESEARCH (CGIAR) CENTERS
AND NON-CGIAR CENTERS**

**Table A1.1: ADB Support for International Agricultural
Research Centers and Organizations, 1975–2005**
(\$'000)

Center	1975–1980		1981–1985		1986–1990		1991–1995		1996–2000 ^a		2001–2005 ^b		Total	Total Projects
A. CGIAR														
1. IRRI	1,500	(3)	1,210	(4)	5,830	(7)	2,000	(2)	4,850	(4)	3,600	(4)	18,990	(24)
2. ICRISAT	325	(1)	750	(2)	3,370	(6)	950	(2)	3,050	(3)	1,300	(1)	9,745	(15)
3. IWMI (IIMI)			1,200	(4)	1,830	(6)	1,610	(2)	2,250	(2)	700	(1)	7,590	(15)
4. ICLARM			70	(1)	825	(2)	700	(2)	3,800	(3)	950	(1)	6,345	(9)
5. CIMMYT									2,600	(2)	1,750	(2)	4,350	(4)
6. CIP							433	(1)	600	(1)			1,033	(2)
7. IFPRI			748	(2)			598	(1)	2,500 ^c	(2)	568	(1)	4,414	(6)
8. ISNAR					555	(2)			800	(1)			1,355	(3)
9. IPGRI							800	(1)	2,400	(2)	1,000	(1)	4,200	(4)
10. ICRAF									1,200	(1)			1,200	(1)
11. ILRI									1,000	(1)	1,000	(1)	2,000	(2)
12. CIFOR									1,100	(1)			1,100	(1)
13. CIAT									1,200	(1)	950	(1)	2,150	(2)
14. ICARDA									1,200	(1)	1,000	(1)	2,200	(2)
Subtotal (A)	1,825	(4)	3,978	(13)	12,410	(23)	7,091	(11)	28,550	(25)	12,818	(14)	66,672	(90)
B. Non-CGIAR														
1. AVRDC	390	(1)	650	(2)	1,425	(4)	1,294	(3)	1,750	(3)	2,350	(3)	7,859	(16)
2. CABI					180	(1)	1,030	(2)					1,210	(3)
3. IBSRAM					652	(3)			1,300	(1)			1,952	(4)
4. ICIMOD					540	(1)	1,200	(2)	600	(1)			2,340	(4)
5. IJO					950	(2)							950	(2)
6. CIRDAP					180	(1)							180	(1)
7. FAO/EPA					250	(1)							250	(1)
8. Fisheries Agencies	249	(2)	540	(4)	1,064	(2)	1,095	(2)					2,948	(10)
9. Livestock Agencies			130	(1)	150	(1)	220	(1)					500	(3)
10. Forestry Agencies	90	(1)			1,850	(2)	1,200	(2)					3,140	(5)
11. Asian Maize Training Center							600	(1)					600	(1)
12. ADB													150	(1)
Subtotal (B)	729	(4)	1,320	(7)	7,241	(18)	6,639	(13)	3,650	(5)	2,350	(3)	22,079	(51)
Total	2,554	(8)	5,298	(20)	19,651	(41)	13,730	(24)	32,200	(30)	15,168	(17)	88,751	(141)

ADB = Asian Development Bank, AVRDC = The World Vegetable Center (formerly Asian Vegetable Research Development Center), CABI = Centre for Applied Bioscience International, CGIAR = Consultative Group on International Agricultural Research, CIAT = Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture), CIFOR = Center for International Forestry Research, CIMMYT = Centro Internacional de Mejoramiento de Maíz y Trigo (International Maize and Wheat Improvement Center), CIP = Centro Internacional de la Papa (International Potato Center), CIRDAP = Centre on Integrated Rural Development for Asia and the Pacific, EPA = Environmental Protection Agency, FAO = Food and Agriculture Organization, IBSRAM = International Board for Soil Research and Management, ICARDA = International Center for Agricultural Research in the Dry Areas, ICIMOD = International Centre for Integrated Mountain Development, ICLARM = International Center for Living Aquatic Resources Management, ICRAF = International Centre for Research in Agroforestry, ICRISAT = International Crops Research Institute for the Semi-Arid Tropics, IFPRI = International Food Policy Research Institute, IIMI = International Irrigation Management Institute, IJO = International Jute Organization, ILRI = International Livestock Research Institute, IPGRI = International Plant Genetic Resources Institute, IRRI = International Rice Research Institute, ISNAR = International Service for National Agricultural Research, IWMI = International Water Management Institute, RETA = regional technical assistance, TA = technical assistance.

^a Five RETAs were approved from 1996 to 2000.

^b Six RETAs were approved from 2001 to 2005.

^c IFPRI and IRRI collaborated on one RETA for \$1.3 million.

Note: Numbers in parentheses refer to the number of regional technical assistance (RETAs).

Sources: ADB. 2000. *Special Evaluation Study on the Policy Implementation and Impact on Agriculture and Natural Resources Research*. Manila; and loans, TAs, and equity approvals database for 2005 data on RETA approvals.

Table A1.2: Mandate and Geographic Coverage of the International Agricultural Research Centers to be Supported by the Eleventh Regional Technical Assistance on Agriculture and Natural Resources Research

CGIAR Center	Year of Foundation (Year of CGIAR Membership)	Research Mandate/Commodities/ Subjects Covered	Geographic Coverage
AVRDC	1971	To enhance the nutritional well-being and raise the incomes of poor people in rural and urban areas of developing countries through improved varieties and methods of vegetable production, marketing, and distribution	Worldwide, with emphasis on developing countries
IFPRI	1975 (1979)	Identification and analysis of policies for meeting food needs of developing countries, especially poorer groups	Worldwide, with emphasis on developing countries

AVRDC = The World Vegetable Center (formerly Asian Vegetable Research Development Center), CGIAR = Consultative Group on International Agricultural Research, IFPRI = International Food Policy Research Institute.

Sources: AVRDC and IFPRI homepages (www.avrdc.org and www.ifpri.org).

Table A1.3: International Agricultural Research Centers and Asian Development Bank Developing Member Countries Supported under 10 Regional Technical Assistance Grants on Agriculture and Natural Resources Research (1996–2005)

Technical Assistance	IARCs	Developing Member Countries
(First) Agriculture and Natural Resources Research (ANRR) at CGIAR Centers (TA 5711–REG)	1. IRRI 2. CIP 3. ICRISAT 4. WorldFish 5. ICRAF	PRC, PHI, THA, VIE INO, PHI, SRI, VIE BAN, IND, INO, NEP, PAK, SRI, VIE BAN, PRC, IND, INO, THA, VIE INO, PHI, THA
Second ANRR at CGIAR Centers (TA 5766–REG)	1. CIMMYT 2. WorldFish 3. IPGRI 4. IRRI	PRC, IND, INO, PHI, THA BAN, IND, INO, MAL, PHI, SRI, THA, VIE COO, FIJ, KIR, MAL, PAK, PHI, PNG, RMI, SAM, SOL, SRI, THA, VIE BAN, IND, INO, PHI, SRI, VIE
Third ANRR at CGIAR Centers (TA 5812–REG)	1. CIFOR 2. ICRISAT 3. IWMI (IIMI) 4. ILRI 5. IRRI	INO, NEP, PHI IND, THA, VIE PRC, INO, NEP, PHI, SRI PRC, INO, PHI, THA, VIE PRC, IND, INO, PHI, THA, VIE
Fourth ANRR at CGIAR Centers (TA 5866–REG)	1. CIAT 2. ICARDA 3. IFPRI 4. IPGRI 5. ISNAR	PRC, INO, LAO, PHI, THA, VIE KAZ, KGZ, TAJ, TKM, UZB INO, VIE BAN, PRC, IND, INO, MAL, NEP, PHI, SRI, THA, VIE INO, PAK, SRI, VIE
Fifth ANRR at CGIAR Centers (TA 5945–REG)	1. CIMMYT 2. WorldFish 3. ICRISAT 4. IFPRI/IRRI 5. IWMI	BAN, IND, NEP, PAK BAN, PRC, IND, INO, MAL, PHI, SRI, THA, VIE BAN, PRC, IND, PAK, VIE BAN, INO, PHI, VIE BAN, PRC, IND, INO, PAK, VIE
Sixth ANRR at CGIAR Centers (TA 6005–REG)	1. CIMMYT 2. ILRI 3. IPGRI 4. IRRI	PRC, IND, INO, PHI, THA, VIE PRC, INO, PHI, THA, VIE BAN, FIJ, IND, INO, PNG, PHI, SRI, VIE BAN, IND, INO, PHI, SRI, VIE, KOR, MYA
Seventh ANRR at IARCs (TA 6067–REG)	1. AVRDC 2. CIAT 3. ICRISAT 4. IFPRI	BAN, CAM, INO, LAO, MAL, PHI, THA, VIE CAM, PRC, INO, LAO, PHI, THA, VIE PRC, IND, THA, VIE BAN, BHU, IND, NEP, PAK, SRI
Eighth ANRR at IARCs (TA 6136–REG)	1. ICARDA 2. IRRI 3. WorldFish 4. RSAN	KAZ, KGZ, TAJ, TKM, UZB BAN, IND, INO, LAO, PHI, THA, VIE BAN, PRC, IND, INO, THA, VIE Central and South Asia
Ninth ANRR at IARCs (TA 6208–REG)	1. AVRDC 2. CIMMYT 3. IRRI 4. IWMI 5. EAAE	CAM, LAO, VIE INO, PHI, PRC, THAI, VIE BAN, IND, NEP, PAK KAZ, TAJ, TKM, UZB GMS and Southeast Asia
Tenth ANRR at IARCs (TA 6276–REG)	1. IRRI	BAN, IND, NEP, PAK

ANRR = agriculture and natural resources research, AVRDC = The World Vegetable Center (formerly Asian Vegetable Research Development Center); BAN = Bangladesh; BHU = Bhutan; CAM = Cambodia; CGIAR = Consultative Group on International Agricultural Research; CIAT = International Center for Tropical Agriculture; CIFOR = Center for International Forestry Research; CIMMYT = Centro Internacional de Mejoramiento de Maíz y Trigo (International Maize and Wheat Improvement Center); CIP = Centro Internacional de la Papa (International Potato Center); COO = Cook Islands; EAEE = Agriculture, Environment and Natural Resources Division, East Asia Department; FIJ = Fiji Islands; GMS = Greater Mekong Subregion; IARC = international agricultural research center; ICARDA = International Center for Agricultural Research in the Dry Areas; ICRAF = International Centre for Research on Agroforestry; ICRISAT = International Crops Research Institute for the Semi-Arid Tropics; IFPRI = International Food Policy Institute; IIMI = International Irrigation Management Institute; ILRI = International Livestock Research Institute; IND = India; INO = Indonesia; IPGRI = International Plant Genetic Resources Institute; IRRI = International Rice Research Institute; ISNAR = International Service for National Agricultural Research; IWMI = International Water Management Institute; KAZ = Kazakhstan; KGZ = Kyrgyz Republic; KIR = Kiribati; KOR = Republic of Korea; Lao = Lao People's Democratic Republic; MAL = Malaysia; MYA = Myanmar; NEP = Nepal; PAK = Pakistan; PHI = Philippines; PNG = Papua New Guinea; PRC = People's Republic of China; REG = regional; RMI = Republic of the Marshall Islands; RSAN = Agriculture, Natural Resources, and Social Sectors Division, Regional and Sustainable Development Department; SAM = Samoa; SOL = Solomon Islands; SRI = Sri Lanka; TA = technical assistance; TAJ = Tajikistan; THA = Thailand; TKM = Turkmenistan; UZB = Uzbekistan; VIE = Viet Nam; WorldFish = WorldFish Center. Source: Asian Development Bank project files.

