ASIAN DEVELOPMENT BANK
Operations Evaluation Department

PROJECT PERFORMANCE AUDIT REPORT

FOR

NEPAL

In this electronic file, the report is followed by the Management response.

Program Performance Audit Report

PPA: NEP 25361
(Final)

Second Agriculture Program (Loan 1604-NEP[SF]) in Nepal

December 2004

Operations Evaluation Department

Asian Development Bank

CURRENCY EQUIVALENTS

Currency Unit – Nepalese rupee/s (NRe/s)

		At Appraisal (22 July 1997)	At Project Completion (29 December 2000)	At Operations Evaluation (22 March 2004)
NRe1.00	=	$0.0175	$0.0133	$0.01300
$1.00	=	NRs57.30	NRs74.93	NRs76.92

ABBREVIATIONS

ADB	–	Asian Development Bank
AIC	–	Agriculture Inputs Corporation
AICL	–	Agriculture Inputs Company Limited
APL	–	Agriculture Program Loan
APP	–	Agriculture Perspective Plan
CSTL	–	Central Seed Testing Laboratory
DAP	–	diammonium phosphate
DFID	–	Department for International Development
DOLIDAR	–	Department of Local Infrastructure Development and Agricultural Roads
GDP	–	gross domestic product
GVAP	–	gross value of agricultural production
IAU	–	Independent Analytical Unit
MOAC	–	Ministry of Agriculture and Cooperatives
MOAC-FU	–	Fertilizer Unit under MOAC
MOF	–	Ministry of Finance
MOP	–	muriate of potash
NARC	–	National Agriculture Research Council
NFC	–	Nepal Food Corporation
NGO	–	nongovernment organization
NPC	–	National Planning Commission
NRB	–	Nepal Rastra Bank
NRM	–	Nepal Resident Mission
NSC	–	National Support Committee
NSCL	–	National Seed Company Limited
OEM	–	Operations Evaluation Mission
PCR	–	Program Completion Report
PPAR	–	Program Performance Audit Report
PPTA	–	program preparatory technical assistance
RRP	–	Report and Recommendation of the President
SAP	–	Second Agriculture Program
SAPL	–	Second Agriculture Program Loan
SOE	–	state-owned enterprise
SDR	–	Special Drawing Rights
SQCC	–	Seed Quality Control Center
STW	–	shallow tubewell
TA	–	technical assistance

WEIGHTS AND MEASURES

ha	–	hectare
kg	–	kilogram
km	–	kilometer
t	–	ton
yr	–	year

NOTES

(i) The fiscal year (FY) of the Government ends on 30 June.
(ii) In this report, “$” refers to US dollars.

Director General, Operations Evaluation Department	:	Bruce Murray
Director, Operations Evaluation Division 1	:	Graham Walter
Evaluation Team Leader	:	Carl Amerling

Operations Evaluation Department, PE-655

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Carl Amerling, principal evaluation specialist (team leader), was responsible for the preparation of this report. He was assisted by A. John De Boer, international consultant (agriculture sector restructuring and policy specialist), and Raghu Adhikary (local consultant). Ma. Rosa Ortega, evaluation officer, supported the team with research assistance in Manila.

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APPENDIXES

Attachment:	Management Response on the Program Performance Audit Report on the Second Agriculture Program (Loan 1604-NEP[SF]) in Nepal.

BASIC DATA
Loan 1604-NEP(SF): Second Agriculture Program

Program Preparation/Institution Building

TA No.	TA Name	Type	Person-Months	Amount ($'000)	Approval Date
1583	Second Agriculture Program	PPTA	2.0	94.0	25 Oct 1991
1854	Agriculture Perspective Plan	ADTA	90.0	680.0	15 Mar 1993
2618	Implementation and Monitoring of the Agriculture Perspective Plan	ADTA	96.0	850.0	25 Jul 1996
3008	Institutional Reforms in the Agriculture Sector	ADTA	82.5	900.0	17 Apr 1998
3536	Agriculture Sector Performance Review	ADTA	45.0	600.0	13 Nov 2000

Key Program Data ($ million)	As per ADB Loan Documents	Actual
Total Program Cost	50.0	48.9
ADB Loan Amount/Utilization	50.0[1]	48.9

Key Dates	Expected	Actual
Fact-Finding		12–25 May 1997
Appraisal		14–25 Jul 1997
Loan Negotiations		28–30 Oct 1997
Board Approval		22 Jan 1998
Loan Agreement		16 Feb 1998
Loan Effectiveness	17 May 1998	9 Mar 1998
First Tranche Release		31 Mar 1998
Second Tranche Release		28 Jun 2000
Program Completion	31 Dec 2000	31 Dec 2000
Loan Closing	31 Dec 2000	31 Dec 2000
Months (effectiveness to completion)	31.5	34.0

Borrower Kingdom of Nepal

Executing Agency Ministry of Finance

Type of Mission	No. of Missions	No. of Person-Days
Contact	1	6
Reconnaissance	2	81
Fact-Finding	1	25
Appraisal	1	22
Program Review	4	54
Program Completion	1	40
Operations Evaluation[2]	1	48

ADB = Asian Development Bank, ADTA = advisory technical assistance, No. = number, PPTA = program preparatory technical assistance, TA = technical assistance.

[1] Equivalent to SDR36.504 million at the time of loan approval.

[2] Operations Evaluation Mission comprised C. B. Amerling (principal evaluation specialist/mission leader), A. John De Boer (staff consultant/agricultural economist), and Raghu Adhikary (local consultant).

EXECUTIVE SUMMARY

Sustainable growth of the agriculture sector is a prerequisite for economic development and poverty reduction in Nepal, where, historically, agricultural productivity growth has been constrained by various public interventions. These interventions have long subdued private initiatives, generated distortions in the market, and created vested interests. The Government recognized that the country could not afford to maintain such policies and desired fundamental changes to promote market-oriented growth in agricultural production. The Asian Development Bank's first Agriculture Program Loan (APL) in 1988 successfully supported the Government's program of policy reforms and promotional measures aimed at increasing and sustaining food crop production.

With ADB assistance, a 20-year Agriculture Perspective Plan (APP) was prepared and formally adopted in 1997 to set the stage for sustainable sector growth and rural development. In line with the APP, policy actions were initiated to remove structural constraints, including reduction of fertilizer and irrigation subsidies, and to promote institutional changes for rural infrastructure development. However, for such investment to bear fruit, further policy and institutional reforms were necessary to ensure market-oriented growth in the sector. The Government requested ADB to provide financial and technical support to its ongoing reforms for liberalization of the sector and to facilitate the implementation of the APP.

The Second Agriculture Program Loan (SAPL) was designed over a period of about 1 year without program preparatory technical assistance (TA), although six earlier TA studies provided detailed sector and subsector analysis.

The loan for $50 million equivalent was approved by ADB in January 1998 from Special Funds resources and became effective on 9 March 1998. The loan agreement provided for a program period of 3 years, with the loan to be released in two tranches. To facilitate the reforms, advisory TA was approved in April 1998 comprising two components: Part A – Support for the Reforms of Agriculture Institutions; and Part B – Strengthening of the Management Capability for Local Infrastructure Development.

The SAPL was classified as an economic growth program and was designed to play an integral role in government efforts to institute policy reforms in the agriculture sector. The principal objectives of the SAPL were to achieve sustainable economic growth by increasing productivity in the agriculture sector and to contribute to poverty reduction by accelerating the growth of agricultural production. The broad scope of the program included (i) implementation of a medium-term strategy for the agriculture sector, (ii) deregulation of the fertilizer trade, (iii) organizational reform of the Agriculture Inputs Corporation (AIC), (iv) efficient use of water resources, (v) promotion of competitive agricultural produce markets, (vi) development of rural infrastructure, (vii) strengthening of institutional and legal frameworks for the sector, and (viii) safe disposal of obsolete pesticides.

The SAPL was consistent with a series of reforms aimed at gradually opening up the economy as a means to correct long-standing structural imbalances, which were leading to poor economic performance. This process commenced in 1987 with a series of structural adjustment loans provided by the World Bank to correct rigidities in the supply side of the economy, which included reorganization of state-owned enterprises (SOEs) and import liberalization. Thus, by the time the SAPL was formulated, the Government had considerable experience in managing economic liberalization programs and in evaluating the benefits from such reforms. Therefore, the SAPL fit within the Government's strategy of gradually opening the economy, decreasing subsidies, and increasing reliance on market forces. This was also reflected in a paradigm shift that occurred at ADB between completion of the APL and design of the SAPL, wherein much more emphasis was to be placed on structural reform as opposed to trying to improve the operational efficiency of state-controlled institutions.

The loan was disbursed in two tranches of SDR18.25 million each. The first tranche of $25.54 million equivalent was released in March 1998, the same month as loan effectiveness. The second tranche of $25.34 million equivalent was released in June 2000, about 9 months later than the appraisal had estimated (18 months) because of delays in three tranche release conditions. About NRs3,160 million in counterpart funds generated from the SAPL was used to partly finance government expenditures primarily for (i) procurement of agricultural inputs and food grains; (ii) projects in agriculture, fisheries, livestock, and irrigation; (iii) rural infrastructure; and (iv) drinking water supply improvements. However, SAPL funds did not represent additional resources and were difficult to access. The delayed release of the second SAPL tranche upset implementation of local projects and local procurement.

The overall goal of the SAPL — to promote sustainable economic growth and contribute to poverty reduction by accelerating the growth of agricultural production— was broadly consistent with the APP and with ADB's country and sector strategy. However, a 2001 ADB assessment of the APP and the SAPL identified a number of weaknesses, particularly the finding that increased agricultural production would not necessarily result in increased farm household income and thus contribute to poverty reduction. Some SAPL conditions had little to do with overall reforms to be undertaken such as disposal of obsolete pesticides, and organizational reforms of the Nepal Food Corporation (NFC). Specific performance and impact indicators were identified but never quantified during or after SAPL design (except for average real growth of the agriculture sector and poverty reduction). Nor were any provisions made to assist or monitor retrenched staff from AIC or NFC.

Of the 28 SAPL reforms and measures, 22 were implemented or substantially completed/complied with or completed with delay, 4 were not completed, 1 was partly completed, and 1 was technically completed but not implemented. The second tranche was released in June 2000, about 9 months after the original schedule, primarily due to delays in meeting conditions related to disposal of obsolete pesticides, STW subsidy removal, organizational reforms of NFC, organizational reforms of AIC, and a financial plan for rural road maintenance.

Complete deregulation of the fertilizer sector and the corresponding increase in the timeliness and availability of fertilizer were a major SAPL reform achievement. This has led to an estimated 20% average annual increase in the use of fertilizer. The 3.3% real growth in the agriculture sector during the Ninth Five-Year Plan can be attributable in significant part to growth in fertilizer use, given the relatively low level of overall fertilizer usage.

Potential negative impacts on the rural sector from SAP reforms of removing subsidies for fertilizer, shallow tubewells (STWs), and food grain procurement were not evident. Negative impacts were not evident for the lowest quintiles of landholders either. In practice, these subsidies had little impact on most farmers and led to rationing and black market activities for inputs. An ADB-financed survey in 2001 found that 77% of farmers interviewed considered their livelihood improved relative to 1997 (prior to SAP). Surveys also indicated that fertilizer use by the lowest quintile of farmers, following reforms, increased faster than fertilizer use by farmers with higher levels of gross value of agricultural production, confirming that larger landholders had better access to rationed fertilizer and subsidized STWs than did smaller farmers.

Assuming that producers apply fertilizer to increase profits, this differential growth in fertilizer use would lead to relatively higher growth in incomes for lower quintiles of farmers than was achieved by farmers in higher quintiles, thus reducing income differences. Analysis of crop budgets show a gradual rise in profits until commodity prices declined significantly in 2000, and a continuous rise in yields of rice, wheat, and maize.

Removal of STW subsidies had both positive and negative efficiency aspects for achieving SAPL objectives. Subsidy removal indirectly increased competition and consumer choice of pump set size, and reduced total investment costs for STWs significantly. However, expansion of groundwater development during the Ninth Plan period, an APP priority area, was adversely affected by phasing out STW subsidies due to lack of compensating mechanisms.

A number of conditions were not fully complied with, and the full impact of sector reforms has not been realized. Full privatization of SOEs in the agriculture sector was not completed. The Agriculture Inputs Company Limited (AICL), the National Seed Company Limited (NSCL) and the NFC continue to incur debt, which remains of concern to the Ministry of Finance (MOF) and debt holders. Planned investments in rural road construction and maintenance were not met. Substantial losses to the economy from inefficient subsidies have been eliminated; however, the budget savings generated have not been channeled to other critical areas (rural roads, rural electrification, operation and maintenance, research and extension). Restructuring AIC and NFC did not result in their increased efficiency; AICL, NSCL, and NFC continue to accumulate bad debt. Lack of investment in rural road construction and maintenance did not allow full benefits of deregulation to flow on to farmers.

The completed SAPL reforms are likely to be sustained. Significantly, with the exception of a brief return to STW subsidies, all other completed reforms have been maintained. Opposition to fertilizer deregulation is non-existent, as its positive effects are widely acknowledged. Timely availability of fertilizer has improved dramatically, particularly for small farmers. Free movement of fertilizer from India also contributes to long-term sustainability of this critical reform. Pressure remains to reintroduce STW capital cost subsidies to expand groundwater development, which is more cost effective than expansion of surface schemes. However, given limited government resources and the lower costs of STWs due to increased private supplier competition, capital cost subsidies on STWs are unlikely to return.

The deregulation of fertilizer has increased dependence on India to meet growing demand. Due to the long open border, “informal” imports, particularly of urea, which is still heavily subsidized in India, flow into Nepal. Estimates of urea supplied from small cross-border transactions range from 30% to more than 80% of total demand in Nepal. As a result of incomplete institutional reforms at AICL, NSCL, and NFC, government budget savings have not been realized. However, rather than becoming robust streamlined, commercially operating companies, these enterprises have been rendered incapable of fulfilling their mandate or competing with the private sector. They could be liquidated as such a step would have relatively minimal impact on the fertilizer, seed, or grain markets and would result in budgetary savings.

Overall, the SAPL is rated successful, considering all its strengths and weaknesses, but especially due to the major positive outcomes and impacts of successful fertilizer deregulation.