Table A1.4: Agricultural and Natural Resources Research Projects Supported by ADB, 1975–2005

TA No.	TA Name	Date	TA Amount (\$'000)
A. CGIAR Center			
1. Center for International Forestry Research (CIFOR)			
RETA 5812 ^a	Planning for Sustainability of Forest Through Adaptive Co-Management	22 Oct 1998	1,100
	Subtotal (A1)		1,100
2. International Center for Agricultural Research in the Dry Areas (ICARDA)			
RETA 5866 ^b	On-Farm Soil and Water Management for Sustainable Agricultural Systems in Central Asia	14 Oct 1999	1,200
RETA 6136 ^h	Improving Rural Livelihoods Through Efficient On-Farm Water and Soil Fertility Management in Central Asia	11 Nov 2003	1,000
	Subtotal (A2)		2,200
3. International Center for Living Aquatic Resources Management (ICLARM) (WorldFish Center)			
RETA 5068	Workshop on Appropriate Technology for Alternative Energy Sources in Fisheries	7 Jul 1980	70
RETA 5245	International Center for Living Aquatic Resources Management for a Research on Rice-Fish Farming Systems	15 Apr 1987	350
RETA 5279	ICLARM for Genetic Improvement of Tilapia Species in Asia	8 Mar 1988	475
RETA 5558	Dissemination and Evaluation of Genetically Improved Tilapia Species in Asia	14 Dec 1993	600
RETA 5651	Review of Sustainable Exploitation of Coastal Fish Stocks in Asia	4 Dec 1995	100
RETA 5711 ^c	Genetic Improvement of Carp Species in Asia	12 Dec 1996	1,300
RETA 5766 ^d	Sustainable Management of Coastal Fish Stocks in Asia	29 Dec 1997	1,400
RETA 5945 ^e	Strategies and Options for Increasing and Sustaining Fisheries and Aquaculture Production to Benefit Poor Households in Asia	17 Oct 2000	1,100
RETA 6136 ^h	Integrating and Mobilizing Rice Knowledge to Improve and Stabilize Crop Productivity to Achieve Household Food Security in Diverse and Less Favorable Rain-Fed Areas of Asia	11 Nov 2003	950
	Subtotal (A3)		6,345
4. International Centre for Research in Agroforestry (ICRAF)			
RETA 5711 ^c	Policy Research for Sustainable Upland Systems	12 Dec 1996	1,200
	Subtotal (A4)		1,200
5. International Center for Tropical Agriculture (CIAT)			
RETA 5866 ^b	Developing Sustainable Forage Technologies for Resource-Poor Upland Farmers in Asia	14 Oct 1999	1,200
RETA 6067 ^g	Improving Livelihoods of Upland Farmers Using Participatory Approaches to Develop More Efficient Livestock Systems	6 Dec 2002	950
	Subtotal (A5)		2,150
6. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)			
RETA 5331	Establishment of Plant Biotechnology Research and Training Unit	4 April 1989	325
RETA 5087	Establishment of a Genetic Resources Laboratory at ICRISAT	22 Sept 1981	450
RETA 5118	Strengthening Chickpea Research in Collaboration with International Crops Research Institute for the Semi-Arid Tropics	15 Feb 1983	300
AOTA 0882	Strengthening Chickpea Research in Collaboration with ICRISAT, Phase II	9 June 1987	350
RETA 5268	International Crops Research Institute for the Semi-Arid Tropics for the Strengthening Grain Legume in South Asia	4 Dec 1987	350
AOTA 1139	Pigeonpea Varietal Adaptation and Production Studies in Collaboration with the International Crops Research Institute for the Semi-Arid Tropics	16 Mar 1989	230
RETA 5331	International Crops Research Institute for the Semi-Arid Tropics for Establishment of Plant Biotechnology Research and Training Unit	4 Apr 1989	1,250
RETA 5393	International Crops Research Institute for the Semi-Arid Tropics for Strengthening Grain Legume Research in Asia	10 Jul 1990	590
RETA 5405	International Crops Research Institute for the Semi-Arid Tropics for Strengthening the Genetic Resources Unit	7 Sept 1990	600

TA No.	TA Name	Date	TA Amount (\$'000)
AOTA 1742	Pigeonpea Intercropping and Diversification Study	18 Aug 1992	350
RETA 5603	Strengthening Regional Collaboration on Cereals and Legumes Research in Asia	24 Nov 1994	600
RETA 5711 ^c	Legume-Based Technologies for Rice and Wheat Production	12 Dec 1996	600
RETA 5812 ^a	Improving Management of Natural Resources for Sustainable Rain-Fed Agriculture	22 Oct 1998	1,250
RETA 5945	Rapid Crop Improvement for Poor Farmers in the Semiarid Tropics of Asia	17 Oct 2000	1,200
RETA 6067 ^g	Participatory Watershed Management for Reducing Poverty and Land Degradation in the Semiarid Tropics	6 Dec 2002	1,300
Subtotal (A6)			9,745
7. International Food Policy Research Institute (IFPRI)			
RETA 5116	Study of Food Demand and Supply and Related Strategies for Developing Member Countries	4 Feb 1983	248
RETA 5160	Study of Food Demand and Supply and Related Strategies for Developing Member Countries (Phase II)	23 Oct 1984	500
RETA 5420	Study of Food Situation and Outlook for Asia	2 Jan 1991	598
RETA 5866 ^b	Irrigation Investment, Fiscal Policy, and Water Resource Allocation	14 Oct 1999	1,200
RETA 5945	Breeding Iron-Rich Rice to Reduce Iron Deficiency Anemia in Asia	17 Oct 2000	1,300
RETA 6067 ^g	Poverty Reduction through Advisory Network, Policy Research, and Capacity Strengthening in South Asia	6 Dec 2002	568
Subtotal (A7)			4,414
8. International Water Management Institute (IWMI)			
RETA 5273	Study on Irrigation Systems Rehabilitation and Improved Operations and Management	14 Jan 1988	500
AOTA 0654	Study on Irrigation Management for Crop Diversification	20 Dec 1984	250
AOTA 0673	Study of Irrigation Management	27 Mar 1985	350
RETA 5172	Regional Study on Irrigation Service Fees	16 May 1985	100
RETA 5209	Regional Seminar on Irrigation Service Fees	7 May 1986	125
RETA 5234	A Course on Planning and Management of Irrigation Schemes	5 Jan 1987	55
AOTA 0846	Study of Irrigation Management and Crop Diversification	16 Jan 1987	350
AOTA 0859	Study on Irrigation Management for Diversified Crops (Phase II)	26 Feb 1987	350
AOTA 0937	Efficient Irrigation Management and Systems Transfer	17 Dec 1987	600
RETA 5273	Research Support to IIMI for Study on Irrigation Systems	8 Jan 1988	350
AOTA 1481	Rehabilitation and Improved Operations and Management Study on Crop-Based Irrigation Operations in Northwest Frontier	19 Feb 1991	860
AOTA 1480	Study of Irrigation Management and Crop Diversification (Phase II)	19 Feb 1991	750
RETA 5812 ^a	Development of Effective Water Management Institutions	22 Oct 1998	1,250
RETA 5945	Pro-Poor Intervention Strategies in Irrigated Agriculture in Asia	17 Oct 2000	1,000
RETA 6208 ⁱ	Enabling Communities in the Aral Sea Basin to Combat Land and Water Resource Degradation through the Creation of "Bright Spots"	16 Dec 2004	700
Subtotal (A8)			7,590
9. International Livestock Research Institute (ILRI)			
RETA 5812 ^a	Increasing Productivity of Crop-Livestock Systems in Asia	22 Oct 1998	1,000
RETA 6005 ^f	Improving Crop-Livestock Production Systems in Rainfed Areas of Southeast Asia	6 Nov 2001	1,000
Subtotal (A9)			2,000
10. International Maize and Wheat Improvement Center (CIMMYT)			
RETA 5766 ^d	Application of Biotechnology to Maize Improvement in Asia	12 Dec 1997	1,400
RETA 5945	Sustaining the Rice-Wheat Production Systems in Asia	17 Oct 2000	1,200
RETA 6005 ^f	Developing New Maize Germplasm Through Biotechnology for Resource Poor Farmers in Asia	6 Nov 2001	1,000
RETA 6208 ⁱ	Improving Farmer's Income Through Enhanced Maize Productivities in Drought-Prone Environments in East and Southeast Asia	16 Dec 2004	750
Subtotal (A10)			4,350