A key lesson learned from the SAPL is that policy reform targets under a program loan need to be specified in a verifiable and monitorible manner. The full impacts that could have resulted from the SAPL were not realized, because several outputs were not fully completed. This resulted from the problems of (i) not adequately defining the final status of outputs for privatization of AIC and reorganization of NFC, (ii) not taking steps to ensure that SAPL funds and savings on subsidies would be allocated to priority APP investment areas, (iii) failing to adequately address the need to continue to expand groundwater development following cessation of subsidies, and (iv) failure to work with other development partners to address the lack of availability of rural credit. This was most evident in loan policy covenants dealing with privatization of AIC and subsequent privatization of the NSCL. Additional analysis of NFC operations should have led to less costly alternatives for supplying rice to remote hill areas. Many elements of loan compliance were not easily verifiable under the accounting and reporting practices followed by the SOEs. In no case did the studies set out a complete blueprint to be followed, which would lead to majority private sector ownership or options that would wind up the companies.

Bruce Murray
Director General
Operations Evaluation Department


NEPAL
SECOND AGRICULTURE PROGRAM
(as implemented)
82°00'E
88°00'E
30°00'N
27°00'N
FARWESTERN DEVELOPMENT REGION
MIDWESTERN DEVELOPMENT REGION
WESTERN DEVELOPMENT REGION
CENTRAL DEVELOPMENT REGION
EASTERN DEVELOPMENT REGION
PEOPLE'S REPUBLIC OF CHINA
INDIA
0 20 40 60 80 100
Kilometers
MAHAKALI
SETI
KARNALI
BHERI
RAPTI
DHAWALAGIRI
LUMBINI
GANDAKI
NARAYANI
BAGMATI
JANAKPUR
SAGARMATHA
KOSHI
MECHI
DARCHULA
BAJHANG
BAITADI
BAJURA
HUMLA
MUGU
DADELDHURA
DOTI
ACHHAM
KALIKOT
JUMLA
DOLPA
KANCHANPUR
KAILALI
DAILEKH
JAJARKOT
SURKHET
RUKUM
SALYAN
ROLPA
BARDIYA
BANKE
DANG
PYUTHAN
MUSTANG
MYAGDI
MANANG
KASKI
LAMJUNG
GORKHA
BAGLUNG
PARBAT
GULMI
SYANGJA
TANAHU
ARGHAKHANCHI
PALPA
KAPILBASTU
RUPANDEHI
NAWALPARASI
CHITWAN
DHADING
NUWAKOT
RASUWA
SINDHUPALCHOK
KATHMANDU
BHAKTAPUR
LALITPUR
KABHRE PALANCHOK
DOLAKHA
RAMECHHAP
MAKWANPUR
PARSA
BARA
RAUTAHAT
SARLAHI
SINDHULI
MAHOTTARI
DHANUSHA
SIRAHA
SAPTARI
UDAYAPUR
OKHALDHUNGA
KHOTANG
SOLUKHUMBU
SANKHUWASABHA
BHOJPUR
DHANKUTA
TERHATHUM
TAPLEJUNG
PANCHTAR
ILAM
SUNSARI
MORANG
JHAPA
Kathmandu
National Capital
City/District Capital
Road
River
District Boundary
Zone Boundary
Regional Boundary
International Boundary
Boundaries are not necessarily authoritative.

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I. BACKGROUND

A. Rationale

1. The agriculture sector accounts for 39% of Nepal's gross domestic product (GDP) and 76% of total employment. Poverty in Nepal is largely a rural problem since 44% of Nepal's poor live in rural areas.[1] Sustainable growth of the agriculture sector is a prerequisite for economic development and poverty reduction in Nepal. In addition to the natural constraints of a mountainous, land locked country, agricultural productivity growth was constrained historically by various public interventions. These interventions have long subdued private initiatives, generated distortions in the market and created vested interests. The Government recognized that the country could not afford to maintain such dominant policies, and desired fundamental changes to promote market-oriented growth in agricultural production. The first Asian Development Bank (ADB) Agriculture Program Loan (APL)[2] in 1988 supported the Government's program of policy reforms and promotional measures aimed at increasing and sustaining food crop production.

2. A second objective of the APL was to support the Government's strategy by facilitating imports of agricultural inputs for expanding crop production and improving the productive capacity in the agriculture sector. While several satisfactory achievements were noted, including increasing the domestic supply of chemical fertilizers and establishing a regulatory framework for pesticide management, the major objectives of strengthening the state-owned Agriculture Inputs Corporation (AIC) and improving the transparency of fertilizer subsidies were not achieved.

3. Supported by ADB assistance, the 20-year Agriculture Perspective Plan (APP)[3] was prepared in 1995/96 and formally adopted in 1997 to set the stage for sustainable sector growth and rural development. In line with the APP, policy actions were initiated to remove structural constraints, including reduction of fertilizer and irrigation subsidies, and institutional changes for rural infrastructure development. However, for such investment to bear fruit, further policy and institutional reforms were necessary to ensure market-oriented growth in the sector. In 1997, the Government requested ADB to provide financial and technical support to its ongoing reforms for liberalization of the sector and to facilitate the implementation of the APP.

B. Formulation

4. The Second Agriculture Program (SAP) Loan was formulated over a period of about 1 year without program preparatory technical assistance (PPTA) using about 5 person-months of ADB staff field time.[4] However, the APP study plus five earlier TA studies provided detailed sector and subsector analysis used in the formulation of the SAP.[5]

5. The SAP was approved by ADB in January 1998[6] and became effective within 2 months. The loan agreement provided for a program period of 3 years with the loan to be released in

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[1] Data on GDP, employment and poverty rates are based on most recent year available in *ADB Key Indicators 2004*.
[2] Loan 924-NEP(SF): *Agriculture Program*, for $55 million, approved on 24 November 1988.
[3] TA 1854-NEP: *Agriculture Perspective Plan*, for $600,000, approved on 15 March 1993.
[4] An argument can be made that TA 1583-NEP: *Second Agriculture Program*, for $94,000, approved on 25 October 1991 was the PPTA for the SAP, however the timing of this small-scale TA makes this a moot point.
[5] TA 1854-NEP (footnote 3); TA 2618-NEP: *Implementation and Monitoring of the Agriculture Perspective Plan*, for $850,000, approved on 25 July 1996; TA 1186-NEP: *Fertilizer Sector Management Study*, for $491,000 financed by the United Nations Development Program, approved on 28 July 1989; TA 1073-NEP: *Regulation, Registration and Use of Pesticides*, for $577,000 approved on 24 November 1988 to support the Agriculture Program Loan; and TA 2808-NEP: *Implementation of the Pesticides Regulatory Framework,* for $100,000, approved on 11 June 1997.
[6] Loan 1604-NEP(SF): *Second Agriculture Program*, for SDR36.504 million, approved on 22 January 1998.

two tranches. To facilitate the reforms under the SAP, advisory TA[7] was provided to support institutions relating to agriculture and rural infrastructure development. Approved in April 1998, the TA had two components: Part A – Support for the Reforms of Agriculture Institutions; and Part B – Strengthening of the Management Capability for Local Infrastructure Development. The loan was closed on 31 December 2000 as originally scheduled, and the Program Completion Report (PCR)[8] was circulated to the Board in April 2002.

C. Objectives and Scope

6. The SAP was classified as an economic growth program and was designed to play an integral role in government efforts to institute policy reforms in the agriculture sector. The principal objectives of the SAP were to achieve sustainable economic growth by increasing productivity in the agriculture sector and to contribute to poverty reduction by accelerating the growth of agricultural production. The broad scope of the program included (i) implementation of a medium-term strategy for the agriculture sector, (ii) deregulation of the fertilizer trade, (iii) organizational reform of AIC, (iv) efficient use of water resources, (v) promotion of competitive agricultural produce markets, (vi) development of rural infrastructure, (vii) strengthening of institutional and legal frameworks for the sector, and (viii) safe disposal of obsolete pesticides. A policy matrix with 28 policy measures was developed to help monitor progress and to coordinate assistance under the program. The details of the policy and institutional measures were presented in the Development Policy Letter and a Program Matrix, which outlined specific actions, timing, and monitoring mechanisms. The Policy Matrix, attached as Appendix 1, indicates the current status of each policy measure.

D. Financing Arrangements

7. ADB provided for the program loan in the amount of SDR36.5 million ($50 million equivalent) from Special Funds resources. As is standard for ADB program loans, the SAP loan proceeds were withdrawn for the purposes of financing foreign currency expenditures incurred for procurement of imports from ADB member countries, subject to ADB's standard negative list of ineligible items.[9] The counterpart funds generated by the loan proceeds were to be used to support the Government's reform measures in the agriculture sector or to finance development expenditures for agriculture and rural development. The actual allocation of counterpart funds is given in Appendix 4 of the PCR. The Operations Evaluation Mission (OEM) was unable to find a breakdown of how the loan amount was derived based on an analysis of program costs; this was not attached to the Report and Recommendation of the President (RRP).

E. Implementing Arrangements

8. The Ministry of Finance (MOF) was designated as the SAP Executing Agency with overall responsibility for ensuring effective program implementation and for monitoring the use of loan proceeds and counterpart funds. Other agencies involved in program implementation included the National Planning Commission (NPC), Nepal Rastra Bank (NRB), Ministry of Agriculture and Cooperatives (MOAC), Ministry of Water Resources, Ministry of Local Development, and Ministry of Supplies. An important innovation of the APP was creation of an APP National Support Committee (NSC), organized by NPC, consisting of senior officials (secretaries) of the concerned

[7] TA 3008-NEP: *Institutional Reforms in the Agriculture Sector*, for $900,000, approved on 17 April 1998.
[8] ADB. 2002. *Project Completion Report on the Second Agriculture Program in Nepal*. Manila.
[9] Eligible imports were specified in Schedule 3 of the Loan Agreement, and included those incurred within 180 days prior to the date of loan effectiveness. The negative list included such items as weapons, alcohol, luxury goods and nuclear material.

ministries and agencies, representatives of the private sector, and representatives of the major external funding agencies. NSC was chaired by the NPC member for agriculture. This committee played an important role in monitoring the SAP and the APP.

F. Program Completion Report

9. The PCR rated the SAP successful, indicating that major program components either fully or substantially achieved their purposes as designed during appraisal. Although one of the second tranche conditions for the organizational reform of the Nepal Food Corporation (NFC) was only partly achieved, the Government demonstrated its commitment to the completion of key reform measures and adequately implemented the SAP. The PCR concluded that the related TAs contributed effectively to timely program completion. The major lesson learned was the importance of the country's strong ownership of the SAP reform measures in achieving structural changes in the economy. The APP provided a broad strategic direction about which consensus developed among key stakeholders. The APP helped the Government implement SAP measures for fertilizer supply, shallow tubewell (STW) development, and rural infrastructure maintenance.

G. Operations Evaluation

10. As approved by the Government, the OEM visited Nepal from 22 March to 2 April 2004 to evaluate the performance of the SAP. The OEM inspected facilities of restructured agencies and held discussions with relevant government ministries, agencies, and corporations; past and present government representatives and civil servants; private sector enterprises; and development partners. This Program Performance Audit Report (PPAR) focuses on the design and implementation of the policy reform program, its impacts on the agriculture sector, and the sustainability of major policy achievements. The draft PPAR was sent to the Government as well as concerned ADB departments for review. Comments received were considered in finalizing the PPAR.

II. IMPLEMENTATION PERFORMANCE

A. Effectiveness of Design

1. Consistency with Government and ADB Strategy

11. The SAP was consistent with a series of reforms aimed at gradually opening up the economy and correcting long-standing structural imbalances that lead to poor economic performance. This process started in 1987 with a series of structural adjustment loans provided by the World Bank to correct structural rigidities in the supply side of the economy, which included reorganization of state-owned enterprises (SOEs) and import liberalization. A series of enhanced structural adjustment facilities followed (1992–1995), which carried out more comprehensive reforms. By the time the SAP was formulated, the Government had considerable experience in managing economic liberalization programs and evaluating the benefits from such reforms. The SAP fit within the Government's strategy of a gradual opening of the economy, decreasing subsidies, and increased reliance on market forces.

12. The Government's agricultural development strategy was based on the APP, and the SAP was generally consistent with the APP. Policy reforms covered most of the APP priority areas including measures to increase fertilizer supply, maintenance and repair of rural roads, increasing the supply of rural credit and legal and institutional reforms to promote structural reforms. Fertilizer

marketing reforms, including the privatization of AIC, received enough resources and assistance to have an immediate impact on an important APP strategy. However, other areas that were highly complementary did not receive enough resources to contribute to APP objectives. For example, a priority area in the APP was increasing the area under year-round irrigation through rapid expansion of STWs. Thus the condition of phasing out STW subsidies had contradictory elements. This condition was generally consistent with ADB's and the Government's strategy to phase out market-distorting subsidies. However, these subsidies were the Government's major tool for expansion of area covered by year-round irrigation, a major component of the APP. Even with the subsidies, it was far more economical to expand irrigated areas through groundwater development than through expansion or even rehabilitation of surface schemes, almost none of which provided year-round irrigation. The import duties on STWs that were removed constituted a relatively minor component of the cost of a pump set. Although additional ADB project activities are helping expand the demand for STWs,[10] SAP preparation made only a minor provision for compensating mechanisms to help offset the anticipated drop in demand following removal of the subsidy.

2. Adequacy of Agriculture Sector Program Preparation

13. The SAP was prepared without the benefit of detailed analysis of how the various policy reforms needed to work together to achieve maximum impact. The sector analysis did not lead to a focused and coherent policy program. There were no clear priorities set out showing the need for sequencing reforms to ensure that the elements of the APP strategy could work together to achieve sustainable growth in rural productivity and incomes. Inadequate consultation with MOAC did not allow it to assume ownership of the SAP and did not ensure that its priority needs under the APP were being met. The same was true of the nongovernment organization (NGO) sector, which needed to be quickly brought on board to expand rural credit and help compensate for the withdrawal of STW subsidies. Measures to help counter the withdrawal of STW subsidies were not made explicit at the design stage, so this policy reform worked against other elements of the SAP policy matrix.

14. The priority production pockets[11] element of the APP was originally under direct MOAC control and guidance, but was shifted to the districts through decentralization initiatives. The districts were unable to fully coordinate their programs and funding to be effective tools in meeting SAP outcomes. The expansion and maintenance of rural roads was to be done through structural reforms and a strategic study. However, no provision for funding the newly created institution, the Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR), was made explicit in the program preparation using the SAP or other development partner sources. The potential increases in productivity from fertilizer reforms were not fully realized because of these design shortcomings. All of these remained problem areas for the agriculture sector at the time of the OEM.

3. Coherence, Logic, and Sufficiency of the Program

15. The previous TAs for preparing and implementing the APP (footnotes 3 and 5) did not provide detailed descriptions of priority policy reforms required to support it. The first seven policy conditions were all related to important elements of the APP, but only those dealing with deregulating the fertilizer sector were expected to have a major short-term impact on implementing the strategy for the APP related to rapid expansion of fertilizer availability and use. The other policy

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[10] *Community Groundwater Irrigation Sector Project*, financed by ADB and the Canadian International Development Agency, 1998–2004.

[11] Priority production pockets are areas targeted for intensive production of various commercial crops; they receive a full complement of agricultural support services to facilitate both production and marketing.

objectives were aimed at putting in place the structures and institutions needed to implement the APP but were not designed to quickly complement the dramatic impact that fertilizer deregulation would have. Therefore, the program did not represent an integrated to approach to implementing the medium strategy for the APP.

16. This applies to the efficient use of water resources provision, which considered increasing the efficiency of the use of only one type of water resource (STW subsidy reduction) in isolation from an overall irrigation strategy. It did put in place a strategy and financial plan for the development of rural infrastructure but made no provision to make it operational, nor to fund it. Some frameworks were put in place with no provision for the recipient institutions to become operational using SAP inputs or counterpart funds. The continuing lack of an effective seed system and a very shallow national network of rural lending institutions limit farmers' ability to capitalize on reforms in the fertilizer sector.

17. Specific conditions were required defining exactly what the end state was to be under the restructuring of AIC and NFC. It seemed clear that the ultimate goal for the Agriculture Inputs Company Limited (AICL), as well as for the National Seed Company Limited (NSCL), both spun off from AIC, was full privatization with majority private sector ownership or, if private sector interest was lacking, winding up the corporations by disposing of their assets. Following liberalization of the fertilizer sector, there was no logical role for a SOE to continue to operate in the business. The same was true for NSCL, where there was no clear role for a SOE with a monopoly over cereal seed multiplication that continued to limit private sector participation.

18. There was no logical reason for including the provision of "safe disposal of obsolete pesticides" in the SAP as this is not part of the APP strategy nor of any other production-oriented policy. By putting this into the SAP, more appropriate consideration of this problem was delayed. These include efforts by the Government to transfer the problem to a more appropriate ministry (Population and Environment) and seeking assistance from a more appropriate international agency that deals with these problems through various international agreements and protocols.

B. Policy Reform Measures

1. Implementation of Medium-Term Strategy for the Agriculture Sector

19. The policy condition was adoption by the Government of a medium-term strategy and an investment plan for the agriculture sector in line with the APP as an integral part of that plan. The APP medium-term investment plan was not fully compatible with the SAP, even though they overlapped and had supporting TA (footnote 5). SAP funds were not directed specifically towards the investment plan. Several weaknesses in plan implementation detracted from program outputs and impact. There was a lack of consultation with MOAC and the Department of Irrigation about how the policy reforms would influence them and to get feedback about what types of priority support were required to help them work within APP investment areas. Also, the Independent Analytical Unit (IAU) that was set up in NPC to provide policy and advisory support service, and to carry out the APP monitoring function, was disbanded and reestablished as the APP Monitoring and Analytical Unit at MOAC in 2001. The means for interministerial coordination, so important to the APP strategy, was lost.

20. Funds made available by SAP loan proceeds, and by resources freed up by SAP-induced reductions of subsidies for agriculture, did not represent additional funding to, or were not channeled to APP priority investment areas such as agricultural research, rural roads construction and maintenance, rural electrification, and priority production pockets. More effective coordination,

lobbying, and monitoring by the implementing agencies and by NSC should have brought this to the attention of MOF and ADB. Simply because the APP was incorporated into the Ninth Five-Year Plan (1997/98–2002/03) investment targets did not guarantee that there would be adequate resources made available to start executing the strategy. As a result, the APP is losing credibility. On the one hand, the Government has enthusiastically accepted the APP as its national agriculture development strategy, but on the other hand, it has failed to support it financially. For example, TA 618 estimated Ninth Five-Year Plan APP investments at $376 million, but actual total development expenditures for agriculture during the Ninth Plan were only $153 million.[12]

21. Another SAP condition that initially adversely affected implementation of the Ninth Five-Year Plan was the requirement to phase out subsidies for STWs, which was anticipated to result in a short-term reduction of groundwater development in the Terai.[13] Expansion of year-round irrigation by low-cost STW development was a key element of the APP. Yet, this SAP condition initially worked against this APP objective by not considering adequate or sufficient compensating mechanisms to achieve significant expansion of groundwater development without subsidies. Investment in rural infrastructure did not follow completion of the SAP condition. The DOLIDAR was formed and strengthened during the SAP (with a contribution from TA 3008-NEP: Institutional Reforms in the Agriculture Sector–Part B), but external resources were not made available to fund a significant expansion of rural roads during or after the SAP.

2. Deregulation of the Fertilizer Subsector (9 Conditions)

22. Prior to SAP, AIC had an effective monopoly to import and control distribution for all fertilizers. Although the first APL liberalized the entry of private retail distributors, AIC retained regulatory control through registration requirements and control of prices and commissions. Retail prices set by the Government bore little relationship to the cost of importing, storing, and distributing fertilizer. As a result of large subsidy costs, inadequate budgetary allocations, and inefficient management, AIC's financial position deteriorated rapidly. Fertilizer supplies were invariably well short of requirements and untimely, and near-ideal conditions for rent-seeking behavior persisted. Incidents of AIC staff being attacked and AIC trucks carrying fertilizer seized by farmers were not uncommon. As a result, the majority of farmers had little or no access to fertilizer. Premiums of 60% or more above the official prices were often the rule, plus farmers paid additional imputed costs of long travel and long queuing to procure fertilizer supplies.[14]

23. A chronology of fertilizer policy reforms from June 1997 to April 1999 is given in Appendix 2. SAP Conditions (Appendix 1, point 2) were complied with prior to release of the first tranche, including reduction of the price subsidy for urea from the prevailing level of 55% of total cost to not more than 37%, and elimination of subsidies for all other kinds of fertilizers; deregulation of fertilizer prices at the retail level; conversion of the urea subsidy into a fixed rate subsidy per ton available to all importers of fertilizers; and abolition of AIC dealerships.

24. Condition V was submission to ADB, within 6 months of loan effectiveness, of a comprehensive report on the Government's review of its current legislation to determine whether or not current legislation would be sufficient to ensure that the quality of fertilizers traded in the

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[12] Poudel, S.K. 2003. *Assessment of Recent Agricultural Sector Reform Initiatives*. Report submitted to Asian Development Bank, Manila. Poudel notes that the Government's commitment to the APP is even more evident in the Tenth Five-Year Plan, yet it acknowledges that APP priority areas have not received the required resources. He also notes that the APP philosophy is still not understood by other ministries or by the district development committees, which are now responsible for executing APP activities in the field.

[13] Terai refers to the lowland plains areas, which grow predominantly rice.

[14] ADB. 1997. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Nepal for the Second Agriculture Program*. Manila.

deregulated market would be maintained without further enactment. This was complied with; however, some fundamental weaknesses of the Essential Commodities Act (inclusive of the 1999 Fertilizer Regulatory Order), applicable to fertilizer, remain. The 2002 Fertilizer Policy has assisted in developing a deregulated sector, but lacks implementation authority. Passage of the long-pending Fertilizer Act, which addresses some of these weaknesses, awaits an uncertain resumption of parliamentary operations.

25. Condition VI was elimination of the municipality transportation taxes within six months of loan effectiveness. This was complied with. Condition VII was adoption of appropriate legislation to ensure that the quality of fertilizers traded in the deregulated market would be maintained (condition for release of the second tranche). The Fertilizer Regulatory Order remains in place but lacks legal authority for enforcement. Fertilizer quality following deregulation initially deteriorated; however, increased competition plus upgrading of soil testing laboratories and increased testing of fertilizers at the district and regional level have reduced incidences of adulteration. Adulteration occurs mainly in small-scale shipments and is more common with cross-border imports from India.

26. Condition VIII was completion of deregulation of all fertilizer prices (condition for release of second tranche). This was complied with after sales of diammonium phosphate (DAP) at below market prices in 1998/99 temporarily delayed full deregulation, and initially discouraged private sector imports of this key product. Condition IX was elimination of all fertilizer subsidies (condition for release of second tranche). This was fully complied with and allowed free market competition to start governing prices and availabilities. Fertilizer availability has improved dramatically, and consumption increased from about 35 kilograms per hectare (kg/ha) to 58 kg/ha (nutrient basis) from 1997 to 2001 (based on the TA 3536 survey). Private sector importers did not immediately respond to deregulation but now account for almost all official imports (2003/04). Official imports ranged from 88,650 metric tons (t) in 1997/98 to 219,000 t in 1998/99 to 111,500 t in 2002/03. Estimated imports for 2002/03, inclusive of “unofficial” imports from India, totaled about 400,000 t (almost 75% of total fertilizer consumption). Currently, only six enterprises actively engage in large-volume fertilizer imports; maintaining adequate competition is a concern.

3. Organizational Reform of the Agriculture Inputs Corporation (4 Conditions)

27. Of the four policy reform conditions involving AIC, the first three were completed prior to first tranche release. These three conditions required government approval of a plan and a time-bound action program for organizational reform of AIC, including provisions of full management autonomy; streamlining of assets; reconstitution of the board; settlement of counterpart funds and other outstanding debts of AIC; and establishment of a Fertilizer Unit in MOAC (MOAC-FU) to monitor prices, supplies, and quality of fertilizers.

28. The government plan for AIC reorganization did not involve the mutually exclusive options of eventual full private sector ownership or winding up the company, which has no clearly defined role as a SOE operating in a private sector environment. Consequently AICL continues to exist as a SOE and continues to draw an annual allocation of public funds from the treasury, currently NRs245 million[15] or $3.5 million. This is about the total budget allocated to the entire National Agriculture Research Council (NARC) (Appendix 3, Table A3.1) and is a substantial amount (7.6% in 2001/2002) of the overall budget for agriculture (Appendix 3, Table A3.2).

[15] Agriculture Inputs Corporation (AIC), Quantitative and Financial Target/Progress/Performance. Available: http://www.mof.gov.np/

29. The settlement of counterpart funds and other outstanding debts of AIC improved its financial operations, although failure to privatize AICL and NSCL has continued to drain public funds away from priority areas.

30. IAU, created within NPC in 1997 to monitor APP implementation, initiated the establishment of MOAC-FU to monitor the prices, supplies, and quality of fertilizers. IAU was active until March 2001, when the Government terminated it and established the APP Monitoring and Analytical Unit in MOAC. Overall monitoring activities were specified in the *Manual for Monitoring the Performance of the Agriculture Perspective Plan*.[16] The *Manual* included monitoring indicators for fertilizers. IAU published bimonthly monitoring reports including official data on fertilizer imports, stocks, and distribution by type of fertilizer and nutrient content and by source (public or registered private sector). The information provided by IAU was useful in that it was able to monitor the emerging role of the private sector following deregulation. However, as this role expanded, the supply of data from IAU became less and less useful, since IAU monitored only official imports and had no means to account for unofficial imports from India, which now account for at least two thirds of all local consumption.[17] Thus IAU showed that fertilizer supplies were dropping as official imports declined, while estimates based on farm-level surveys indicated fertilizer demand growing at an annual rate of 17% over the five years 1997/98–2001/02.[18] The main reason for this divergence was the lack of an adequate monitoring system at the district level to collect data from thousands of farmers and small and microenterprise traders, who purchase small quantities from across the Indian border (also see para. 49 on ADB-assisted efforts to monitor fertilizer use).

31. The fourth reform (a second tranche release condition), completion of organizational reform of AIC, was partly complied with. In May 2002, AIC was split into two separate companies for fertilizer and seed: AICL and NSCL. Full management autonomy has not been achieved. The board members of both companies are all government representatives. AICL still receives a government budget for administrative overhead. Separation of assets has not been completed. Currently AICL has 32 field offices and 342 staff (Appendix 3, Tables A1.3 and A1.4). Its board has expressed plans for majority private sector ownership, however, there has been little action to date. There is no private sector interest in AICL's business operations. Liquidation of individual AICL assets would interest the private sector. The current AICL business model is not viable, as evidenced by accumulation of new debt not being serviced, no fertilizer being procured on a competitive basis, and continuing government budgetary support being required.

4. Efficient Use of Water Resources (3 Conditions)

32. Prior to the SAP, the long-standing highly subsidized STW development program, designed to promote and expand year-round irrigation for small farmers, had been somewhat successful in expanding the irrigated area. But the program was an inefficient use of government resources. Based essentially on a lending scheme from the Agricultural Development Bank of Nepal (ADBN), loans went almost exclusively to larger, wealthy farmers; STWs installed were used inefficiently (e.g. low usage, overlapping areas); repayment rates were poor; STW development costs were artificially inflated; choice and competition in the marketing of pump sets was discouraged; and guidelines and procedures encouraged corruption. The staged removal of the subsidy program was to address these issues.

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16 Prepared under TA 2618-NEP (footnote 5).

17 MOAC. 2003. *Nepal Fertilizer Use Study*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Kathmandu; ANZDEC Limited. 2002. *Nepal. Agricultural Sector Performance Review*. ADB TA 3536–NEP. Draft Final Report. Volume 1: Main Report. Prepared for Ministry of Agriculture and Cooperatives, Nepal and Asian Development Bank, Kathmandu.

18 MOAC. 2003. *Nepal Fertilizer Use Study*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives. Kathmandu.

33. As first tranche release conditions, the capital cost subsidies for private STW development were reduced from 80% to 60% for farmer group-based schemes, and from 40% to 30% for individual schemes. Also, customs duties on imported diesel engines and pump sets for irrigation were eliminated to lower investment costs and help compensate for the loss of the subsidy, as well as to reduce cumbersome government regulations and encourage commercial competition.