TA No.	TA Name	Date	TA Amount (\$'000)
11. International Plant Genetic Resources Institute (IPGRI)			
RETA 5590	Coconut Genetic Resources Network in Asia and the Pacific Region	29 Jul 1994	800
RETA5766 ^d	Coconut Genetic Resources Network and Human Resources Strengthening in Asia and the Pacific (Phase II)	29 Dec 1997	1,200
RETA 5866 ^b	Conservation and Use of Native Tropical Fruit Species Biodiversity in Asia	14 Oct 1999	1,200
RETA 6005 ^f	Developing Coconut-Based Income-Generating Technologies in Poor Rural Communities	6 Nov 2001	1,000
Subtotal (A11)			4,200
12. International Potato Center (CIP)			
RETA 5533	Field Testing of True Potato Seed in the Lowland Tropics	24 May 1993	433
RETA 5711 ^c	Field Testing of True Potato Seed (Phase II)	12 Dec 1996	600
Subtotal (A12)			1,033
13. International Rice Research Institute (IRRI)			
RETA 5026	International Rice Research Institute	20 Feb 1975	300
RETA 5039	Establishment of a Rice Genetic Resources Laboratory	29 Mar 1977	500
RETA 5059	Intensification of Rice Research for Disadvantaged Areas	26 Jul 1979	700
RETA 5125	International Rice Research Institute Demonstration-Cum-Training Center on Rice Production, Postharvest Technology and Biomass Utilization	9 Jun 1983	400
RETA 5167	International Rice Research Institute for the Establishment of Research and Training Facilities to Enhance Regional Collaboration on Rice Virus Diseases	14 Dec 1984	350
RETA 5194	International Rice Research Institute for Strengthening Research on Integrated Pest Management for Deepwater Rice Farming Systems	18 Dec 1985	350
RETA 5200	International Rice Research Institute for Printing and Distribution of Rice Abstracts Journal	31 Dec 1985	110
RETA 5208	International Rice Research Institute for Research on Botanical Pest Control	7 May 1986	250
RETA 5227	International Rice Research Institute for Research Demonstration and Training on Rice Production, Postharvest Technology and Biomass Utilization (Phase II)	30 Oct 1986	650
RETA 5261	Technical Assistance to IRRI for the Development of Rice Varieties Tolerant to Problem Soil Conditions	20 Aug 1987	500
RETA 5299	International Rice Research Institute for Strengthening Research on Integrated Pest Management in Deepwater Rice Farming Systems (Phase II)	12 Jul 1988	400
RETA 5336	Strengthening Agricultural Science and Information Services in the Bank's DMCs	31 May 1989	180
RETA 5349	Strengthening Rice Crop Protection Research and Minimizing Environmental Damage in DMCs	26 Sep 1989	850
RETA 5414	Decentralized Participatory Research for Less Favorable Rice Ecosystems and Rice Wheat Systems	13 Nov 1990	3,000
RETA 5510	Establishment of the Asian Rice Biotechnology Network	24 Nov 1992	900
RETA 5606	International Rice Research Institute for Rain-Fed Lowland Rice Ecosystem Research	6 Dec 1994	1,100
RETA 5667	Asian Rice Biotechnology Network—From Products to Impact	9 Jan 1996	850
RETA 5711 ^c	Exploiting Biodiversity for Sustainable Rice Pest Management	12 Dec 1996	1,500
RETA 5766 ^d	Development and Use of Hybrid Rice in Asia	29 Dec 1997	1,500
RETA 5812 ^a	Asian Rice Biotechnology Network: Achieving Impact and Sustainability	22 Oct 1998	1,000
RETA 6005 ^f	Sustaining Food Security in Asia Through the Development of Hybrid Rice Technology	6 Nov 2001	1,000
RETA 6136 ^h	Integrating and Mobilizing Rice Knowledge to Improve and Stabilize Crop Productivity to Achieve Household Food Security in Diverse and Less Favorable Rain-Fed Areas of Asia	11 Nov 2003	900
RETA 6208 ⁱ	Enhancing Farmers' Income and Livelihoods through Integrated Crop and Resource Management in the Rice-Wheat System in South Asia	16 Dec 2004	700
RETA 6276 ^j	Development and Dissemination of Water-Saving Rice Technologies in South Asia	2 Dec 2005	1,000
Subtotal (A13)			18,990

TA No.	TA Name	Date	TA Amount (\$'000)
14. International Service for National Agricultural Research (ISNAR)			
RETA 5254	Regional Workshop on Planning and Management of Agriculture Research in the South Pacific	23 Jun 1987	75
RETA 5341	Strengthening Agricultural Resources Management in Asia with Special Emphasis on Management Information Systems	4 Jul 1989	480
RETA 5866 ^b	Building Performance-Based Management Systems in the National Agricultural Research Systems in Asia	14 Oct 1999	800
Subtotal (A14)			1,355
Subtotal (A)			66,672
B. Other Centers and Organizations			
1. The World Vegetable Center (AVRDC)			
RETA 5027	Outreach Programs in Vegetable Research in Korea, Philippines, and Thailand	15 Apr 1975	390
RETA 5119	Strengthening Vegetable Research in Collaboration with the Asian Vegetable Research and Development Center	15 Feb 1983	475
RETA 5143 ^e	Regional Training Program in Vegetable Production and Research	20 Dec 1983	175
RETA 5253 ^e	Regional Training Program in Vegetable Production and Research (Phase II)	18 Jun 1987	350
RETA 5282	Planning and Organization Workshop to Establish Collaborative Vegetable Research Program in Southeast Asia	28 Mar 1988	75
RETA 5322	Asian Vegetable Research and Development Center to Establish a Collaborative Vegetable Research Program in Southeast Asia	17 Mar 1989	600
RETA 5402 ^e	Regional Training Program in Vegetable Production and Research (Phase III)	28 Aug 1990	400
RETA 5461	South Asia Vegetable Research Network	25 Sep 1991	600
RETA 5517	Collaborative Vegetable Research Program for Southeast Asia (Phase II)	21 Dec 1992	600
RETA 5582	Workshop on Vegetable Research and Development in Cambodia, Lao People's Democratic Republic and Viet Nam	6 Jun 1994	94
RETA 5680	Establishment of a Vegetable Research Network for Cambodia, Lao People's Democratic Republic and Viet Nam	8 Apr 1996	600
RETA 5719	RETA to AVRDC for South Asia Vegetable Research Network (Phase II)	10 Jan 1997	600
RETA 5839	Collection, Conservation, and Utilization of Indigenous Vegetables	29 Mar 1999	550
RETA 6011	Strengthening the Collaborative Vegetable Research Network in Cambodia, Lao PDR, and Viet Nam (Phase II)	17 Dec 2001	650
RETA 6067 ^g	Promoting Utilization of Indigenous Vegetables for Improved Nutrition of Resource-Poor Households in Asia	6 Dec 2002	1,000
RETA 6208 ⁱ	Improving Rural Livelihoods through Development of Vegetable-Based Post-Harvest Technologies in Cambodia, Lao People's Democratic Republic, and Vietnam	16 Dec 2004	700
Subtotal (B1)			7,859
2. Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP)			
RETA 5248	Study of the Role of Women in Rural Industries	26 May 1987	180
Subtotal (B2)			180
3. Fisheries Research Studies, Seminars, and Training			
RETA 5032	Fish Market Study	30 Oct 1975	49
RETA 5077	Regional Training Program in Fisheries Stock Assessment and Statistical Data Collection	25 Dec 1980	200
RETA 5082	Second Fish Market Study	3 Jun 1981	220
RETA 5109	Research and Training in Aquaculture	30 Aug 1982	220
RETA 5142	South Pacific Training in Fisheries Statistics, Interpretation and Stock Assessment	4 Nov 1983	50
RETA 5150	Regional Training Program in Fish Handling and Quality Control	13 Mar 1984	50
RETA 5252	Fisheries Sector Development Strategies Study for South Pacific DMCs	9 Jun 1987	350
RETA 5316	Third Fish Market Study	18 Jan 1989	334
RETA 5358	Study on Fish Disease and Fish Health Management	22 Dec 1989	380
RETA 5534	Regional Study and Workshop on Aquaculture Sustainability and the Environment	1 Jun 1993	600

TA No.	TA Name	Date	TA Amount (\$'000)
RETA 5566	Tuna Industry Development in Pacific Island Countries	29 Dec 1993	495
	Subtotal (B3)		2,948
4. Forestry Research Studies, Seminars, and Training			
RETA 5049	Regional Seminar on Application of Appropriate Technology in Forestry and Forest Industries	15 Jun 1978	90
RETA 5224	Regional Training Center in Community Forestry (Supplementary)	17 Jul 1987	350
RETA 5409 ^e	Forestry Research Support Program for the Asia and Pacific Region	17 Oct 1990	1,500
RETA 5595 ^e	Regional Community Forestry Training Center in Kasetsart University, Thailand	5 Sep 1994	600
RETA 5612	Forestry Research Support Program for Asia and the Pacific (Phase II)	22 Dec 1994	600
	Subtotal (B4)		3,140
5. International Board for Soil Research and Management (IBSRAM)			
RETA 5218	Regional Workshop on Soil Management	10 Sep 1986	40
RETA 5284 ^e	International Board for Soil Research and Management for Research on Management of Sloping Lands for Sustainable Agriculture	14 Apr 1988	350
RETA 5400	Research on the Management of Sloping Lands for Sustainable Smallholder Agriculture in the South Pacific	24 Aug 1990	262
RETA 5803	TA to the International Board for Soil Research and Management for the Catchment Approach to Managing Soil Erosion in Asia	13 Aug 1998	1,300
	Subtotal (B5)		1,952
6. International Centre for Integrated Mountain Development (ICIMOD)			
RETA 5293	International Centre for Integrated Mountain Development for a Study of Strategies for the Sustainable Development of Mountain Agriculture	10 Jun 1988	540
RETA 5443	International Centre for Integrated Mountain Development	18 Apr 1991	600
RETA 5565	Appropriate Technology for Soil Conserving Farming Systems	29 Dec 1993	600
RETA 5784	Appropriate Technology for Soil Conserving Farming Systems (Phase II)	23 Mar 1998	600
	Subtotal (B6)		2,340
7. International Jute Organization (IJO)			
RETA 5235	International Jute Organization for Collection Conservation, Characterization and Exchange of Germplasm of Jute, Kenaf, and Mesta	5 Jan 1987	350
RETA 5375	International Jute Organization for the Development of Improved Varieties of Jute and Allied Fiber Crops (Phase II)	28 Mar 1990	600
	Subtotal (B7)		950
8. Livestock Research Studies, Seminars, and Training			
RETA 5135	Regional Workshop on Livestock Production Management	21 Nov 1983	130
RETA 5272	Regional Workshop on Animal Disease Reporting System	8 Jan 1988	150
RETA 5505	Regional Seminar on Policies and Strategies for Livestock Development	20 Aug 1992	220
	Subtotal (B8)		500
9. Other Research Studies and Training			
RETA 5319	Workshop and Symposium on Strengthening Pesticides Regulations	16 Jan 1989	250
RETA 5336	Strengthening Agricultural Science and Information Services in the Bank's DMCs	31 May 1989	180
RETA 5434	Regional Conference on Integrated Pest Management	13 Mar 1991	270
RETA 5514	Commonwealth Agricultural Bureau International for Integrated Pest Management in Cotton	17 Nov 1992	760
RETA 5618	Establishment of the Asian Maize Training Center	29 Dec 1994	600
RETA 6208	Workshops for Strengthening Partnerships for More Effective Planning, Research and Development in Agriculture in Mekong and Southeast Asia Regions	16 Dec 2004	150
	Subtotal (B9)		2,210
	Subtotal (B)		22,079
	Total (A+B)		88,751

ADB = Asian Development Bank, AOTA = advisory and operational technical assistance, CGIAR = Consultative Group on International Agricultural Research, DMC = developing member country, IIMI = International Irrigation Management Institute, No. = number, REG = regional, RETA = regional technical assistance, TA = technical assistance.

^a A component of TA 5812–REG (ADB. 1998. *Technical Assistance for the Third Agriculture and Natural Resources Research at CGIAR Centers*. Manila), for \$5.6 million.

^b A component of TA 5866–REG (ADB. 1999. *Technical Assistance for the Fourth Agriculture and Natural Resources Research at CGIAR Centers*. Manila), for \$5.6 million.

^c A component of TA 5711–REG (ADB. 1996. *Technical Assistance for the Agriculture and Natural Resources Research at CGIAR Centers*. Manila), for \$5.2 million.

^d A component of TA 5766–REG (ADB. 1997. *Technical Assistance for the Second Agriculture and Natural Resources Research at CGIAR Centers*. Manila), for \$5.5 million.

^e A component of TA 5945–REG (ADB. 2000. *Technical Assistance for the Fifth Agriculture and Natural Resources Research at CGIAR Centers*. Manila), for \$5.8 million.

^f A component of TA 6005–REG (ADB. 2001. *Technical Assistance for the Sixth Agriculture and Natural Resources Research at CGIAR Centers*. Manila), for \$4.0 million.

^g A component of TA 6067–REG (ADB. 2002. *Technical Assistance for the Seventh Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila), for \$3.8 million.

^h A component of TA 6136–REG (ADB. 2003. *Technical Assistance for the Eighth Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila), for \$3.0 million.

ⁱ A component of TA 6208–REG (ADB. 2004. *Technical Assistance for the Ninth Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila), for \$3.0 million.

^j A component of TA 6276–REG (ADB. 2005. *Technical Assistance for the Tenth Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila), for \$1.0 million.

Source: ADB project files.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Increased incomes of farmer households and reduced rural poverty and hunger in the participating DMCs</p>	<p>1. Vegetable growers' household incomes in targeted communities in the poverty-stricken upland rural areas of the GMS countries increased by 10%^a</p> <p>2. Progress accelerated in achieving the hunger and poverty MDG, and in going beyond to ultimately end hunger and poverty^b</p>	<p>Ex-ante and ex-post analyses; national statistics; progress reports; final report</p> <p>National and international technical and policy documents; conference materials and proceedings; final report</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • GMS countries are committed, and continue strong participation • Policy makers continue to be committed to the MDG process
<p>Outcome Expanded pro-poor agricultural research and dissemination, and improved policy maker and public awareness of appropriate strategies and actions to reduce and end hunger and poverty</p>	<p>1. Reduction of postharvest losses of vegetable commodities by 20% in targeted communities of CLV (by 4Q 2009)</p> <p>2. Greater development effectiveness of strategies and actions for reducing and ultimately ending hunger and poverty (by 4Q 2008)</p>	<p>Interim and final reports; strategic planning and review meeting; annual review meetings and planning meetings</p> <p>National and international technical and policy documents; conference materials and proceedings; final report</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Support of the NARSs in GMS countries is strong • Policy makers have the capacity to implement, adjust, and/or scale up needed strategies and actions <p>Risk</p> <ul style="list-style-type: none"> • Lack of stakeholder support • Sufficient credible and comprehensive data is not available
<p>Outputs 1. Postharvest operations and processing technologies for vegetable commodities with a pro-poor focus are developed and promoted</p> <p>1.1 Market opportunities in poverty-stricken upland areas identified</p> <p>1.2 Technical training programs on postharvest handling, transporting, and processing conducted</p> <p>1.3 Suitable, low-cost postharvest and processing technologies for leafy vegetables developed</p>	<p>Market opportunities assessed and documented (by 2Q 2007)</p> <p>Training master plan for CLV countries developed, and execution initiated (by 3Q 2007), with the goal of training at least 200 trainers, and subsequently 2,000 farmers, per country</p> <p>At least three innovative lost-cost postharvest and/or processing technologies for CLV countries available for broad distribution in target communities (by 4Q 2008)</p>	<p>Survey reports</p> <p>Training master plans</p> <p>Technical reports</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • No major logistic problem in the market study • Outcome of market study made available in time • Strong support of national agricultural organizations in the selection and adaptation of suitable technologies • A sufficient number of able and committed trainers can be identified • Available postharvest technologies can be adapted to local conditions and priority vegetables

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>1.4 Partnership among the GMS countries strengthened</p> <p>2. Multi-stakeholder research-based international dialogue on new strategies and actions to end hunger and poverty for those not reached by MDG processes promoted</p> <p>2.1 Knowledge base on international experience with strategies and actions improved</p> <p>2.2 High-level policy forum on role of agriculture and rural development in alleviating hunger and poverty convened at ADB</p> <p>2.3 In cooperation with LGOPAD, global conference on "Halving Hunger and Poverty is not enough: New Strategies and Actions beyond the MDGs", including an Asia Forum, convened in Beijing</p> <p>2.4 Follow-up strategic briefings held at ADB and key Asian institutions</p>	<p>Mutually agreed program in the postharvest sector between GMS countries and cross-border exchange of experience established (by 2Q 2008)</p> <p>Research undertaken; lessons from interventions against hunger and poverty identified; optimal mix of pro-poor and social protection policies assessed (by 1Q 2008)</p> <p>Broader consensus on the role of agriculture and rural development in achieving and going beyond the poverty and hunger MDG in Asia (by 3Q 2007)</p> <p>Greater exchange of experience between countries and stakeholders on which strategies and actions to implement, scale up, and transform in order to reduce and end hunger and poverty among those not reached by MDG processes (by 4Q 2008)</p> <p>Improved design and implementation of strategies and actions through shared knowledge and information (by 4Q 2008)</p> <p>Key national and regional policy dialogues and processes for alleviating poverty and hunger are better informed (by 2Q 2008)</p> <p>Innovative outreach and dissemination strategies implemented (by 2Q 2008)</p>	<p>Research subcontracts signed by each of the NARS of the CLV countries and AVRDC</p> <p>Background research papers and policy briefs, conference proceedings</p> <p>Policy forum materials and proceedings</p> <p>Conference materials and proceedings, survey of conference participants, national and international technical and policy documents</p> <p>National and international technical and policy documents, final report</p> <p>National and international technical and policy documents, final report</p>	<ul style="list-style-type: none"> • Interested and suitably committed partners are available • Qualified people are available for cutting-edge research • Key stakeholders are able to participate in the policy forum, and facilitated to interact • Policy and decision makers are receptive to new ideas and information • Stakeholders are ready to participate in the conference, and facilitated to interact • Key stakeholders are willing and able to act upon the new knowledge and information • Policy and decision makers are receptive to new ideas and information

Activities with Milestones	Inputs
<p>1. Postharvest operations and processing technologies for vegetable commodities with a pro-poor focus are developed and promoted</p> <p>1.1.1 Assess vegetable value chains and market opportunities in the GMS countries with a focus on poverty-stricken upland areas (by 2Q 2007)</p> <p>1.1.2 Identify key strategies for improvement (by 3Q 2007)</p> <p>1.2.1 Identify specific postharvest and processing related training needs (by 3Q 2007)</p> <p>1.2.2 Support the improvement of existing research infrastructure (continuous)</p> <p>1.2.3 Support participation in intraregional workshops and symposia by at least one scientist per country and year (from 2007 to 2009)</p> <p>1.2.4 Conduct training for at least 200 trainers per country (by 2Q 2009)</p> <p>1.2.5 Facilitate training of at least 2,000 farmers per country (by 4Q 2009)</p> <p>1.2.6 Develop and translate training materials (continuous)</p> <p>1.3.1 Recommend small-scale postharvest innovations to reduce marketing losses (storage, transport, handling, sanitation issues) (by 4Q 2007)</p> <p>1.3.2 Recommend candidate vegetable processing opportunities (e.g., canning, pickling, dehydration, and sauces) (by 4Q 2007)</p> <p>1.4.1 Encourage and facilitate joint training and exchange of ideas at all levels of the project (continuous)</p> <p>1.4.2 Conduct regular workshops and develop joint work plans (1Q 2007 and 3Q 2009)</p>	<ul style="list-style-type: none"> • ADB: \$500,000 • AVRDC: \$155,000 • Governments of CLV countries: \$20,000
<p>2. Multi-stakeholder research-based international dialogue on new strategies and actions to end hunger and poverty for those not reached by MDG processes promoted</p> <p>2.1.1 Commission background research papers and policy briefs (by 1Q 2007)</p> <p>2.1.2 Undertake peer review of background research papers (by 3Q 2007)</p> <p>2.1.3 Finalize and disseminate background research papers and other conference materials (by 1Q 2008)</p> <p>2.2.1 Develop policy forum program; identify and invite participants (by 2Q 2007)</p> <p>2.2.2. Convene policy forum at ADB (by 3Q 2007)</p> <p>2.2.3. Prepare policy forum materials and proceedings (by 4Q 2007)</p> <p>2.3.1 Establish conference advisory committee, including an ADB representative (by 1Q 2007)</p> <p>2.3.2 Convene first meeting of conference advisory committee (by 1Q 2007)</p> <p>2.3.3 Develop program for conference, including for Asia Forum (by 3Q 2007)</p> <p>2.3.4 Identify and invite conference participants (by 3Q 2007)</p> <p>2.3.5 Hold conference in Beijing, including sharing ADB's experience on strategies and policies for eradicating hunger and poverty through the Asia Forum (by 4Q 2007)</p> <p>2.3.6 Develop and implement communication and media activities (throughout 2007)</p> <p>2.3.7 Prepare conference proceedings (by 1Q 2008)</p> <p>2.3.8 Conduct survey of conference participants (by 4Q 2007)</p> <p>2.3.9 Assess impact made in the year following the conference (by 4Q 2008)</p> <p>2.4.1 Organize follow-up strategic briefings at ADB (by 1Q 2008)</p> <p>2.4.2 Organize two follow-up strategic briefings for DMCs and key Asian institutions (by 2Q 2008)</p>	<ul style="list-style-type: none"> • ADB: \$500,000 • IFPRI: \$125,000

ADB = Asian Development Bank; AVRDC = The World Vegetable Center; CLV = Cambodia, Lao People's Democratic Republic, and Viet Nam; DMC = developing member country; GMS = Greater Mekong Subregion; IFPRI = International Food Policy Research Institute; LGOPAD = State Council Leading Group Office of Poverty Alleviation and Development; MDG = Millennium Development Goal; NARS = national agricultural research system; Q = quarter.

^a Item 1 refers to the AVRDC project Supporting Pro-Poor Vegetable Value Chains in Greater Mekong Subregion Countries.

^b Item 2 refers to the IFPRI project Promoting a Multi-stakeholder Dialogue on New Strategies and Actions for Reducing Poverty and Hunger with a Focus on Agriculture and Rural Development in Asia.

**SUPPORTING PRO-POOR VEGETABLE VALUE CHAINS
IN GREATER MEKONG SUBREGION COUNTRIES
THE WORLD VEGETABLE CENTER (AVRDC)**

A. Introduction

1. The agriculture sector in the countries of the Greater Mekong Subregion (GMS)—comprising Cambodia, Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, Viet Nam, and Yunnan and Guangxi provinces of the People's Republic of China (PRC)—faces new opportunities and challenges as these economies are increasingly integrated into international markets through accession to the framework of the World Trade Organization, and bilateral and regional free trade agreements. Because of their weak product competitiveness in international markets, there is a strong need to promote linkages among key stakeholders (producers, traders, product processors, and consumers) to generate increased commodity and product values.