34. Elimination of capital cost subsidies for private STW development (condition for release of the second tranche) was carried out but with a delay of 10 months, which influenced release of the second tranche. The 30% subsidy was briefly reintroduced for a 5-month period from October 2001 to February 2002 in response to drought conditions in the Eastern Terai. Key resource persons indicated that demand initially fell precipitously from about 3,500 units per year (units/yr) (5-yr average of ADBN distribution under the subsidy program) to less than 600 units/yr. As there is a paucity official data on STW installation or sales, the OEM could not verify a direct impact from subsidy withdrawal.[19] Significantly, however, STW development has increased markedly in the past 2 years, with expected installation of about 2,000 units in 2004 primarily due to financial and technical support from the ongoing ADB-Canadian International Development Agency-financed Community Groundwater Irrigation Sector Project. Subsidy removal also played a meaningful role in increasing competition; consumer choice concerning pump set size and brands has improved, and total investment costs for STWs have significantly decreased.

5. Promotion of Competitive Agricultural Produce Markets (3 Conditions)

35. The first two policy conditions were complied with prior to Board approval: NFC's withdrawal from the subsidized distribution of food grains in urban and accessible areas (Kathmandu Valley and municipalities) and approval of a plan for organizational reform of NFC. Part of the second condition was preparation and approval of a time-bound action program to phase out NFC's subsidized food grain distribution scheme, and to limit its activities to the delivery of food grains to remote areas. Implementation of the action plan was a second tranche release condition, and was substantially complied with. Prior to the SAP, NFC employed up to 1,300 staff (Appendix 3, Table A3.5). Staff strength has been significantly reduced but not to the levels recommended by the 1999 plan (507 recommended vs. 624 at present). Offices and depots have been reduced from the pre-Program figure of 149 to 102 compared with 68 suggested in the plan (Appendix 3, Table A3.5). NFC's budgetary support continues at NRs225 million subsidy from the Government and a loan, also from the Government, of NRs83.2 million (primarily for a transport subsidy).[20]

36. NFC is distributing subsidized food grains to 38 remote districts (Appendix 3, Table A3.6). A 40,000 t reserve provided for in the 2000 legislation (20,000 t each held by the Government and NFC) has not materialized, as no budget was provided for procurement. NFC continues to run up annual losses. With large grain reserves held across open borders in India, and Nepal being in proximity to areas of India producing consistent grain surpluses, there seems little justification for maintaining a public corporation to hold reserves of food grains, a function that would add to its already considerable losses. With 2002/2003 procurement of 5,699 t at a budget subsidy plus loan amounts totaling about NRs308 million ($4.4 million), the cost of grains procured and transported is more than triple retail prices in Kathmandu (about $772/t).

[19] One explanation proffered for the major fall off in demand during the first 2 years after subsidy removal was the strong perception that the Government would reverse its policy and reintroduce the subsidy.

[20] Nepal Food Corporation (NFC), Quantitative and Financial Target/Progress/Performance. Available: http://www.mof.gov.np/

6. Development of Rural Infrastructure (2 Conditions)

37. The first policy condition was approval of the Government's long-term strategy for rural infrastructure development, including definition of the specific roles and functions of the Ministry of Local Development's Technical Division and of local administrations in the country's rural infrastructure development. This was complied with as a first tranche condition. The strategy outline and associated institutional reforms were approved in principle by the Government in November 1997, and the whole package of the long-term strategy was approved in its entirety in December 1997. The strategy is based on the recommendations of TA 2556.

38. The second condition was approval of a financial plan for the maintenance of rural roads under the jurisdiction of local administrations (condition for release of the second tranche). This was technically complied with but not implemented. Actual allocations since plan approval have been less than 10% of recommended amounts (NRs800 million annually for 14,000 kilometers [km] of roads) with only NRs40 million budgeted in 2003/04.

7. Strengthening of Institutional and Legal Frameworks (4 Conditions)

39. This condition dealt with the seed sector and rural finance. For seed distribution, approval was required of a plan to privatize AIC's seed production and marketing. The adoption of appropriate regulations (by-laws of the Nepal Seed Act) was required to ensure seed certification and quality control, followed by implementation of the plan to privatize AIC's seed production and marketing. NSCL was reorganized in parallel with AICL. However, it does not have adequate sales volume or discretion in pricing to make a profit.

40. Sales are only 2,400 t/yr of major cereals, oilseeds, and pulse crops, while storage capacity is 8,500 t. The Government provides NRs10 million in working capital. NSCL offers some options for privatization into a corporate body that could contribute to improved diffusion of new crop and fodder varieties. As part of this process, the public sector bodies supporting seeds should be strengthened and reorganized. The Seed Quality Control Center (SQCC) under MOAC, has four regional seed testing laboratories. The Central Seed Testing Laboratory (CSTL) is NARC. It would be more effective if the SQCC were placed under the CSTL, all under NARC, which has more control and technical expertise to guide the entire seed development process.

41. The National Seed Act is not clear about provisions or authority to carry out this reorganization. The main requirements for a fully nationalized NSCL would be the ability to expand the volume, quality and choice of improved seeds to meet farmer needs by raising sufficient capital and using sound business practices to carry out this process; the ability to control quality and brands to supply premium quality seed to farmers; the ability to work with other seed companies in Nepal and abroad to import seeds (such as hybrid rice) that may not be economically produced locally (due to economies of scale or technical requirements); and the ability to work with a range of clients and institutions to streamline the diffusion of the best new varieties useful to farmers under their conditions. Distribution and sales of high-quality cereal seed could incorporate existing distributors (e.g. the Salt Trading Corporation) or link up with some of the major fertilizer importers to tie into their network.

42. The policy requirement for rural finance required that the Financial Intermediation Act to accommodate microfinance activities be in place within 6 months of loan effectiveness. This requirement recognized the importance of rural financial networks to the success of the APP. However, this requirement is only a small step towards putting the institutions in place and funding their operations. It would be more appropriately put into an agreement dealing with rural finance or

banking sector reform. This requirement was complied with. However, the 1999 Act contained serious flaws, including no provisions for savings mobilization. An amendment to correct deficiencies as well as onerous restrictions was approved by the Government in August 2002; however, according to the Microfinance Department of NRB there are only 48 NGOs are registered with NRB under this Act, of which only 24 are currently active financial intermediaries (excluding savings and credit cooperatives). Most NGOs doing microfinance programs apparently continue to operate outside NRB supervision.

8. Safe Disposal of Obsolete Pesticides (2 Conditions)

43. The first policy condition was approval of a plan, acceptable to ADB, for safe disposal or containment of AIC's remaining obsolete pesticides. This was complied with under the plan prepared under TA 3008-NEP, and approved in August 1999. The plan proposed to dispose of 19.8 t of less hazardous materials on land belonging to the Cotton Development Corporation. The second condition was completion of disposal of less hazardous obsolete pesticides as classified by the World Health Organization, and approval of a final work plan for the disposal of the remaining hazardous pesticides (condition for release of the second tranche). This condition was not complied with. Disposal proved difficult as adverse publicity and local opposition prevented this plan from being implemented. Under TA 3008-NEP, about 20 t of material was repacked in the AIC facility in Amelekhgunj. Another 5 t was repacked with Greenpeace assistance at the National Agricultural Research Institute in Khumaltar. A total of about 75 t of hazardous (55 t) and less hazardous (20 t) obsolete pesticides remain stored under a wide variety of conditions (in terms of safe storage). About 20 t is stored in an AIC warehouse under deteriorating conditions, and surrounded by a densely populated area. At least four other locations store significant quantities around the country. All of the pesticide is a minimum of 15 yr past expiration, and some date back to the 1950s. The Global Environmental Facility is currently providing assistance through the United Nations Industrial Development Organization for a new disposal plan for persistent organic pollutants. Unfortunately, this will cover less than half the obsolete pesticides. The Government has had offers from some original manufacturers to dispose of clearly identified stocks back at the source of manufacture; however, the Government prefers a plan to dispose of the entire inventory off-shore with just one sponsor/entity.

C. Program Management

1. Disbursement and Procurement

44. The SAP loan was disbursed in two tranches of SDR18.25 million each. The first tranche of $25.54 million equivalent was released in March 1998, the same month as loan effectiveness. The second tranche of $25.34 million was released in June 2000, about 9 months later than targeted at loan appraisal, because of delays in three tranche release conditions: (i) the elimination of subsidies for private STWs, (ii) approval of a financial plan for rural road maintenance, and (iii) substantially disposing of obsolete chemical pesticides. Disbursement was based on reimbursement for goods (primarily petroleum products) already imported. There is no evidence to suggest that the Government did not comply with ADB's negative list.

45. Records indicate that from FY1998 through FY2001 about NRs3,160 million[21] in counterpart funds generated from the SAP were used to partly finance government expenditures primarily for (i) the procurement of agricultural inputs and food grains; (ii) projects in agriculture, fisheries, livestock, and irrigation; (iii) rural infrastructure; and (iv) drinking water supply

[21] Converted at exchange rates that ranged from about NRs57.3/$1.00 in 1998 to NRs75.0/$1.00 in 2001.

improvements (Appendix 4 of the PCR). However, based on discussions with key resource persons, the OEM concluded that SAP funds did not represent additional resources, but rather replaced government development budget resources. The procedures for accessing SAP funds were also said to be more difficult and time consuming because they were outside standard practice. The delayed release of the second SAP tranche also translated into a delayed release of counterpart funds, which naturally delayed implementation of local projects and local procurement.

2. Performance of the Asian Development Bank and the Executing Agency

46. Overall, ADB's performance is rated highly satisfactory. ADB maintained primary headquarters staff continuity from preprogram approval, when a number of relevant studies were completed, straight through to SAP completion. Continuity, local knowledge, and active participation of Nepal Resident Mission (NRM) staff significantly contributed to implementation and monitoring of key policy reforms. NRM and other ADB interventions played a major role in ensuring that the Government maintained key reforms such as the elimination of STW subsidies and fertilizer price and marketing liberalization. There were three formal review missions over a 15-month period between the release of the first and second tranches, supplemented by frequent contact meetings between the Government and NRM. The attached TAs provided a mechanism for ongoing policy dialogue.

47. The performance of the Government is rated satisfactory overall. The Government actively participated in the design and implementation of an ambitious and sensitive policy reform program. As indicated in para. 8, the APP National Support Committee played a meaningful role in monitoring the SAP and the APP. This linkage became more important when TA 2618 (footnote 5) facilitated the incorporation of important APP investment elements into the Ninth Five-Year Plan. However, the committee has not been active since program completion. MOAC's initiatives and monitoring efforts, assisted by ADB-financed TA, helped to provide a relatively seamless transition to a fully deregulated fertilizer trade. Although initially there were widespread reports of significant problems with adulterated fertilizer supplies, these were mainly attributable to the hundreds of individual enterprises that sourced small quantities of urea from India across a long unregulated border.[22] Since 2002, MOAC has been responsible for monitoring APP implementation, and has received assistance from the United Kingdom's Department for International Development. While a number of policy reforms were not fully realized, MOF demonstrated strong commitment to the SAP's major reforms for STWs and fertilizer during a period of political uncertainty and change.

D. Effectiveness of Technical Assistance[23]

1. Relevant TA not tied to the SAP

48. A 1989–1990 TA study (TA 1186-NEP, footnote 5), carried out during the APL implementation period, recommended that fertilizer import and marketing should be switched over from AIC to the private sector. The study analyzed experiences with deregulating the fertilizer trade in other countries and predicted that a phased decrease in fertilizer subsidies would have a limited impact on production. At the time of the study, the Government was just starting to experiment with

[22] The OEM draws no conclusion that India was the source of the adulterated fertilizer. It is more likely that fertilizer was adulterated by small operators after crossing into Nepal. The OEM obtained no definitive evidence for either case, although field testing by MOAC staff did confirm that a significant amount of fertilizer from these small traders was adulterated or mislabeled.

[23] This section is based on TA completion reports for TA 2618-NEP and TA 3008-NEP, Technical Assistance Performance Audit Report on Selected Technical Assistance for Agricultural Planning and Statistics in Nepal. TPA: REG 2003–01. Asian Development Bank, Manila, 2000 as well as a review of previous TA reports relevant to project design and execution.

economic liberalization, and ADB had not finished its paradigm switch in the same direction. Thus the Government and ADB were not ready to start a program design effort with fertilizer liberalization in the lead. It was felt that first an overall agricultural development strategy needed to be designed and agreed upon by the Government and ADB. Another small scale TA (TA 2808-NEP, footnote 5) assisted in SAP design and in meeting a condition for loan approval. This TA prepared a plan for inventorying and disposing of the balance of obsolete pesticides left after the APL was completed.

1. TA for Implementation and Monitoring of the APP

49. TA 2618-NEP (footnote 5) is rated successful. The TA assisted the Government with putting the APP investment strategy into the Ninth Five-Year Plan and in preparing a medium-term investment plan for the agriculture sector that would extend this exercise into the Tenth Five-Year Plan. This TA also played an important role in strengthening the IAU within NPC to monitor APP inputs and outputs and to advise the Government on interministerial coordination and policy issues. However, the medium-term investment plan was not always consistent with the SAP in that the focus remained on physical planning to achieve APP targets, without analysis or formulation of reforms needed to overcome structural problems holding up progress in the sector.

2. TA for Institutional Reforms in the Agriculture Sector

50. TA 3008-NEP (footnote 7) is rated successful. It provided technical and advisory services to facilitate SAP institutional reform. The first task was strengthening MOAC-FU. The Fertilizer Control Order of 1999 established MOAC-FU to monitor fertilizer availability, prices, and quality. The unit monitors fertilizer imports (official only), distribution, prices and quality, with the latter function carried out in collaboration with the Department of Agriculture (Soil Testing and Service Section and Regional Soil Testing Laboratories) and district agriculture development offices. Therefore, MOAC-FU had the same fundamental problem with accurately estimating supplies and consumption, as it relied only on official imports for the estimate of fertilizer availability.

51. Following the TA, in 2001/02, MOAC-FU proposed a scheme to estimate fertilizer use at the farm level through a fertilizer use study to be conducted every 4 years at the district level. However, only a few districts could participate due to other priorities set by the District Development Committee and to budget cuts by the Government. Therefore, there are still no reliable estimates being made of fertilizer use, and this unit is unable to provide this key service.

52. The second major task was assisting with phasing out of public intervention in the fertilizer trade, which has been done with great success (see Chapter III). The third area was assistance with reorganization of AIC and NFC. TA studies on restructuring of AIC and NSCL did not leave in place institutional mechanisms to complete the process leading to full private ownership and control. The final task was building institutional capacity for better pesticide management, which had limited results. The TA was effective in assisting the Government with meeting SAP loan release conditions through working closely with the Government to produce studies acceptable to the Government and ADB and undertaking a considerable amount of training to strengthen new institutions.

III. ACHIEVEMENT OF PROGRAM RESULTS

A. Performance Indicators and Policy Impacts

1. Create a Sound Policy and Institutional Framework to Effectively Implement the APP and Contribute to Macroeconomic Stability

53. The SAP, in conjunction with prior and current government initiatives to liberalize the economy, has demonstrated the benefits of liberalization of the input sector, with the gains in fertilizer use, choice, and availability becoming widely recognized as a success story. However, efforts to coordinate government and aid agency efforts through incorporation of APP investment targets into the Ninth Five-Year Plan were only moderately successful, because each element of the strategy was not developed, strengthened, and funded in sequence. The advantages of a liberalized fertilizer supply were not fully capitalized upon, in part because NPC, through IAU, was no longer tasked with responsibility for promoting and monitoring APP investments and performance. Funding for priority APP investments did not approach plan levels, and the infusion of SAP funds did not seem to significantly increase funding for investments approved in the Ninth Five-Year Plan. The policy implications of phasing out the STW subsidy were not fully considered and worked against APP targets. Rural credit availability remained very limited despite favorable legislation and funding for rural road construction, and maintenance remained a small percentage of the amounts called for in the plan. Although the policy and institutional framework was in place by the end of the SAP, it appears that the Government has been unable to fund or take additional enabling measures to take full advantage of market liberalization in the sector induced by SAP conditions and TA support.

2. Reduce Subsidies by NRs750 million ($13 million) over 3 Years and Reduce AIC's Financial Debts with Savings Invested in Poverty Reduction

54. The PCR for the SAP[24](page 11, para. 44) indicates annual savings of $5.3 million from phasing out fertilizer and STW subsidies. TA 3536[25] (page 165) estimated fertilizer subsidies had declined to about $6 million per annum by the late 1990s from $11.2 million per annum in the early 1990s. AICL's budget subsidy in 2000/2001 was NRs473 million ($6.3 million).[26] However, AICL continued to get an annual budget subsidy from the Government of NRs245 million (about $3.137 million) in 2002/03 while paying income tax of NRs50 million ($640,000) for a net payment from the Government of about $2.5 million,[27] so subsidy savings are about $3.8 million per annum ($6.3 million - $2.5 million) following restructuring. The reduction of subsidy costs over the 3 years of the SAP from the reduction of fertilizer subsidies would be about $11.4 million. AICL has no loans or liabilities outstanding. NFC subsidies plus loans from banks and financial institutions[28] declined from NRs693 million ($9.24 million) in 2000/2001 to NRs577 million ($7.4 million projected for 2002/03 or a difference of $1.9 million per annum).[29] Overall, it appears the subsidy reduction outcome has been achieved. However, subsidies still divert funds from more important investment items (e.g. poverty reduction, health, education). Based upon the poverty reduction strategy and priority investment areas set out in the APP, there is no evidence that these savings were invested in priority poverty reduction programs.

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[24] ADB. 2002. *Project Completion Report on the Second Agriculture Program in Nepal*. Manila.
[25] ANZDEC Limited. 2002. *Nepal. Agricultural Sector Performance Review*. ADB TA 3536–NEP. Draft Final Report. Volume 1: Main Report. Prepared for Ministry of Agriculture and Co-operatives, Nepal and Asian Development Bank, Kathmandu.
[26] AICL, Quantitative and Financial Target/Progress/Performance. Available: http://www.mof.gov.np/
[27] Ibid.
[28] The NFC balance sheet indicates these loans are never repaid.
[29] NFC, Quantitative and Financial Target/Progress/Performance. Available: http://www.mof.gov.np/

3. More Reliance on Structural Changes in Input and Output Markets with Market Mechanisms to Benefit Smallholders

55. Changes in the fertilizer market represent the main impact in this category. The dramatic increase in consumption demonstrates that importers, distributors, wholesalers and retailers adjusted quickly to new marketing opportunities. The market for high-quality cereal seed remains an issue relevant to APP performance. The SAP did not fully address this issue nor build in a policy component to put in place a better system. Anecdotal evidence indicates that withdrawal of STW subsidies has led to more competition in the market for STWs, a reduction in cost of the basic 5-horsepower unit, and the introduction of smaller, less costly alternatives in the market. However the OEM has no quantitative support for this conclusion.

4. Incremental Growth of Food Grain Production of 420,000 tons per Annum and Growth of the Agriculture Sector of 5% per Annum

56. With the removal of subsidies and trade restrictions, the RRP assumed incremental food-grain production of about 420,000 t/yr during the program period, mainly in the lowland region of the country.[30] This was based on APP projections. Using the 1996/97 production of cereal crops of about 6.5 million t, this projection is an annual increase of 6.5%, a figure that seemed realistic based on crop response to additional fertilizer supplied for rice and wheat; but it may not be realistic when considering the limited incentives and opportunities to expand production of minor cereal crops such as millet and barley. Actual estimated changes were -65,000 t in 1997/98, 105,000 t in 1998/99, 520,000 t in 1999/2000, and 190,000 t in 2000/01, or an average of about 190,000 t increase per annum over the SAP period.[31] This represented an average increase of 2.8% per annum over the period and exceeded population growth. Actual performance is shown in Appendix 3, Table A3.7.

57. A rapid increase of fertilizer consumption was assumed in the APP (Appendix 3, Table A3.8). In fact, fertilizer use increased even faster than forecast by the APP (Appendix 3, Table A3.9) with an annual average increase in use between 1997/98 and 2002/03 of 44,000 t. Thus, although fertilizer subsidies were completely removed, fertilizer use increased by 118% over this 5-yr period. The RRP used crop yield responses per kilogram of fertilizer applied of between 5 and 14 kg of grain, so the actual annual incremental use of fertilizer of 44,000 t should add between 222,000 and 616,000 t of grain. The RRP estimate of 420,000 t is midway between these points. TA 3536[32] uses the marginal response of rice to use of fertilizer nutrients (not the actual quantities) of 10.4 kg of grain per kg of nutrient applied. Appendix 3, Table A3.10 gives estimated supplies of fertilizer nutrients. The annual average increment in nutrients is 24,600 t so annual increases in grain production, other things being equal, would be 256,000 t. This is more than the average of 190,000 t actually achieved over 5 yr but is very close to the 4-yr average for 1997/98–2000/01.

58. From 1996/97 through 1998/99, Nepal had deficits of cereal grains ranging from 106,500 t to 181,900 t. The balance has been positive since 1999/00 with small surpluses each year since then. At least part of this trend is due to the increasing availability and use of fertilizers following fertilizer sector deregulation. The rice/fertilizer price ratio has declined dramatically. Wheat, the major user of DAP, fared better with a gradual increase and then leveling off of the wheat/DAP price ratio, which remained quite favorable (Appendix 3, Table A3.11). As expected, the increase

[30] RRP for SAP (footnote 14).
[31] The SAP period includes half of FY1998 and half of FY2001. However, the influence of weather remains large. If 1997/98-2000/01 were used instead, the annual average increase would have been 270,000 t.
[32] TA 3536-NEP: *Agriculture Sector Performance Review*, for $600,000, approved on 13 November 2000.

of urea prices coupled with a decline of real rice prices in 2000 made the grain/fertilizer price ratio much less favorable. However, this is not as serious as it seems. Fertilizer continues to represent about 8% of the total cost of cereal crops in Nepal (footnote 32), so the elasticity of output with respect to an increase in fertilizer price will be small. In addition, the rapid increase in fertilizer use indicates that the availability of fertilizer at the appropriate time and place and in the correct formulation was much more important than higher prices of urea. Lower international prices early in the reform period also helped cushion the short-term impact of urea subsidy withdrawals (Appendix 3, Table A3.12).

59. Fertilizer consumption increased by an average of 18.6% per annum between 1997/98 and 2000/01 (footnote 32), from an average of 34.7 kg/ha (nutrient basis) in 1997/98 to 59.9 kg/ha (nutrient basis) in 2000/01. Fertilizer consumption exceeded APP projections in every year and by 2002/03 was estimated to exceed APP targets by almost 50% (Appendix 3, Tables A3.8 and A3.9). The full impact of subsidy removal on farm prices was tempered by a fortunate decline in international fertilizer prices during SAP implementation, particularly for the main fertilizers used, urea and DAP. The heaviest subsidies were for urea, for which the international price dropped from $165/t in January 1997 to $65/t in January 1999, then rose again to $161/t in December 2003 (Appendix 3, Tables A3.12, A3.13 and Figure A3).

5. Increase Crop Diversification into Higher Value Crops and Agribusiness

60. Over the second half of the 1990s (1995/96–1999/2000, the period most impacted by SAP reforms), agricultural gross domestic product (GDP) from food grains increased by an annual average rate of 2.3%, with comparable rates for cash crops and other crops (fruits and vegetables) being 5.6% and 3.0% per annum, respectively. Growth in overall agricultural exports was 37% over this period, and agricultural exports to India over this same period grew by 45%. These were comprised primarily of pulse crops, fresh fruits and vegetables, and animals and animal products. Between 1999/2000 and 2002/03, potato production grew by 30%, production of all fruits grew by 16%, and production of all vegetables grew by 21% (Appendix 3, Table A3.14). Since these crops are more valuable than food grains, their relative contribution to agricultural GDP increased sharply. This is a positive result in line with the APP strategy. It is not possible to estimate the contribution of increased fertilizer availability on this trend.

B. Social Impact

61. Potential negative impacts on the rural sector from removing subsidies for fertilizer, STWs and food grain procurement were not evident. Negative impacts were not evident for the lowest quintiles of landholders either. In practice, these subsidies had little impact on most farmers and led to rationing and black market activities for inputs. Decontrol of the fertilizer sector alone led to increased availability of fertilizer, leading to fertilizer nutrient consumption almost doubling in 5 years and growth of agricultural output and real GDP increasing over 3.2% per annum over the Ninth Five-Year Plan. The Agriculture Sector Performance Review (footnote 32) field survey found that 77% of farmers interviewed considered their livelihood improved relative to 1997/98. Surveys by this TA also indicated that fertilizer use, following reforms, by the lowest quintile[33] of farmers increased faster than fertilizer use by farmers with higher levels of gross value of agricultural production (GVAP), confirming what previous studies found. Larger landholders had better access to rationed AIC fertilizer and subsidized STWs than did smaller farmers. Assuming that producers apply fertilizer to increase profits, this differential growth in fertilizer use would lead to relatively

[33] Quintiles were based on GVAP as a proxy for household income with GVAP defined by the survey results. The five quintiles went from the 1st quintile with the lowest GVAP to the 5th quintile with the highest GVAP.

higher growth in incomes for lower quintiles of farmers than was achieved by farmers in higher quintiles, thus reducing income differences.

62. The OEM analyzed crop budgets reported by MOAC[34] and compared results for the more favorable environments based on access to irrigation and use of improved varieties. These results are reported in Appendix 3, Table A3.15 and show a gradual rise in profits until commodity prices declined significantly in 2000 (Appendix 3, Table A3.16), and a continuous rise in yields of rice, wheat, and maize.[35]

C. Environmental Impact

63. Another performance goal in the fertilizer sector was to improve the nutrient balance by increasing the use of phosphorus (P) and potash (K) relative to nitrogen (N). Appendix 3, Table A3.10 indicates that when all sources of fertilizer are considered, there was already adequate use of P, due to the rapid increase in the use of DAP on wheat and increasing use of potash relative to N, although the ratio of N to P was still well below the ideal ratio of 1:0.3. Because the use of fertilizer is quite low, Nepal is still a long way from applying too much fertilizer and suffering from runoff-induced environmental problems such as sediment and contamination. Although the safe disposal of obsolete pesticides was not accomplished, the Government has taken some steps to use international protocols to address the disposal of the most persistent and hazardous types.

D. Institutional Development

64. The principal output of TA 2618, institutionalization of the planning process (through IAU) could not be sustained. IAU was dissolved in March 2001, and the Government established the APP Monitoring and Analytical Unit in MOAC. This unit lost its interministerial coordination function, since the unit is now in an executing agency. One of the main outputs of TA 3008 (part A) was to support the fertilizer monitoring unit. The institutional innovation leading to DOLIDAR and its subsequent institutional strengthening was a success, although funds have not been provided to carry out its mission.

65. Despite reports that quality problems are decreasing,[36] maintaining fertilizer quality remains an important issue in border areas of the Terai. Operation of the regional laboratories needs to be fully funded. Related to this is the need to pass the Fertilizer Act. The act should help resolve some difficulties with the Fertilizer Order, which is implemented under the Essential Commodities Act. This act, adopted in the early 1960s, emphasizes punishments rather than setting and publicizing reasonable regulations. The stern punishments made regulators reluctant to try to enforce the regulations. The enforcer of the Essential Commodities Act is the Chief Development Officer, who acts more as a magistrate and has little knowledge of, or interest in, fertilizer. Therefore, MOAC fertilizer inspectors have no authority to enforce quality controls themselves. The Fertilizer Act was

[34] MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

[35] The farm budgets used as indicators of medium-term impact of the program on small farmers were set out in the RRP (Appendix 3, 5, Tables 2 and 3). These were apparently adopted from TA 1186 (footnote 5) and were based on a specific survey done in 1990. These budgets did not follow those used for the major grain crops reported in the Government's annual publication of agricultural statistics (MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003),* so it was not possible to use the RRP budgets without replicating the older survey. Therefore, it was not possible to monitor changes in farm costs, returns, incomes, and patterns of input use based on the RRP budgets.

[36] Last year the Nepalganj soil laboratory tested 551 urea fertilizer samples, and only 2 had N levels at 40% instead of the expected 46%.

before Parliament before it was dissolved in May 2002. When Parliament is eventually restored, the bill will thus have to get in line with the rest of the legislative backlog.