2. The development of vegetable production and supply chains, and the improvement of their competitiveness, can be an important tool for improving rural livelihoods. The Asian Development Bank (ADB) has supported the efforts of The World Vegetable Center (AVRDC, formerly the Asian Vegetable Research and Development Center) in this area through regional technical assistance (RETA) since 1996. Under the *Technical Assistance for Establishment of a Vegetable Research Network*¹ and the *Technical Assistance for Strengthening the Collaborative Vegetable Research Network*,² collaborative vegetable research activities were funded in the hot-wet environments of Cambodia, Lao PDR, and Viet Nam (collectively referred to as CLV). Furthermore, ADB helped to establish the CLV Network (CLVNET), a regional vegetable network. Within CLVNET, the national research programs have been actively involved in country-specific and region-wide research identifying disease-resistant vegetable varieties. Yet, CLVNET has also shown the need of CLV countries to shift their research focus into postharvest research. As reflected in their medium-term development plans, the CLV countries have recognized the strong need for advanced agricultural science and technology in this area. In response, ADB started to support the development of vegetable-based postharvest technologies in the CLV countries in 2005.³

3. The proposed project will strengthen and further expand these previous efforts carried out under CLVNET. It was formulated based on close consultation with the GMS countries at workshops and annual review meetings in conjunction with the ongoing Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project (footnote 3) and the GMS Working Group on Agriculture.

B. Issues

4. Postharvest losses reduce opportunities for exports and export revenues, and are considered as key constraints to vegetable market development in the GMS countries. Studies conducted under Improving Rural Livelihoods through Development of Vegetable-Based

¹ ADB. 1996. *Technical Assistance for Establishment of a Vegetable Research Network for Cambodia, Lao People's Democratic Republic, and Viet Nam*. Manila (TA 5680, approved on 15 April).

² ADB. 2002. *Technical Assistance for Strengthening the Collaborative Vegetable Research Network in Cambodia, Lao People's Democratic Republic, and Viet Nam (Phase II)*. Manila (TA 6011, approved 22 January).

³ ADB. 2004. *Technical Assistance for the Ninth Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila (Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies, TA 6208-REG, approved on 16 December).

Postharvest Technologies project showed that the value of postharvest losses in vegetables is substantial. Annual losses for all vegetables together are estimated to value approximately \$43 million in Lao PDR⁴ and \$25 million in Cambodia.⁵ In Viet Nam, annual losses for tomato alone have been estimated to be close to \$15 million.⁶ These losses are incurred at all stages of the supply chain, but studies have shown that farmers suffered the most. Where vegetables are an important source of household cash income, as is often the case in regions where staple crops are grown for subsistence only,⁷ a significant effect on rural incomes can be expected. Therefore, reducing postharvest losses in vegetables contributes to making vegetable production more profitable for all supply chain agents, and to reducing rural poverty. In addition, processing vegetables extends the time window for marketing the harvested crop, serving to smooth seasonal fluctuations in market prices, and increasing the potential consumer base population. Enhancing the supply of high quality year-round vegetables contributes to food security and improved nutrition in the region. International trade is growing fast because of trade liberalization and market-oriented reforms. Likewise, intraregional trade within the GMS is expanding. Participation in international markets requires sophisticated marketing, transportation network development, and information. Successful competition also requires ensuring food safety, quality control, and commodity standardization. The proposed RETA will help address these needs.

5. Under the Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project, focus has been placed on supporting national agricultural research systems (NARSs) of CLV countries with basic infrastructure, equipment, and training of researchers to conduct postharvest experiments for priority vegetables. In addition, vegetable supply chains were assessed to identify postharvest constraints for priority vegetable crops in peri-urban areas. Based on these studies, suggestions were made for the development of postharvest technologies for tomato and chili. Furthermore, technical and capacity building support has been provided for small-scale agro-processing enterprises.

6. The proposed project will build on the strong regional interests and successes created by past and ongoing research and training activities, and expand on them in a number of ways. First, it will greatly strengthen pro-poor research efforts by shifting the current focus on peri-urban areas to poverty stricken upland areas. Until recently, small farmers have used sloping uplands mainly for subsistence farming. Gradually, more attention is being paid to improving the productivity and sustainability of these areas to meet food security issues and improve livelihoods of the upland population. Upland farming continues to be severely constrained by gaps in agricultural production processes and marketing of agricultural produce.⁸ Thousands of upland farmers and their value chain agents will be provided with training opportunities and access to technologies developed under the ongoing Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project.

⁴ Genova II, Christian, Katinka Weinberger, Thongsavath Chanthasombath, Bouthsakone Inthlungdsee, Kham Sanatem, and Kethongsa Somsak. 2006. *Postharvest Loss in the Supply Chain for Vegetables: The Case of Tomato, Yardlong Bean, Cucumber and Chili in Lao PDR*. Working Paper No. 17. Shanhua: The World Vegetable Center (AVRDC).

⁵ Genova II, Christian, Katinka Weinberger, Srun Sokhom, Mong Vanndy, and En Chan Yarith. 2006. *Postharvest Loss in the Supply Chain for Vegetables: The Case of Tomato, Yardlong Bean, Cucumber and Chinese Kale in Cambodia*. Working Paper No. 16. Shanhua: The World Vegetable Center (AVRDC).

⁶ Genova II, Christian, Katinka Weinberger, Hoang Bang An, Dang Dinh Dam, Nguyen Thi Tan Loc, Le Nhu Thinh, and Nguyen Thi Thanh Thuy. 2006. *Postharvest Loss in the Supply Chain for Vegetables: The Case of Chili and Tomato in Viet Nam*. Working Paper No. 18. Shanhua: The World Vegetable Center (AVRDC).

⁷ Weinberger, K., and T.A. Lumpkin. Forthcoming. Diversification into Horticulture and Poverty Reduction: A Research Agenda. *World Development*.

⁸ Partap, T., ed. 2004. *Sustainable Farming Systems in Upland Areas*. Tokyo: Asian Productivity Organization.

7. Second, the project will strengthen the capacity of NARs to conduct postharvest research by expanding into leafy vegetables, a group of priority vegetables that could not be dealt with under the ongoing project because of budget constraints. Studies conducted under the ongoing project have shown that postharvest losses in fruit vegetables (such as tomato and chili) caused by fruit over-ripening, decay, and physical injuries remain high. As a consequence, farmers' incomes remain low because of low farm gate prices, and retail prices remain high as the losses are passed on to farmers and consumers. This is true even though improved varieties with better shipping quality and shelf life and improved production systems have become available. Several factors contribute to postharvest losses, and some of the technological factors include faulty harvesting and handling practices, poor packaging and transport systems, lack of storage facilities, and lack of processing techniques. Similar factors are expected to hinder the development of successful value-added chains for leafy vegetables.

8. Finally, the project will expand regional experience-sharing and training activities to include all GMS countries. It will support regional training and experience-sharing programs, involving not only the CLV countries, but also Myanmar, Thailand, and Yunnan and Guangxi provinces of the PRC. It is expected that effective technologies from one locale may be appropriately extended into similar locales in neighboring GMS countries because agro-economic zones are comparable along the corridors of the Mekong Basin. By facilitating the participation of scientists and extension workers in trainings, workshops, and symposia, cooperation across GMS countries will be improved and limited resources for agricultural research and dissemination will be used more efficiently.

C. The Technical Assistance

1. Impact and Outcome

9. The proposed project aims to contribute toward increasing the incomes of farmer households and reducing rural poverty, in particular of vegetable growers in upland rural areas of the GMS countries. The outcome of the project is an expansion of pro-poor agricultural research and dissemination, especially with regard to postharvest operations and processing technologies for vegetable commodities. Four outputs are expected from the project: (i) identification of market opportunities for value-added vegetables in poverty-stricken upland areas; (ii) technical training programs on postharvest handling, transporting, and processing; (iii) development of suitable, low-cost postharvest and processing technologies for leafy vegetables; and (iv) strengthening of partnership among GMS countries.

2. Methodologies and Key Activities

10. AVRDC as the Executing Agency (EA) of the project will hold an inception workshop early during project implementation to (i) define the details of the work program, (ii) develop the activities together with the CLV national partners (Table A3.2), and (iii) ensure coordinated implementation of activities among the GMS partners. The assessment of postharvest priorities will be followed by the identification of suitable postharvest and processing technologies for a prioritized set of leafy vegetables. During project implementation, the proposed work program and outputs will be discussed regularly with key stakeholders in the GMS countries to ensure their effective participation in the planning and implementation of the project. Key activities for the four outputs are described below.

a. Identification of Market Opportunities in Poverty-Stricken Upland Areas

11. In close collaboration with the implementing agencies (IAs), the EA will:
- (i) identify market opportunities for vegetable value chains in CLV countries with particular focus on poverty-stricken upland areas, and
 - (ii) identify key strategies for improvement.
12. The proposed study will target smallholder vegetable producers in poverty-stricken upland farming areas of the CLV countries. These areas will include Kampong Seam and Ba Koung districts in Cambodia; Van Viang and Kasy districts in Lao PDR; and Tam Nong, Lac Thuy, Thanh Chuong, and A Luoi districts in Viet Nam. Until recently, sloping uplands have been used by small farmers for subsistence farming, but the focus is shifting to improved productivity and sustainability of these areas to meet food security issues and livelihoods of the upland population. The diversity of biophysical regimes, biodiversity, and ethnic diversity in Asian uplands has led to a diverse range of upland farming systems. It is therefore crucial to identify site and community-specific technologies and solutions to address problems of upland farmers and farming. This study will aim to explore the relationship between site and community-specific technologies coupled with enhanced business economic organizations and upland farmers' increased bargaining power in the supply chain and sustainable agriculture.
13. Using a participatory and interdisciplinary approach, the study will identify existing market opportunities in the upland areas, focusing on vegetable products which show strong market demand in terms of volume and price, and which are of interest to smallholders. In addition, it will explore existing rural cooperatives and associations, and the level of technologies related to small-scale agricultural production with low input requirements, irrigation, and water management. This study will work on the premise that, once the technological and rural business environment are well in place, upland farmers will have a steady income source that will help reduce poverty and eventually lead to sustainable agriculture.

b. Technical Training Programs on Postharvest Handling, Transporting, and Processing

14. In close collaboration with the IAs, the EA will
- (i) identify specific postharvest and processing related training needs;
 - (ii) support the improvement of existing research infrastructure;
 - (iii) support the participation of scientists and extension workers in the intraregional workshop, symposia, and training activities;
 - (iv) conduct training for trainers;
 - (v) facilitate training of at least 2,000 farmers per CLV country; and
 - (vi) develop and translate training materials.
15. Experience from the Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project has shown that NARSs lack capacity to conduct vegetable postharvest research. While explicit postharvest research institutions exist, they may not target horticultural crops. In the CLV countries, a training master plan will be developed in collaboration with national stakeholders and regional experts from the research community and private sector—to identify specific postharvest and processing related training and infrastructure needs, with a particular focus on upland areas. Based on the outcomes of the training master plan, existing infrastructure will be further upgraded and equipment will be purchased to enable institutions to conduct postharvest research.

16. Through the Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project, AVRDC has developed a network of institutes in the region from which training courses for researchers and trainers are regularly conducted. The project will continue these ongoing efforts to increase intraregional cooperation by using training as a means for an exchange of ideas and enhanced cooperation between the public and private sector. A special role in this respect is foreseen for the model small-scale processing enterprise based in Lao PDR that is being supported under the ongoing project and which will serve as a platform for training and exchange. For researchers, training will primarily take the form of participation in workshops, symposia, and short-term research internships in CLV countries with capable institutions. Scientists from Thailand, Viet Nam, and Yunnan in the PRC will be invited to participate in these activities.

17. Curricula for training of trainers will focus on introducing shipping/processing-type varieties, improving field harvesting mechanisms, developing low-cost cooling facilities, adding value to vegetable products, introducing appropriate processing techniques, identifying markets, and managing micro-industries. The small-scale processing enterprise supported under the ongoing project will play a crucial role in providing hands-on training activities. Within the second phase, it is expected to greatly upscale training activities to train at least 200 trainers per country and, subsequently, to at least 2,000 farmers per country.

18. The Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project has identified the dire need of training material in local languages. Therefore, the proposed project will continue to place emphasis on the translation of available and newly developed training materials into local languages. This will include the translation of “Small-Scale Postharvest Handling Practices: A Manual for Horticultural Crops”⁹ into Burmese. Other materials developed during the ongoing project will also be translated.

c. Development of Suitable, Low-Cost Postharvest and Processing Technologies for Leafy Vegetables

19. In close collaboration with the IAs, the EA will

- (i) introduce small-scale postharvest innovations to reduce marketing losses (storage, transport, handling, sanitation issues); and
- (ii) identify and introduce candidate vegetable processing opportunities (e.g., canning, pickling, dehydration, and sauces).

20. Similar to the ongoing research under the Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project, work will focus both on postharvest operations and processing opportunities. Because of fund limitations, only a limited number of technologies are currently covered. The proposed project will allow CLV countries to engage in the development of further technologies, in particular for leafy vegetable crops, while other GMS countries can benefit from technologies already developed in the CLV countries under the ongoing project. Leafy vegetables to be considered are head cabbage and Chinese mustard for Lao PDR; kang kong (water convolvulus), amaranth, Chinese kale, and leafy cucurbits in Viet Nam; and Chinese kale and cabbage for Cambodia. Ongoing research activities will be expanded, including by using participatory approaches for the refinement of

⁹ Kitinoja, L., and A. A. Kader. 2002. *Small-Scale Postharvest Handling Practices: A Manual for Horticultural Crops*. 4th Edition. Postharvest Horticulture Series No. 8E. Davis: University of California.

passive solar devices for drying vegetable produce. Technology development will take place in close collaboration with the model small-scale processing enterprise that is being supported under the ongoing project, and the private sector will further be involved in evaluating and providing feedback on technologies and training.

d. Strengthening of Partnership among GMS Countries

21. The IAs will

- (i) encourage and facilitate joint training and exchange of ideas at all levels of the project, and
- (ii) conduct regular workshops and develop joint work plans.

22. Partnerships will be established and strengthened among various national universities, organizations, research institutes, and extension agencies. The project intends to include experts and resource staff from all GMS countries and representatives both from the private and public sector in the planning and training activities. Joint planning and priority-setting exercises, coordinated implementation activities, training of relevant national staff, exchange of experiences, and easy access to a shared database that collects data from the participating countries will strengthen cross-border partnerships and economic cooperation in the postharvest sector.

3. Cost and Financing

23. The total cost of the proposed project is estimated at \$675,000 (Table A3.1). ADB will finance \$500,000, or 74% of the project. The remaining cost will be covered by AVRDC (\$155,000, or 23% of the cost) and by the governments of the CLV countries through their respective NARSs (\$20,000, or 3% of the cost). ADB funds will mainly be used to finance the project's operational costs, monitoring, and coordination. In-kind contribution by AVRDC and the NARSs will be used to support personnel, facilities, equipment, and other goods and services.

4. Implementation Arrangements

24. AVRDC will be the EA for the project, and the NARSs identified in Table A3.2 will be designated the IAs. AVRDC will appoint a project team coordinator from within its staff. Each collaborating NARS will also appoint a country team coordinator for its component of the work. National teams will be responsible for specific research, and technology transfer in the field. For the other GMS countries, the coordinators of the Working Group on Agriculture will act as focal points and nominate people for participation in training programs and workshops. Research subcontracts will be signed between AVRDC and CLV countries.

25. The project will be implemented over 36 months, from January 2007 to December 2009. The detailed work plan will be finalized in the inception workshop that will take place within 3 months of the start of the project. The steering committee formed under the Improving Rural Livelihoods through Development of Vegetable-Based Postharvest Technologies project will continue to be operational. The EA will also organize annual planning and review meetings and a project completion workshop in the third quarter of the third year, which will be attended by all project partners, including ADB. The project completion workshop will be held to review project achievements and outline the strategy to ensure continuity of the selection and dissemination activities beyond the project. The workshop will recommend sustainable approaches to ensure the continuity of the improvement programs that will have been initiated.

Table A3.1: Cost Estimates and Financing Plan
(\$'000)

Item	Total Cost
A. Asian Development Bank Financing	
1. Support to Postharvest Technology Development	75.0
2. Support to Postharvest Training	75.0
3. Publications and Translations	10.0
4. Equipment ^a	18.0
5. Training, Seminars, and Conferences	
a. Annual Meetings ^b	18.0
b. Training Program ^c	89.0
6. Miscellaneous Administration and Support Costs	
a. Surveys ^d	15.0
b. Support Cost ^e	85.0
c. Administrative Cost ^f	65.0
7. Contingencies	50.0
Subtotal (A)	500.0
B. Government Financing (NARSs)^g	
1. Office Accommodation and Transport	5.0
2. Remuneration and Per Diem of Counterpart Staff	5.0
3. Research Operation and Supply	10.0
Subtotal (B)	20.0
C. AVRDC Financing	
1. Office Accommodation and Transport	25.0
2. Remuneration and Per Diem of Staff	100.0
3. Research operation and Supply	30.0
Subtotal (B)	155.0
Total	675.0

AVRDC = The World Vegetable Center (formerly the Asian Vegetable Research and Development Center); CLV = Cambodia, Lao People's Democratic Republic, and Viet Nam; GMS = Greater Mekong Subregion; Lao PDR = Lao People's Democratic Republic; NARS = national agricultural research system.

^a Small-scale equipment for postharvest research, including \$4,500 for each CLV NARS and the AVRDC regional office in Lao PDR.

^b Planning and final workshop, with \$9,000 each.

^c \$23,700 for each CLV NARS for training of trainers and subsequent extension efforts, and \$3,000 for the participation of GMS researchers in workshops and symposia.

^d \$5,000 for each CLV country.

^e Including a research assistant for 36 person-months, plus 8,500 for each CLV country and AVRDC headquarters, and \$17,000 for covering the operating cost of the AVRDC regional office in Lao PDR.

^f 15% of subtotal.

^g Governments of Cambodia, Lao PDR, and Viet Nam through their respective NARSs.

Source: AVRDC estimates.

26. AVRDC will procure goods and related services in accordance with ADB's *Procurement Guidelines* (2006, as amended from time to time). At the end of the project, equipment purchased under the RETA will be assigned to the EA/IAs that have been using the equipment during project implementation.

27. AVRDC will be required to submit the following reports to ADB: (i) inception report; (ii) six monthly technical progress reports; (iii) semiannual financial statements accounting for the use of project funds; (iv) audited annual financial statements, including the use of project funds; and (v) a draft final completion report to obtain ADB comments before submission of the

final report. The inception report will be prepared within 1 month of technical assistance (TA) inception and will be discussed and finalized at the inception planning workshop. Semiannual technical progress reports and financial statements will be submitted every 6 months, and the comprehensive completion report will be submitted within 3 months of project closure. Funds will be drawn down in semiannual installments based on AVRDC's estimate of forthcoming expenditures, and subject to satisfactory liquidation of expenditures for previously disbursed funds. Part of the disbursement of the RETA funds to AVRDC for the support to postharvest technology and postharvest training components, amounting to \$75,000 each, will be made on a lump sum basis in accordance with the following schedule: 10% upon signing the TA agreement between AVRDC and ADB, and 30% after receipt and approval of each semiannual technical progress report¹⁰ by ADB.

Table A3.2: Implementing Agencies and Contacts

Country	Implementing Agency	Contact Person
Viet Nam	Ministry of Agriculture and Rural Development, Research Institute of Fruits and Vegetables, Hanoi	Vu Manh Hai, Director
Cambodia	Ministry of Agriculture, Forestry and Fisheries, Phnom Penh	Srun Sokhom Deputy Director Department of Agronomy and Agricultural Land Improvement
Lao People's Democratic Republic	Ministry of Agriculture and Forestry, Vientiane	Kham Sanatem, Assistant Director General of Department of Agriculture

Source: AVRDC.

5. Support to Postharvest Technology Development and Postharvest Training

a. Postharvest Technology Development

28. For the implementation of activities related to the output "Development of suitable, low-cost postharvest and processing technologies for leafy vegetables", AVRDC will work closely with representatives of the collaborating NARSs from the CLV countries. The specific tasks to be carried out by AVRDC during the first 18 months of the project are as follows:

- (i) Supporting national collaborators in identifying infrastructure and human capacity building needs.
- (ii) Evaluating the progress and implementation of project activities in collaborating countries, identify technical problems met by collaborators, and suggest workable solutions.
- (iii) In collaboration with national partners, identifying postharvest qualities of leafy vegetable varieties for selection purposes and use in the breeding programs of AVRDC and national partners, and summarizing results in a written report.
- (iv) Performing a literature search on available experience with low-cost postharvest and processing technologies for leafy vegetable crops, and summarizing results in a written report.

¹⁰ This is referred to in paragraphs 28 (vii) for the support of postharvest technology development and 29 (vii) for the support of postharvest training.