IV. KEY ISSUES FOR THE FUTURE

A. Supporting Additional Sources of Growth for the Agriculture Sector

66. Both the Ninth and Tenth Five-Year Plans indicate that reducing poverty will require growth of agricultural GDP of 4–5% per annum. Now that the effects of fertilizer market liberalization have percolated through the agricultural economy and have provided an important source of growth over the past 5 years, other sources of growth must be considered within the framework provided by the APP. With a market-oriented fertilizer sector now in operation, these other sources of growth would include expansion of the rural credit system; expansion of rural electrification, particularly to enable installation of a range of pumps for an economic expansion of groundwater irrigation development; rehabilitation and construction of rural roads; strengthening of NARC, and putting in place a private NSCL that includes a public function of quickly expanding areas under newly released crop varieties. Assistance in decentralizing and locally funding MOAC service functions is also needed to help increase farmers' participation.

B. Strengthening Privatization Initiatives

67. The policy objective of reducing government subsidies to agriculture while simultaneously increasing public funding for priority APP investments needs to be finalized. Initiatives should be undertaken to fully privatize or wind down AICL, and privatize NSCL. The model should retain a public service role to ensure dissemination of new crop varieties.[37] Finally, NFC needs further downsizing while simultaneously exploring more cost-effective means to supply basic food commodities to remote areas.

C. Disposal of Obsolete Pesticides

68. Recent Government initiatives are making a start towards removal of persistent organic pollutants. The next issue is what action to take once that phase of removal is completed. The balance of obsolete pesticides will still comprise over one half of the current inventory. The most expeditious way would be through a grant to ship the pesticides to a plant in Indonesia that is serving as the regional incinerator for these products. The total cost is estimated at about $350,000.

V. CONCLUSIONS

A. Overall Assessment

69. **Relevance.** The SAP is rated relevant. The overall goal of the SAP was to promote sustainable economic growth and contribute to poverty reduction by accelerating the growth of agricultural production. The Government's long-term agricultural strategy stipulates policy actions to remove structural constraints and introduce other major institutional reforms to ensure market-oriented growth. The SAP was broadly consistent with the APP and ADB's country and sector strategy in 1998. However, a 2001 ADB assessment of the APP identified a number of

[37] The Salt Trading Corporation is a good model for successfully carrying out dual functions that involve provision of substantial social services to the nation.

weaknesses. The SAP was prepared without a PPTA, and therefore lacked a comprehensive analysis of potential policy reform impacts. No linkage was demonstrated that increased agricultural production would necessarily result in increased farm household income and thus contribute to poverty reduction. The role and potential impacts of agricultural and other policies in India were also not expressly considered. Without a PPTA, there was inadequate opportunity for dialogue with major stakeholders during SAP loan processing. Ownership by MOAC was not strong. It may be argued that phasing out subsidies for STWs worked against the APP groundwater development strategy. No strategy was articulated to effectively counteract subsidy removal. Other SAP conditions were added that had little to do with overall reforms to be undertaken (e.g., disposal of obsolete pesticides and organizational reforms of NFC). Specific performance and impact indicators were identified but never quantified during or after SAP design (except for average real growth of the agriculture sector and poverty reduction). Nor were any provisions made to assist or monitor retrenched staff from AIC or NFC.

70. **Efficacy.** The SAP is rated efficacious, due primarily to complete deregulation of the fertilizer sector and corresponding increase in the timeliness and availability of fertilizer. This is a major reform achievement. It has led to an estimated 20% average annual increase in the use of fertilizer (nutrient basis). The 3.3% real growth in the agriculture sector during the Ninth Five-Year Plan can be attributed in significant part to the growth in fertilizer use, particularly given the relatively low level of overall fertilizer usage per hectare (high marginal response). Although the SAP specified a target of 5% annual growth, 3.3% growth is a significant achievement. A number of conditions were not fully complied with, and the full impact of sector reforms has not been realized. Full privatization of SOEs in the agriculture sector was not completed. AICL, NSCL and NFC continue to incur debt and remain of concern to MOF and debt holders. Planned investments targets in rural road construction and maintenance were not met. Substantial dead weight losses to the economy from inefficient subsidies have been eliminated; however, the budget savings generated were not channeled to other critical sector constraints (rural roads, rural electrification, operation and maintenance, research and extension).

71. **Efficiency.** The SAP is rated efficient. Of the 28 SAP reforms and measures, 22 were implemented or substantially completed/complied with or completed with delay, 4 were not completed, 1 was partly completed, and 1 was technically completed but not implemented. The second tranche was released in June 2000, about 9 months after the original schedule, primarily due to delays in meeting conditions related to the disposal of obsolete pesticides, STW subsidy removal, organizational reforms of NFC, organizational reforms of AIC, and financial plan for rural road maintenance. Of the eight second tranche release conditions, three were considered relatively unimportant for achieving SAP objectives including (i) the disposal of obsolete pesticides, (ii) the rural road maintenance plan, and (iii) organizational reforms of NFC.

72. Fertilizer deregulation was judged highly efficient. Removal of STW subsidies had both positive and negative efficiency aspects for achieving SAP objectives. Subsidy removal indirectly increased competition, widened consumer choice of pump set size, and reduced total investment costs for STWs significantly. However, expansion of groundwater development during the Ninth Plan period, an APP priority area, was adversely affected by phasing out STW subsidies due to inadequate consideration of compensating mechanisms. Restructuring AIC and NFC was not efficient, as it did not result in increased efficiency of the restructured enterprises. AICL, NSCL, and NFC continue to accumulate bad debt. Lack of investment in rural road construction and maintenance did not allow the full benefits of deregulation to flow to farmers. Efficiency in the use of local counterpart funds generated from the SAP appeared to be lacking. Targeted rural development and other related uses of funds received budget allocations late due to the delayed release of the second tranche. Perhaps more importantly, counterpart funds did not represent any

additionality in funds allocated to rural development programs, which, in fact, were severely under-resourced during the SAP program period and beyond. Financing of rural road maintenance, a key APP priority, is a stunning example. The approved maintenance plan called for a budget of NRs800 million annually for 14,000 km of rural roads, compared with budget releases of less than 10% of this amount on average. Moreover, portion of the budget purportedly came from SAP counterpart funds.

73. **Sustainability.** The SAP is rated likely sustainable. Significantly, with the exception of a brief return to STW subsidies (5 months due to drought in 2001), all other completed reforms have been maintained. Opposition to fertilizer deregulation is non-existent, as its positive effects are widely acknowledged, and timely availability has improved dramatically, particularly for small farmers. Free movement of fertilizer from India also contributes to long-term sustainability of this critical reform. Pressure remains to reintroduce STW capital cost subsidies to expand groundwater development, which is still more cost effective than expansion of surface schemes. However, given limited government resources and the lower cost of STWs due to increased private supplier competition, capital cost subsidies for STWs are unlikely to return. Sustainability of the restructured AICL, NSCL, and NFC is unlikely given their current unviable business models, government-led management and weak financial condition. Reforms for these organizations have not been fully implemented and debts are again accumulating. However, momentum for full privatization or closing down these operations is lacking.

74. **Institutional Development and Other Impacts.** The SAP is rated moderate for other impacts. It produced few institutional development or other impacts. The deregulation of fertilizer has increased dependence on India to meet growing demand. Due to the long open border, "informal" imports, particularly of urea, which is still heavily subsidized in India, flow into Nepal. Estimates of urea supplied from small cross-border transactions range from 30% to more than 80% of total demand in Nepal (Appendix 3, Table A3.10). Legitimate imports by large private sector importers must compete with this trade. Thus, in effect, India represents an important formal as well as informal supplier and buffer stockholder for fertilizer in the event that private traders attempt to create a supply shortage. Increased dependence on India for fertilizer supplies also creates a potential vulnerability in the event that cross-border movement is restricted. As a result of incomplete institutional reforms at AICL, NSCL, and NFC, government budget savings have been realized. However, rather than becoming robust, streamlined, commercially operated companies, these enterprises have been rendered incapable of fulfilling their mandate or competing with the private sector, AICL, NSCL and NFC could be liquidated with relatively minimal impact on the fertilizer, seed, or grain markets.

75. **Overall Rating**. Based on all the above, especially the major positive outcomes and impacts of successful fertilizer deregulation, the overall rating of the Second Agriculture Program is successful.[38]

76. "The agriculture and rural development sector roadmap for the Nepal Country Strategy and Program (CSP) (2005–2009) is generally consistent with the findings and recommendations of this OEM study. The sector strategy, supported by the 2005–2007 loan pipeline,[39] emphasizes rural infrastructure development, particularly farm to market roads, designed and implemented using a highly decentralized approach. Future promotion and development of low-cost groundwater based

[38] Under the ADB evaluation system there are four possible ratings for projects and programs: (i) highly successful, (ii) successful, (iii) partly successful, or (iv) unsuccessful.

[39] Pipeline projects include: (i) Commercial Agriculture Development Project (2005), Community-Managed Irrigated Agriculture Sector Project (2005), Decentralized Community-based Water Management Project (2007), Agribusiness Project (2007), and Decentralized Rural Infrastructure and Livelihoods II Project (2007).

irrigation, and fostering a more commercial orientation in the agriculture sector also receive priority and build upon the conducive policy environment supported by the SAP. "

B. Key Lessons Learned

77. Although it was rated as successful, the full impacts that could have resulted from the SAP were not realized, because several outputs were not fully completed. This goes back to the original problems of (i) not adequately defining the final status of outputs for privatization of AIC and reorganization of NFC, (ii) not taking steps to ensure that SAP funds and savings on subsidies would be allocated to priority APP investment areas, since the SAP was designed to support the APP, (iii) failing to adequately address the need to continue steps to expand groundwater development following cessation of subsidies, and (iv) failure to work with other development partners to address the lack of rural credit.

78. The overall lesson is that policy reform targets under a program loan need to be specified in a verifiable and monitorable manner. In the SAP this was most evident in loan policy covenants dealing with privatization of AIC and subsequent privatization of NSCL, spun off from AIC during restructuring. Additional analysis of NFC operations should have been able to come up with less costly alternatives for supplying rice to remote hill areas, where it is used primarily by public servants and security forces. Many elements of loan compliance were not easily verifiable under the accounting and reporting practices followed by the SOEs subject to loan covenants. In many cases, acceptance of a study was all that was required. In no case did the studies set out a complete blueprint to be followed, which would lead to majority private sector ownership or options that would wind up the company.

C. Follow-Up Actions

79. The policy reforms have gained adequate support so additional project activities should now be feasible. Performance of the agricultural sector will continue to lag until other elements of APP are put in place to complement the impressive gains in fertilizer use and the start of significant changes in cropping mixes, which will increase rural incomes more than a continued reliance on basic grains.

80. First, farmers in the areas of the Terai with groundwater capable of utilization by STWs need to be provided more low cost options and the development of local water markets needs to be encouraged. The Nepal Electricity Authority could do this by connecting clusters of tube well sites to rural grids where feasible. The Department of Irrigation should allow for use of more widely dispersed, smaller pumps more suitable for individual use on smaller plots with the ability to sell additional water to neighbors. This strategy simultaneously brings down the capital cost of the pump set, reduces running costs significantly, increases flexibility and increases the ability of individual farmers to make their own choices about crop timing, selection and irrigation scheduling and reducing risk. Both of these recommendations could be incorporated into ongoing ADB assistance.[40]

81. Second, the legal and institutional framework is now in place for a substantial expansion of rural micro credit, which is badly needed to continue the growth of purchased inputs and assist with financing groundwater expansion. The NRB in cooperation with its private microfinance institutional clients should provide increased credit assistance to farmers by utilizing the financing and NGO

[40] Loan 1732-NEP(SF): *Rural Electrification, Distribution and Transmission Project*, for $50 million, approved on 21 December 1999; and Loan 1609-NEP(SF): *Community Groundwater Irrigation Sector Project*, for $30 million, approved on 26 February 1998.

support available through the ongoing ADB-financed Community Groundwater Irrigation Sector Project (footnote 40). This project has increased the flexibility of its credit component and needs to remain proactive in expanding its outreach to eligible farmers. The Department of Women Development of the Ministry of Women, Children and Social Welfare could facilitate the continued expansion of microfinance programs (for crop production and other enterprises) developed under the recently completed ADB financed Microcredit Project for Women[41] using partner NGOs, and private microfinance institutions developed under the project and NRB as the apex bank.

82. Third, Nepal still has a rural roads network that is inadequate to support a commercializing agriculture sector. High cost of transporting inputs and outputs reduces incentives to intensify and commercialize. This is a key point in APP that requires future attention now that the institutional framework and staff are in place. The ongoing ADB-financed Road Network Development Project,[42] implemented by the Ministry of Physical Planning and Works, is providing much needed assistance in this area.

83. Fourth, the PCR (paras. 58–63) identified project specific recommendations covering (i) future monitoring of the APP, (ii) legislation for a Fertilizer Act, (iii) the privatization of AIC and NFC, (iv) private STW development, (v) rural infrastructure development, and (vi) pesticide disposal and management. All of these recommendations remain highly relevant but have not been completed. NRM should actively engage the relevant government entities to implement these recommendations and ensure that others are incorporated into ongoing and future sector assistance (Appendix 4).

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[41] Loan 1237-NEP(SF): *Microcredit Project for Women*, for $5.0 million, approved on 24 June 1993.
[42] Loan 1876-NEP(SF): *Road Network Development Project*, for $46 million, approved on 13 December 2001.

POLICY MATRIX

Policy Objectives and Reform Measures under the Program	Status June 2000 – Asian Development Bank (ADB) Progress Report	Status December 2001 – ADB Program Completion Review	Status Program Performance Audit Report – April 2004
1. Implementation of medium-term strategy for the agriculture sector			
I. Adoption of a medium-term strategy and an investment plan for the agriculture sector in line with the Agriculture Perspective Plan (APP) as an integral part of the Ninth Five-Year Plan.	**Implemented.** The Ninth Plan document was approved by the cabinet on 3 July 1998, incorporating the APP as an integral part of the plan. The medium-term strategy and an investment plan are in place with assistance from technical assistance (TA) 2618-NEP.	The APP continues to be the Government's basic strategy for agriculture development in the country. It will be reflected in the Tenth Five-Year Plan of the Government (FY2003–FY2007).	**Complied with**. The APP continues to be the Government's basic strategy for agricultural development. However, APP implementation is hampered by weak interministerial coordination resulting from transfer of APP coordination role from National Planning Commission (NPC) to Ministry of Agriculture and Cooperatives (MOAC). Priority investment plan (i.e., rural roads, priority production pockets, research/extension) have been grossly under funded since start of Ninth Plan (FY1997–FY2002). Expansion of groundwater development during the Ninth Plan period, an APP priority area, has been adversely affected by phasing out shallow tubewell (STW) subsidies due to lack of consideration of compensating mechanisms (see 4[III] below).