- (v) Developing at least three low-cost postharvest technologies per country for targeted vegetables, in collaboration with national partners and farmers; and at least 10 technologies in total.
- (vi) Preparing training materials for technologies developed, and supporting translation activities.
- (vii) Submitting three written semiannual technical progress reports that will give an overview, diagnosis, and synthesis of technical successes and problems of the project and provide specific recommendations.
- (viii) Presenting findings and suggestions during workshops, and providing information and reports as required.

b. Postharvest Training

29. In the area of postharvest training, AVRDC will develop and implement course programs for the transfer and extension of postharvest and processing technologies developed under the project, and for business skills for processors to identify market opportunities. The specific tasks, to be carried out by AVRDC from the middle of year 2 until the end of year 3, are as follows:

- (i) Identifying currently available training in the region relevant to postharvest and processing, which includes information on courses provided, curricula, targeted learners, materials used, costs, sources of funding, dates and venues, and other useful data.
- (ii) Identifying postharvest and processing training providers, including their organizational status (nongovernment organization, government agency, industry association, etc.), location of their headquarters and offices, number and qualifications of training staff, years of operation, sources of funding, and other useful data.
- (iii) Based on the above, and in close consultation with national partners, developing a strategic plan for the project's postharvest and processing training activities. The plan should describe potential partner organizations and alliances as well as organizations and individuals that might either put up resistance to the project or undermine it through incompetence or conflicting interests. The plan should also include recommendations for setting priorities among providers that need support, and an action plan for review by officials and other stakeholders in postharvest training.
- (iv) Developing a course program for training of trainers for postharvest and processing technologies and business skill for processors, and arranging for the training of at least 200 trainers per country.
- (v) Observing at least 20 trainers while providing training per country, and providing appropriate coaching.
- (vi) Contributing to the development of supplementary materials (e.g., case studies, practical tools to be used in the trainers' guides, promotional brochures, guides to learners on how to get the best from workbooks and the course).
- (vii) Submitting three written semiannual technical progress reports that will give an overview, diagnosis, and synthesis of successes and problems of the project and provide specific recommendations.
- (viii) Presenting findings and suggestions during workshops, and providing information and reports as required.

**PROMOTING A MULTI-STAKEHOLDER DIALOGUE
ON NEW STRATEGIES AND ACTIONS FOR REDUCING HUNGER AND POVERTY
WITH A FOCUS ON AGRICULTURE AND RURAL DEVELOPMENT IN ASIA
INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE (IFPRI)**

A. Introduction

1. In September 2000, heads of state adopted the Millennium Declaration confirming their countries' commitment to achieving the Millennium Development Goals (MDGs), a set of eight goals for addressing the many dimensions of extreme poverty. The first goal aims at eradicating poverty and hunger by reducing by half between 1990 and 2015 the proportion of people suffering from hunger, and living on less than \$1 a day.

2. While significant efforts are being made for achieving the hunger and poverty MDG, progress to date has been limited in most of the world, with the notable exception of the People's Republic of China (PRC). From 1990 to 2001, the PRC halved the proportion of its population living in poverty from 33% to 17%, lifting over 160 million people out of poverty. However, during this period, the rest of the world experienced an increase in the number of poor people from 844 million to 877 million. During this same period, the PRC significantly reduced the number of hungry people from 194 million to 142 million, whereas in the rest of the world the number increased from 625 million to 672 million. Thus, there are serious concerns whether the hunger and poverty MDG will be met.

3. In 1993, concerned about global food security, the International Food Policy Research Institute (IFPRI) launched the 2020 Vision for Food, Agriculture, and the Environment. It has two primary objectives: (i) to develop and promote a shared vision and consensus for action for meeting food needs while reducing poverty and the environment; and (ii) to generate information and encourage debate to influence action by national government and nongovernment organizations, the private sector, international development institutions, and other elements of civil society. The 2020 Vision Initiative fully supports the MDGs and seeks to contribute to their achievement by 2015.

4. To realize its objectives, the 2020 Vision Initiative engages in different activities, including generating timely, state-of-the-art information on key topics related to food, agriculture, and the environment; raising public awareness of the world's food and environmental problems and what can be done to solve them; and providing for a multi-stakeholder dialogue, information sharing, and consensus building among policy makers, researchers, and leaders in nongovernment organizations, private sector, and media through seminar, workshops, and conferences. In this connection, major global conferences that have significantly influenced policy debate and policy making were held by IFPRI, including most notably: (i) the conference on "Sustainable Food Security for All by 2020" in Bonn, Germany in 2001, which helped to further knowledge on emerging developments and priority actions required to assure global food security and, by attracting participation from all stakeholder groups and facilitating different perspectives to be heard, encouraged dialogue and debate between traditional and new stakeholders; and (ii) the conference on "Assuring Food and Nutrition Security in Africa by 2020" in Kampala, Uganda in 2004, which helped to putting African food and nutrition security on the agenda and informed and contributed to key Africa-focused processes such as the New Partnership for Africa's Development, the Blair Commission on Africa, the G8 deliberations in

2004 and 2005, and the World Economic Forum Global Governance Initiative Poverty and Hunger Expert Group.¹

5. Building on the foundation of these conferences and other work carried out under the 2020 Vision Initiative, the proposed project will help IFPRI in promoting the next round of multi-stakeholder international dialogue on new strategies and actions for reducing hunger and poverty and, in particular, focus on the corresponding role of agriculture and rural development in Asia. The project was formulated based on close collaboration with the State Council Leading Group Office of Poverty Alleviation and Development (LGOPAD) of the PRC.

6. The project also builds on experience with mechanisms for policy dialogue in South Asia gathered under the Poverty Reduction through Advisory Network, Policy Research, and Capacity Strengthening in South Asia project² which strengthened the capacity of local research institutions, supported quality research in collaboration with them, and linked policy makers and policy researchers to facilitate more rational and effective decision making on reducing hunger and poverty. It was recognized that there continues to be a need from both researchers and decision makers for suitable mechanisms of interaction, and for high quality research that informs the design and implementation of appropriate policies and programs to create an impact on poverty reduction through policy changes.

B. Issues

7. Hunger and poverty remain widespread in Asia. Despite recent progress, especially in the PRC, Asia continues to be home to two thirds of the world's absolutely poor and food-insecure people. About 650 million people in Asia are absolutely poor, living on less than \$1 a day, down from 934 million in 1990. Around 520 million people lack sufficient access to food to lead healthy, productive lives, down from 570 million in 1990. There are also indications that the nature of hunger and poverty in Asia is changing. The hungry and poor that are "easy" to reach are benefiting from global efforts to reduce hunger and poverty. However, the poorest of the poor are often much harder to reach because they may live in failing states or are caught in poverty traps. The power of economic growth for poverty reduction and hunger reduction appears to have diminished in recent years. A growing number of countries combine good economic growth with disappointing declines or even rises in poverty. It is increasingly evident that the policy mix for the reduction of poverty and hunger needs to change, and policies for pro-poor growth need to be rebalanced with social protection policies if the poverty and hunger MDG is to be met. A 2004 review of the Poverty Reduction Strategy of the Asian Development Bank (ADB) noted an impressive record in reducing income poverty in the Asia and Pacific region, but also pointed out that the least progress has been made in the non-income dimensions of poverty, and that the region faces a number of challenges in attaining the MDGs.³

8. There is also a growing concern that even if the first MDG is achieved, it would only halve the proportion of people living on less than \$1 a day and suffering from hunger.

¹ Related to these events was the conference on "Scaling up Poverty Reduction" hosted by the Government of the PRC in Shanghai in 2004, and sponsored by the World Bank in cooperation with other development partners, including ADB. It was part of a global learning process which drew lessons from case studies and multi-country interactive dialogues with a view of replicating or upscaling best practices in order to further poverty reduction and achievement of the MDGs.

² ADB. 2002. *Technical Assistance for the Seventh Agriculture and Natural Resources Research at International Agricultural Research Centers*. Manila (Poverty Reduction through Advisory Network, Policy Research, and Capacity Strengthening in South Asia, TA 6067-REG, approved on 15 November).

³ ADB. 2004. *Enhancing the Fight against Poverty in Asia and the Pacific: The Poverty Reduction Strategy of the Asian Development Bank*. Manila.

Projections suggest that worldwide an estimated 700 million people will remain extremely poor in 2015, and about 600 million will still go hungry. About half of the people projected to remain absolutely poor or food-insecure in 2015 will be living in Asia. The Millennium Project's report states that the goals are only a mid-station to ending absolute poverty by 2025, and that sustained support is required for those who will still require support.

9. Therefore, there is a compelling need to think ahead, and for policy and decision makers, development partners, civil society organizations, and researchers to (i) take stock of progress in achieving the poverty and poverty MDG and those who are left behind; (ii) assess why hunger and poverty persist in these groups; (iii) analyze cases where interventions, in particular in the agriculture and rural development sector, have or have not successfully reached the poorest of the poor and those most afflicted by hunger; (iv) assess the optimal mix of pro-poor growth and social protection policies at different stages of development; (v) intensify the exchange of lessons between the PRC and other countries that have been successfully reducing hunger and poverty on the one hand and the rest of the countries on the other hand; and (vi) develop a consensus on strategies and actions to achieve food and nutrition security and reduce poverty and its consequences for these groups.

10. IFPRI and LGOPAD jointly plan to facilitate a multi-stakeholder international dialogue on new strategies and actions to attain the hunger and poverty MDG, and to effectively go beyond it and ultimately end poverty and hunger. This dialogue will culminate in a global conference, provisionally titled "Halving Hunger and Poverty is not enough: New Strategies and Actions beyond the Millennium Development Goals", which will be held in Beijing in the fourth quarter of 2007—half-way between 2000, when the Millennium Declaration was adopted, and 2015 when the MDGs are planned to be achieved. Convening the conference in the PRC will facilitate learning from the lessons of that country's successes in sharply reducing poverty and hunger and achieving the MDG well in advance of the target, and from the PRC's increasing shift in attention toward closing the gaps and going beyond the MDG. Few of the MDG-related events over the past 5 years have considered those left implicitly behind by the MDG process—the other half. Most of these events have focused more on identifying the problems than on effective solutions and their implementation. The proposed multi-stakeholder dialogue will bring to bear the latest research on new strategies and actions to end hunger and poverty for those probably not reached by the MDGs.

C. The Technical Assistance

1. Impact and Outcome

11. The proposed project aims to contribute toward increasing incomes of farmer households and reducing rural poverty and hunger in Asia. The outcome will be improved policy maker and public awareness of appropriate strategies and actions to achieve the hunger and poverty MDG and go beyond to ultimately end hunger and poverty. Knowledge and information emerging from the project will be fed into key policy and decision making processes in order to adjust existing strategies and policies and develop new ones. IFPRI will communicate the project outcomes to leading national, regional, and global policy and decision makers. Furthermore, IFPRI expects that high-level participants from the public, civil, and private sector from at least half of the developing member countries (DMCs) actively participating in the process supported by the project will help share and institutionalize the outcomes, beginning with seminars and media briefings in their respective countries. These knowledge and information flows are expected to help improve the design and implementation of strategies and actions for reducing hunger and poverty, and contribute to greater development effectiveness of

such interventions. IFPRI will monitor the spread and influence of these knowledge and information flows through media reports, policy documents, and other devices.