Continued on next page

2. Deregulation of the fertilizer subsector			
I. Reduction of the price subsidy for urea from the current level of 55% of the total cost to not more than 37%, and elimination of subsidies for all other kinds of fertilizers. II. Deregulation of fertilizer prices at the retail level. III. Conversion of the urea subsidy into a fixed rate subsidy per ton available to all importers of fertilizers. IV. Abolition of AIC dealerships.	No comment (I–IV).	No comment.	**Complied with** (I-IV) prior to release of first tranche. Urea subsidy/t was reduced from NRs6,720 in July 1997, to NRs4,198 in November 1997, NRs2,728 in July 1998, NRs1,500 in July 1999, and eliminated effective 17 November 1999.
V. Submission to ADB, within 6 months of loan effectiveness, of a comprehensive report on the Government's review of its current legislation to determine whether or not current legislation would be sufficient to ensure that the quality of fertilizers traded in the deregulated market is maintained without further enactment.	**Implemented.** ADB received the report in November 1998. The report presented a comprehensive review of the existing legislation, and recommended the introduction of a fertilizer regulatory order under the Essential Commodity Act and its immediate implementation.	The Fertilizer Regulatory Order is in place. In October 2000, the Government also initiated the formulation of a fertilizer policy to further develop the deregulated fertilizer market. The policy paper was drafted with assistance form the United Kingdom's Department for International Development (DFID), and approved by the Government in February 2002.	**Complied with**. However, some fundamental weaknesses of the essential Commodities Act (inclusive of the 1999 Fertilizer Regulatory Order), applicable to fertilizer, still remain. The 2002 Fertilizer Policy has assisted in developing the deregulated sector, but lacks implementation authority. Fertilizer Act to address weaknesses awaits uncertain resumption of Parliament operations.
VI. Elimination of the municipality transportation taxes within 6 months of loan effectiveness.	**Implemented.** The tax was eliminated with the enactment of the Local Self-Governance Bill on 29 April 1999. The local development tax has been introduced to replace it and is	Being continued.	**Complied with.**

Continued on next page

	being levied at 1.5% of the price of goods at entry points in the country.		
VII. Adoption of appropriate legislation to ensure that the quality of fertilizers traded in the deregulated market is maintained (condition for release of the second trance).	**Complied with.** The Fertilizer Regulatory Order under the Essential Commodity Act was introduced by the Government through cabinet approval on 15 March 1999. The Fertilizer Advisory Board was established and fertilizer inspectors assigned in all districts. Testing equipment was installed in a regional soil laboratory in Jhumka (Sunsari District). Regional training programs for fertilizer inspectors were undertaken in 2000 with assistance from TA 3008-NEP to implement the order.	Based on the experience gained during the transitional period of fertilizer deregulation, the Government issued the first amendment to the Fertilizer Regulatory Order (1999) on 31 July 2000 with Cabinet approval. The Government also upgraded the capacity of soil testing laboratories of the Department of Agriculture, including the construction of a regional soil testing laboratory at Jhumka, and the provision of necessary equipment and chemicals for the central soil testing and analysis laboratories at Khairinitar, Nepalganj, and Dhangadi.	**Complied with.** The Fertilizer Regulatory Order remains in place, but lacks legal authority for enforcement. Fertilizer quality following deregulation initially deteriorated; however, increased competition plus upgrading of soil testing laboratories and increased testing of fertilizer at the dealer level have reduced incidence of adulteration. Adulteration occurs mainly in small-scale but widespread cross-border imports from India.
VIII. Completion of deregulation of all fertilizer prices (condition for release of second tranche).	**Complied with.** The Government deregulated the fertilizer prices of the Agriculture Inputs Corporation (AIC) by removing its uniform fertilizer price policy. This became effective on 30 September 1999 and completed the deregulation of all fertilizer prices in the country.	The differential pricing policy for fertilizers eliminated the provision of internal transport subsidies for easily accessible areas. With respect to the remote areas (23 districts), the Government introduced a general fund for agricultural development. This fund was combined with the Special Agriculture Production Program in FY2000.	**Complied with.** However, AIC sales of diammonium phosphate (DAP) at below market prices in 1998/99 temporarily delayed full deregulation, and initially discouraged private sector imports of this key product..
IX. Elimination of all fertilizer subsidies (condition for release of second tranche).	**Complied with.** The Government subsidy for transporting fertilizers was removed in August 1998.	Being continued. No subsidies provided for fertilizer importation and distribution.	**Complied with**. Being continued. Fertilizer availability has improved dramatically, and consumption increased from about 35 kilograms per hectare

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	General district agricultural development funds are being provided for priority remote districts; where necessary, agricultural inputs can be procured based on open bidding. The price subsidy for urea was reduced to NRs1,500/t in phases from NRs6,720/t in July 1997. The remaining subsidy of NRs1,500/t was eliminated effective 17 November 1999. The Government also decided that it would manage fertilizers provided under bilateral grants and that such fertilizers would be distributed under transparent procedures through competitive bidding, with equal opportunities being given to private traders.		(kg/ha) to 58 kg/ha (nutrient basis) from 1997 to 2001 (based on TA 3536 survey). Private sector importers did not immediately respond to deregulation but now account for almost all official imports (2003/04). Official imports ranged from 88,650 t in 1997/98, 219,000 t in 1998/99 to 111,500 t in 2002/03. Estimated imports for 2002/03, inclusive of "unofficial" imports from India total about 400,000 t (almost 75% of total fertilizer consumption). Currently, only about 6 enterprises actively engage in large volume fertilizer imports.
3. Organizational reform of the Agriculture Inputs Corporation (AIC)			
I. Approval of a plan for organizational reform of AIC and a time-bound action program satisfactory to the ADB, including provision of full management autonomy, settlement of counterpart funds, streamlining of assets, and reconstitution of the Board.	No comment.	No comment.	**Complied with**.
II. Settlement of counterpart funds and other outstanding debts of AIC.	No comment.	No comment.	**Complied with**. Settlement of NRs2.0 billion in counterpart funds and outstanding debts

Continued on next page

			completed prior to first tranche release.
III. Establishment of a Fertilizer Unit in the Ministry of Agriculture to monitor prices, supplies, and quality of fertilizers.	No comment.	No comment.	**Complied with**. DFID has provided further support to the unit since Program completion (see above on quality monitoring).
IV. Completion of organizational reform of AIC (condition for release of the second tranche).	**Complied with.** The Government successfully implemented AIC's reform through separation of redundant temporary staff and two voluntary retirement schemes for permanent staff. The Government, through the cabinet decision on 16 September 1999, decided to split AIC into two companies for fertilizer and seed businesses. The two companies are on the privatization list. The Government established a task force on 8 October 1999 to examine the details of the proposed privatization of AIC. The task force, in collaboration with the privatization cell of the Ministry of Finance, prepared a detailed proposal. The proposal was approved by the cabinet on 9 March 2000. AIC's board of directors was dissolved simultaneously.	Further progress being made after program completion. Under the interim board of directors, the task force for the organizational reform of AIC submitted on 8 March 2001 an assessment report on AIC's assets and liabilities. Based on the report, preparatory work is being finalized to split AIC into two companies, one for seed and the other for fertilizers, with the provision for participation of the private sector. Accordingly, a memorandum of agreement has been drafted for two companies. This process is expected to be completed within FY2002. At present, AIC has 43 offices, excluding sales depots, and 719 employees.	**Partly complied with.** In May 2002 AIC was split into 2 separate companies for fertilizer and seed. Full management autonomy has not been achieved. Boards of both companies are all government representatives. AIC still receives budget from the government for administrative overheads (NRs65 million for 2003/04). Separation of assets has not been completed. Currently Agriculture Inputs Company Limited (AICL) has 32 field offices and 342 staff. Plans for majority private sector ownership have been expressed by the Board, however, there has been little action to date. There is no private sector interest in AICL's business operations. Liquidation of individual AICL assets would interest private sector. Current AICL business model not viable, partly evidenced by accumulation of new debt not being serviced.

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4. Efficient use of water resources			
I. Reduction of the capital cost subsidies for private (STW) development from the current level of 80% to 60% for group-based schemes, and from the current level of 40% to 30% for individual schemes.	No comment.	No comment.	**Complied with**. Prior to ADB Board approval.
II. Elimination of customs duties on imported diesel engines and pump sets for irrigation.	No comment.	No comment.	**Complied with**. Duty had been 10%.
III. Elimination of capital cost subsidies for private STW development (condition for release of the second tranche).	**Substantially complied with.** The capital cost subsidy for individual STW schemes was removed effective 28 October 1999. The Government reduced the capital cost subsidy for group-based STW schemes from 60% to 30% effective 31 January 2000, and will eliminate the remaining subsidy for group-based STW schemes effective 16 July 2000.	**Complied with.** The capital cost subsidy for group-based STW schemes was removed effective 16 July 2000.	**Complied with, with delay** (10 months). 30% subsidy briefly reintroduced for a 5-month period from October 2001 to February 2002 in response to drought conditions in Eastern Terai. Demand initially fell precipitously from about 3,500 units/yr (5-year average of Agricultural Development Bank of Nepal) to less than 600. Current expected installations for 2004 are estimated at about 2,000, primarily due to financial and technical support from ADB/Canadian International Development Agency-financed Community Groundwater Irrigation Sector Project. Subsidy removal indirectly increased competition, consumer choice of pump set size, and reduced total investment costs

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			for STWs significantly.
5. Promotion of competitive agricultural produce markets			
I. Nepal Food Corporation's (NFC) withdrawal from the subsidized distribution of food grains in urban and accessible areas (Kathmandu Valley and municipalities).	No comment.	No comment.	**Complied with**. Prior to ADB Board approval.
II. Approval of a plan for organizational reform of NFC and time-bound action program to phase out NFC's subsidized food-grain distribution scheme, and to limit its activities to the delivery of food grains to remote areas.	No comment.	No comment.	**Complied with**. Prior to ADB Board approval.
III. Completion of organizational reform of NFC (condition for release of the second tranche).	**Partly complied with.** The Government substantially carried out measures for NFC's organizational reform by (i) withdrawing NFC's subsidized grain distribution schemes from urban and accessible areas, (ii) reconstituting NFC's board of directors, (iii) separating redundant temporary and permanent staff, and (iv) closing 12 administrative offices. The Government's plan for streamlining NFC was officially approved by the Cabinet on 5 August 1999. However, the	The annual budgetary ceiling of NRs225 million on the subsidy for internal transport of food grains continues to be applied. At present, NFC is distributing subsidized food grains to 34 remote districts. NFC has further reduced its staff strength to 745 through a Voluntary retirement scheme. The existing number of offices, including 77 sales depot, is 127. NFC by -laws were amended on 6 January 2000, enabling it to maintain and manage a national food security reserve.	**Substantially complied with**. Staff strength has not been reduced to levels recommended by the 1999 plan (507 vs. 625). Prior to Second Agriculture Program Loan, NFC employed about 1,100 staff. Offices and depots have been reduced to 101 compared with 68 in the plan. NFC's budget has been reduced from NRs225 million to NRs180 million (primarily for transport subsidy).

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	Government informed ADB that implementation of the plan would take longer and could not be completed within FY2001 under the current political and security situation of the country. The Government reiterated its commitment to pursue the reform measures for NFC in line with the program.		NFC is distributing subsidized food grains to 30 remote districts. 40,000 t reserve provide for in the 2000 legislation (20,000 t each held by the Government and NFC) has not materialized (according to NFC), as no budget has been provided for this procurement. NFC continues to run annual losses.
6. Development of rural infrastructure			
I. Approval of the Government's long-term strategy for rural infrastructure development, including definition of the specific roles and functions of the Ministry of Local Development's Technical Division and of local administrations in the country's rural infrastructure development.	No comment.	No comment.	**Complied with.** (First tranche condition). Strategy outline and associated institutional reforms were approved in principle by the Government in November 1997, and the whole package of the long term strategy approved in its entirety in December 1997. The strategy is based on the recommendations of TA 2556.
II. Approval of a financial plan for the maintenance of rural roads under the jurisdiction of local administrations (condition for release of the second tranche).	**Complied with.** The Government approved the financial plan for rural road maintenance on 22 March 2000. This plan provides a general framework and mechanism for rural road maintenance in the country.	Being continued. A separate budget item is being provided for rural road maintenance. The budget for FY2002 amounts to NRs50 million ($0.7 million), to be allocated to priority districts.	**Technically complied with but not implemented**. Actual allocations since plan approval have been less than 10% of recommended amounts (NRs800 million annually for 14,000 km of roads). Only NRs40 million budgeted in 2003/04.