12. The project is expected to generate four outputs: (i) the knowledge base on international experience with strategies and actions for reducing and ending hunger and poverty is improved; (ii) a high-level policy forum on the role of agriculture and rural development in alleviating hunger and poverty is held at ADB; (iii) a global conference on “Halving Hunger and Poverty is not enough: New Strategies and Actions beyond the MDGs,” including an Asia Forum, is convened in Beijing; and (iv) follow-up strategic briefings are held at ADB and key Asian institutions.

2. Methodology and Key Activities

13. Key activities for the four outputs are described below.

a. Knowledge Base on International Experience with Strategies and Actions for Reducing and Ending Hunger and Poverty

14. To set the stage and facilitate the multi-stakeholder international dialogue, IFPRI as the executing agency of the project will commission 3–4 background research papers, 6–8 policy briefs, and other information materials from leading experts. Topics addressed will include (i) evaluation of progress in achieving the hunger and poverty MDG; (ii) assessment of who are the poor and food insecure who are left behind or out of MDG processes, where they are, and why hunger and poverty persist among these groups; (iii) review of the experience with key strategies and actions to reduce poverty and hunger and of the trade-offs between pro-poor policies and social protection policies; and (iv) review of lessons from innovations, experiments, and interventions—what worked, what did not work, how successes could be scaled up and speeded up, and what lessons have been learned from experiences across countries (including from the PRC’s success in significantly reducing poverty as well as from the economic history of industrialized countries; and from across sectors, including the public and private sectors). Special efforts will be made to draw on ADB’s vast depository of materials.

b. High-Level Policy Forum on the Role of Agriculture and Rural Development in Alleviating Hunger and Poverty

15. A high-level policy forum will be convened at ADB in the third quarter of 2007 focused on one of the most central issues on the poverty reduction agenda in Asia—the role of agriculture and rural development in alleviating hunger and poverty. While the specifics of the program will be developed in consultation with ADB, it is envisioned that the policy forum will span 1–2 days. About 30–40 leaders/stakeholders in the public sector, civil society, private sector, research and academia, and media and from across ADB’s DMCs will be invited. The RETA will support the participation of about 15 leaders/stakeholders from DMCs. Background papers will be prepared for the policy forum, and executive-style proceedings will be compiled subsequently.

c. Global Conference Including an Asia Forum

16. The global conference on “Halving Hunger and Poverty is not enough: New Strategies and Actions beyond the Millennium Development Goals” will be held in Beijing in the fourth quarter of 2007. While the specific content and themes of the international conference are still to be fully developed, particularly in conjunction with the conference advisory committee (para. 22), the following are expected to be addressed:

- (i) Who represents those left behind from the MDGs?
- (ii) Why are these groups in such a perennial state of poverty and hunger?
- (iii) Do policies follow the right approaches and strategies to reach them? Are there policies that should be intensified or whose scope should be broadened or whose sequencing should be revisited? What is the appropriate way to phase poverty reduction strategies? Are there different modalities for reaching those left behind? What are the best practices to draw upon? To what extent and how do pro-poor policies need to be rebalanced with social protection policies? What is the optimal mix of growth and social protection policies at different stages of development? With the poor and food-insecure primarily concentrated in rural areas and depending directly or indirectly on agriculture for their livelihoods, special attention will be paid to agricultural and rural development policies and strategies. The transformation of smallholder agriculture is a prime item on the development agenda for many developing countries. This transformation will directly affect about 2 billion people worldwide on about 350 million farms that are less than 2 hectares in size. A strategic agenda to manage that complex transition and incorporate opportunities for agricultural innovation will be called for in order to end hunger and poverty.
- (iv) What are the implications of new technologies for poverty reductions?
- (v) What lessons have been learned from experiences across countries, including developed and developing countries?
- (vi) What roles should government, civil society, and the private sector play, and what responsibilities do they have? What could be the appropriate schedule of national and international action?

17. The conference will span 3 days. It will be conducted in both plenary and parallel sessions. Besides thematic sessions, regional forums—including an Asia Forum—will also be organized. It is envisioned that around 300–500 participants from Asia and the rest of the world will participate. They will represent major disciplines, including the agriculture, environment/natural resources, nutrition, health, social sciences, political science, economics, finance, and trade. Participants will also come from a wide variety of key stakeholder groups such as high-level policy makers, including some committed heads of state; parliamentarians; development partners; nongovernment organizations, including farmers' organizations; business and industry; research and academic institutions; and media. Participation will be by invitation.

18. ADB will be invited to play a key role in the conference along with its preparatory and follow-up activities. Through membership in the conference advisory committee, ADB will contribute to the development of the conference program and share its expertise through thematic and regional sessions, in particular the Asia Forum; and contribute to the preparation and dissemination of conference materials. The RETA will support the participation of leading policy makers and leaders of DMCs in the conference.

d. Follow-Up Strategic Briefings at ADB and Key Asian Institutions

19. Following the conference in Beijing, a strategic briefing will be held at ADB headquarters on the outcomes of the conference, and how they can further inform and contribute to strengthening ADB's poverty reduction efforts and agricultural and natural resources sector operations. Two additional strategic briefings are envisioned, possibly in collaboration with ADB, for DMCs and key Asian institutions. These half-day briefings will be conducted in collaboration with key conference advisory committee members from Asia. Collaboration with development partners will be strengthened in the process, including with other multilateral development banks,

bilateral funding agencies, research institutions, nongovernment organizations, and the media. The RETA will support the participation of selected officials of DMCs in the follow-up briefings at ADB.

20. Through innovative outreach and dissemination strategies, the knowledge generated by this process will better inform national, regional, and global policies and strategies. To evaluate the outcome of the conference, a survey of participants will be conducted and an assessment of impact made in the year following the conference.

3. Cost and Financing

21. The total cost of the proposed project is estimated at \$625,000 (Table A4.1). ADB will finance \$500,000, or 80% of the project. The remaining cost of \$125,000 will be covered by IFPRI. It is understood that LGOPAD will provide in-kind support and partial coverage of local costs associated with the global conference in Beijing. ADB financing will support the active participation of key leaders and/or stakeholders from DMCs in the policy forum, the global conference, and the follow-up strategic briefings as well as the preparation, production, and dissemination of key background research papers and other materials for and emanating from these events. A consortium of partners, including bilateral and multilateral funding agencies, the private sector, foundations, and nongovernment organizations, is being established by IFPRI to co-sponsor the global conference.

4. Implementation Arrangements

22. IFPRI, with headquarters in Washington, D.C. and offices in Beijing and New Delhi will be the executing agency of the project. IFPRI will appoint a project team coordinator from within its staff. IFPRI will organize the conference in Beijing with the LGOPAD which will be the implementing agency (Table A4.2). The day-to-day technical and management arrangements for the conference will be undertaken in collaboration with the International Poverty Reduction Center in China (IPRCC). It was established during the 2004 conference on Scaling Up Poverty Reduction in Shanghai (footnote 1) with the signing of a memorandum of understanding by LGOPAD, the Ministry of Commerce of the PRC, and United Nations Development Programme (UNDP) signed. IPRCC was launched in May 2005 with a mandate to contribute to worldwide poverty reduction. It is regarded as a platform for information sharing and knowledge dissemination in the PRC, and has held a number of international workshops and conferences on poverty reduction. Furthermore, a conference advisory committee has been established and is cochaired by Jian Liu, director, LGOPAD; Joachim von Braun, director general, IFPRI; Sartaj Aziz, former finance minister and foreign minister, Pakistan; and Harris Mule, former permanent secretary of finance, Kenya. A management level staff member of ADB will be invited to join this committee. Other committee members will include leading policy and decision makers from the public sector, civil society, and private sector as well as major co-sponsoring institutions. The first meeting of the conference advisory committee will be held during the first quarter of 2007.

23. The project will be implemented over a 24-month period, commencing in January 2007 and ending in December 2008. The detailed work plan will be finalized in the inception workshop that will take place within 3 months of the start of the project. IFPRI will be required to submit the following reports to ADB: (i) inception report; (ii) semiannual progress reports; (iii) audited annual financial statements, including the use of project funds; and (iv) a draft final completion report to obtain ADB comments before submission of the final report. The inception report will be submitted within 3 months from the start of the project, the semiannual progress reports every 6 months, and the comprehensive completion report within 3 months of project

closure. Funds will be drawn down in semiannual installments based on IFPRI's estimate of forthcoming expenditures, and subject to satisfactory liquidation of expenditures for previously disbursed funds. IFPRI or ADB will procure goods and related services in accordance with ADB's *Procurement Guidelines* (2006, as amended from time to time).

Table A4.1: Cost Estimates and Financing Plan
(\$'000)

Item	Total Cost
A. Asian Development Bank Financing	
1. Commissioning Fees for Conference Background Documents ^a	90.0
2. Preparation, Production, and Dissemination of Conference Documents ^b	54.0
3. Travel Support of Selected Participants ^c	269.0
4. Travel Support for ADB Staff Invited as Speakers/Resource Persons ^d	10.0
5. Miscellaneous Support Costs ^e	27.0
6. Contingencies	50.0
Subtotal (A)^f	500.0
B. IFPRI Financing	
1. Staff Time	100.0
2. Conference Management Costs	25.0
Subtotal (B)	125.0
Total	625.0

IFPRI = International Food Policy Research Institute.

^a Comprising background research papers and policy briefs.

^b Including conference documents, and proceedings of the policy forum and the conference.

^c Including about 18 participants for the policy forum, 42 participants for the conference, and 10 participants for the follow-up briefings.

^d For attendance of the meetings of the conference advisory committee, the conference, and the follow-up briefings.

^e Media activities, rental of facilities and audiovisual equipment, transportation, and other logistical arrangements for the different events.

^f Line costs include allocation of indirect costs in accordance with IFPRI/Consultative Group on International Agricultural Research accounting practices.

Source: IFPRI estimates.

Table A4.2: Implementing Agency and Contact

Country	Implementing Agency	Contact Person
People's Republic of China	The State Council Leading Group Office of Poverty Alleviation and Development	Mr. Jian Liu Director General

Source: IFPRI.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Study	Financed by			Total
	ADB ^a	IARCs	NARSs	
1. Supporting Pro-Poor Vegetable Value Chains in Greater Mekong Subregion Countries (AVDRC)	500.0	155.0	20.0	675.0
2. Promoting a Multi-Stakeholder Dialogue on New Strategies and Actions for Reducing Poverty and Hunger with a Focus on Agriculture and Rural Development in Asia (IFPRI)	500.0	125.0	0.0	625.0
Total	1,000.0	280.0	20.0	1,300.0
Percent	77.0	21.5	1.5	100.0

ADB = Asian Development Bank, AVRDC = The World Vegetable Center (formerly the Asian Vegetable Research and Development Center), IARC = international agricultural research center, IFPRI = International Food Policy Research Institute, NARS = national agricultural research system.

^a Financed by ADB's technical assistance funding program.

Sources: ADB, AVRDC, and IFPRI estimates.