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7. Strengthening of institutional and legal frameworks **7.1 Seed Distribution**			
I. Approval of a plan to privatize AIC's seed production and marketing [included in Item 3 (I)].	No comment.	No comment.	**Not complied with**. Plan prepared by Deutsche Gesellschaft fur Technische Zusammenarbeit called for a subsidiary seed company within AIC with joint Ministry of Agriculture ownership.
II. Adoption of appropriate regulations (by-laws of the Nepal Seed Act) to ensure seed certification and quality control.	No comment.	No comment.	**Not complied with**. The 1997 Nepal Seed Act technically only applies to the Kathmandu Valley, thus effectively there is no National Seed Act in place, the National Seed Board has no implementation arm. Intellectual property rights do not exist for seed varieties in Nepal.
III. Implementation of the plan to privatize AIC's seed production and marketing (included in Item 3).	This formed a part of the condition for the release of the second tranche with respect to the completion of AIC's organizational reform (see item 3 above).	Further progress is being made.	**Not complied with.** Although streamlining of operations has occurred in the 100% Government-owned National Seed Company Limited privatization (majority private sector ownership) is not under active consideration by the Government, nor would the sale of National Support Committee be attractive to the private sector in its current form.
7.2 Rural Finance			
The Financial Intermediation Act to accommodate microfinance	**Implemented.** The Financial Intermediation Act was	The purpose of this Act was to allow registered nongovernmental	**Complied with.** However, the 1999 Act contained serious

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activities in place within 6 months of loan effectiveness.	approved by Parliament on 4 September 1998, and enacted on 31 March 1999.	organizations (NGOs) to undertake financial intermediation, mainly for small loans. To expand NGOs' activities as the registered financial intermediaries, including saving mobilizations, amendments are being prepared for the Act.	flaws, including no provisions for savings mobilization, among others. An amendment to correct deficiencies as well as onerous restrictions was approved by the Government in August 2002, however, according to the Microfinance Department of the Nepal Rastra Bank (NRB—Central Bank) there are only 48 NGOs registered with NRB under this Act, of which only 24 are currently active financial intermediaries (excludes savings and credit coops). Most NGOs doing microfinance programs apparently continue to operate outside NRB supervision.
8. Safe disposal of obsolete pesticides			
I. Approval of a plan, acceptable to ADB, for safe disposal or containment of AIC's remaining obsolete pesticides.	No comment.	No comment.	**Complied with.** Plan was prepared under TA 3008, and approved in August 1999.
II. Completion of disposal of less hazardous obsolete pesticides as classified by the World Health Organization and approval of a final work plan for the disposal of the remaining hazardous pesticides (condition for release of the second tranche).	**Substantially complied with.** All the technical requirements for the environmentally safe disposal of less hazardous pesticides (8 tons), including the preparation of a detailed inventory of the stored pesticides, the cleaning of the warehouse, and the repackaging and safe containment of the pesticides in new-rust proof drums, have been met with assistance from	The obsolete pesticides are still being stored in the containers at an AIC warehouse. The Government intends to continue discussions with potential external funding agencies for financial and technical assistance in transferring the pesticides outside the country for environmentally safe incineration and disposal at an appropriate facility. The earlier proposal for incineration at a cement factory in the country proved to be risky from	**Not complied with.** A total of about 75 t of hazardous (55 t) and less hazardous (20 t) obsolete pesticides remain stored under a wide variety of conditions (in terms of safe storage). About 20 t are stored in an AIC warehouse under deteriorating conditions, and surrounded by a densely populated area. At least 4 other locations store significant quantities around the country. All

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	TA 3008-NEP. However, the disposal operation was suspended due to opposition from the local community. The Government considered that immediate disposal of less hazardous pesticides in the country was not possible under the current political situation, and informed ADB that all the obsolete pesticides were contained in an environmentally safe manner. Regarding hazardous pesticides, the detailed work plan for the disposal of hazardous pesticides (43 tons) was approved by MOAC in August 1999. The Government planned to transport and dispose of them at adequately equipped facilities abroad. Dialogue was held with bilateral funding agencies for assistance. Thus, the Government carried out all the possible measures under the Program to complete the disposal of obsolete pesticides.	an environmental point of view. The use of the Global Environmental Facility is being considered for this purpose.	of the pesticide is a minimum of 15 years past expiration and some date back to the 1950s. A Global Environmental Facility is currently providing assistance through the United Nations Industrial Development Organization for a new disposal plan for persistent organic pollutants. Unfortunately, this will cover less than half the obsolete pesticides. Government has had offers from some original manufacturers to dispose of stocks clearly identified back to the source of manufacture; however, Government prefers a plan to dispose of entire inventory off-shore with just one sponsor/entity. Estimated cost of disposal is $375,000 ($5,000/t).

CHRONOLOGY OF FERTILIZER SECTOR REFORM MEASURES

Subject/Actions	Date	Action/Decision Taken
1. Approval of policy reform framework	4 Jun 1997	Remove price and transport subsidies on fertilizers gradually in a phased manner
	6 Jun 1997	Memorandum of understanding signed between HMG/N and ADB for SAPL
	21 Oct 1997	Fertilizer Unit established within MOAC as precondition for SAPL loan negotiations
	3 Nov 1997	MOF's policy development letter to ADB confirming implementation of reform measures to remove structural constraints on fertilizer trade, including phasing out fertilizer subsidies
	6 Nov 1997	HMG/N decision to deregulate fertilizer trade including removal of price subsidies on non-urea fertilizers, removal of AIC's monopoly on fertilizer trade, conversion of total cost subsidy to a fixed cost subsidy, directions to set urea subsidy at a level not exceeding 37% of the total import cost at import points, and setting of fertilizer sale prices to reflect full cost of procurement and distribution
	19 Dec 1997	MOAC issues "Working Policy to Involve the Private Sector in the Fertilizer Trade"
2. Phasing out of subsidies	20 Nov 1997	Setting urea subsidy at NRs4,198/t at import point for urea from 20 November 1997–19 May 1998
	6 Jul 1998	Lowered urea subsidy to NRs2,728/t with effect from 20 May 1998
	1 Jul 1998	Lowered urea subsidy to NRs1,500/t with effect from 1 July 1998
	Aug 1998	Removal of transport subsidy
	25 Nov 1999	Complete removal of urea subsidy with effect from 17 November 1999
3. AIC sale price adjustments	25 Nov 1997	AIC increased sale prices of all fertilizers by 10%
	30 Sep 1999	AIC scrapped uniform pricing policy and adjusted sale price of urea from NRs8,940/t to NRs10,140/t
4. Legislation to ensure quality of fertilizer	1997	MOAC issued guidelines for fertilizer imports
	15 Mar 1999	Fertilizer included under list of essential commodities
	19 Apr 1999	Fertilizer control order published

ADB = Asian Development Bank, AIC = Agriculture Inputs Corporation, HMG/N = His Majesty's Government of Nepal, MOAC = Ministry of Agriculture and Cooperatives, MOF = Ministry of Finance, SAPL = Second Agriculture Program Loan, t = ton.

Source: Poudel, S.K. 2003(a). *Assessment of Recent Agricultural Sector Reform Initiatives*. Report submitted to Asian Development Bank, Manila.

KEY INDICATORS

Table A3.1: Expenditures for Ministry of Agriculture and Cooperatives (MOAC) and the National Agricultural and Research Council, 1994/95–2003/04

	National Agricultural Research Council		Department of Agriculture					Total MOAC Expenditures[a]			
Year	Development	Total ($ '000)	Regular Expenditures	Central	Districts	Total	Total ($ '000)	Regular Expenditures	Development	Total	Total ($ '000)
1994/1995	161,410	3,398	15,573	232,139	351,284	598,996	12,610				
1995/1996	183,294	3,615	17,868	302,212	323,517	643,597	12,694				
1996/1997	198,109	3,506	16,811	264,331	235,832	516,974	9,150	83,814	1,585,236	1,669,050	29,541
1997/1998	264,242	4,636	18,247	295,147	247,206	560,600	9,835	90,232	2,023,238	2,113,470	37,078
1998/1999	296,728	4,370	20,175	433,140	302,229	755,544	11,127	99,333	1,903,400	2,002,733	29,495
1999/2000	331,097	4,834	21,623	571,119	390,212	982,954	14,350	111,166	2,113,194	2,224,360	32,472
2000/2001	424,647	5,998	23,664	500,109	503,152	1,026,925	14,505	122,798	2,332,927	2,455,725	34,685
2001/2002	436,702	5,823	37,267	558,488	622,103	1,217,858	16,238	149,049	2,572,245	2,721,294	36,284
2002/2003	267,190	3,412	29,500	442,046	438,530	910,076	11,623	152,700	1,828,482	1,981,182	25,302
2003/2004[b]	300,575	3,849	32,894	646,124	665,645	1,344,663	17,217	176,209	2,296,736	2,472,945	31,664

[a] Includes Department of Livestock Services and Central Ministry expenses.
[b] Allocated budget, not actual expenditure.
Source: Ministry of Agriculture and Cooperatives.

Table A3.2: Budgets for Agriculture, 1994/95–2001/02

	Foreign Aid Disbursement for Agriculture (NRs million)			Expenditures on Agriculture (NRs million)			Foreign Aid Disbursement for Agriculture ($ million)			Expenditures on Agriculture ($ million)					
Year	**Grant**	**Loan**	**Total**	**Regular**	**Dev't**	**Total**	**Grant**	**Loan**	**Total**	**Regular**	**Dev't**	**Total**	**Foreign Aid as % total**	**Estimated SAP Disb. ($ million)**	**SAP as % of total development expenditures**
1994/1995	492.4	810.0	1,302.4	63.2	2,639.4	2,702.6	9.7	16.0	25.7	1.2	52.1	53.3	48.20%		
1995/1996	83.8	1,013.5	1,097.3	68.1	2,224.0	2,292.1	1.5	17.9	19.4	1.2	39.4	40.6	47.90%		
1996/1997	162.4	273.7	436.1	75.1	1,889.6	1,964.7	2.8	4.8	7.7	1.3	33.2	34.5	22.20%		
1997/1998	144.4	780.5	924.9	80.8	2,144.3	2,225.1	2.1	11.5	13.6	1.2	31.6	32.8	41.60%		
1998/1999	100.5	808.9	909.4	88.6	1,926.2	2,014.8	1.5	11.8	13.3	1.3	28.1	29.4	45.10%	25.0	88.90%
1999/2000	79.0	788.3	867.3	99.5	2,089.5	2,189.0	1.1	11.1	12.3	1.4	29.5	30.9	39.60%		
2000/2001	27.5	778.8	806.3	111.4	2,329.3	2,440.7	0.4	10.4	10.8	1.5	31.1	32.5	33.00%	25.0	80.50%
2001/2002	289.5	607.2	896.7	135.1	2,561.2	2,696.3	3.7	7.8	11.5	1.7	32.7	34.4	33.30%		

Dev't = development, Disb. = disbursement, SAP = Second Agriculture Program.

Source: MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

Table A3.3: Changes in Structure of Agriculture Inputs Corporation

Agriculture Inputs Corporation (Before Reform)			Agriculture Inputs Company Limited (After Reform)		
Particular	**Location**	**Number of Offices**	**Particular**	**Location**	**Number of Offices**
Head Office	Kathmandu	1	Head Office	Kathmandu	1
Zonal Office	Different zones	11	Regional Office	Five Development Regions	5
Main Branch Office	Different districts	7	-	-	-
Branch office	Different districts	12	Branch office	Different districts	15
Sub-Branch Office	Different districts	13	-	-	-
Local Office (under Sub-Branch Office)	Different districts	20	Local Office (under Branch Office)	Different districts	9
Godown	Different districts	6	-	-	-
Seed Farm	Different districts	2	-	-	-
-	-	-	Sales Depot	Different districts	19
Total Offices		**72**	**Total Offices**		**49**

Source: Records provided by AICL to Mr. Raghu Adhikary.

Table A3.4: Staffing Pattern of Agriculture Inputs Corporation

Class	Staffing in Agriculture Inputs Corporation (Before Reform)			Current Staffing in Agriculture Inputs Company Limited (After Reform)		
	Administration	Technical	Total	Administration	Technical	Total
Special	1	-	1	1	-	1
First – DGM	1	-	1	1	-	1
First – Division Chief	1	-	1	6	-	6
Second	22	5	27	9	1	10
Third	63	16	79	29	2	31
Assistant First	149	27	176	73	3	76
Assistant Second	154	23	177	111	-	111
Assistant Third	34	-	34	20	-	20
No Class.Peon/Guard	224	-	224	85	-	85
Total	**649**	**71**	**720**[a]	**335**	**6**	**341**

[a] If the 720 employees in AIC, 47 were transferred to the National Seed Company Ltd. when it was formed.
Source: Ministry of Agriculture and Cooperatives.

Table A3.5: Offices and Staffing of Nepal Food Corporation

Fiscal Year	Staff Number		Number of Offices[a]
	Approved	Existing	
1996/97	1,304	1,292	149
1997/98	1,046	975	147
1998/99	955	884	135
1999/2000	892	800	135
2000/01	801	772	135
2001/02	782	730	121
2002/03	708	636	102
2003/04	708	624	102

[a] Number of offices includes central office, zonal offices, branch offices, and depots.
Source: Ministry of Agriculture and Cooperatives.

Table A3.6: Sale of Grain by Nepal Food Corporation (Quintals)
FY 1996/97 to 2003/04

District	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04[a]
Taplejung	5,928	5,541	3,903	1,270	1,786	1,304	129	29
Ilam	1,614	1,036	882	52	37	Closed	-	-
Panchthar	6,815	5,726	8,446	3,119	1,970	2,774	1,455	67
Tehrathum	2,163	2,757	2,857	885	844	1,127	90	-
Dhankuta	1,064	754	1,549	276	334	10	Closed	-
Sankhuwasava	3,151	3,692	3,437	2,639	881	1,991	1,930	554
Bhojpur	2,568	2,329	3,330	2,205	2,578	1,706	1,058	734
Solukhumbu	3,301	4,044	3,883	4,636	2,014	1,668	1,030	308
Okhaldhunga	3,268	4,661	5,253	3,586	1,747	1,349	959	232
Khotang	4,760	4,428	8,372	9,308	4,718	2,151	2,512	938
Ramechhap	3,790	3,503	3,938	535	493	292	27	Closed
Sindhuli	104	104	311	137	157	48	-	-
Rasuwa	540	553	794	341	66	Closed	-	-
Dhading	3,181	2,252	2,741	1,230	697	5	-	-
Manang	2,777	2,249	3,438	3,245	3,095	2,129	1,999	956
Gorkha	7,776	6,273	4,982	3,471	2,738	2,344	8	77
Baglung	3,843	2,923	2,869	1,538	1,624	1,465	110	120
Parbat	659	358	99	Closed	-	-	-	-
Mustang	2,754	2,648	2,425	2,730	2,514	2,004	1,611	739
Myagdi	2,870	2,341	2,866	1,965	421	903	258	53
Gulmi	981	443	901	102	Closed	-	-	-
Salyan	64	355	Closed	-	-	-	-	-
Pyuthan	1,097	883	2,641	460	780	308	-	-
Rukum	3,655	5,876	6,901	6,333	1,911	4,239	1,173	272
Rolpa	3,188	3,286	4,045	2,961	545	2,044	157	544
Dailekh	5,707	5,695	6,039	3,389	867	990	661	349
Jajarkot	2,454	3,429	5,222	3,664	1,825	957	789	1,024
Jumla	8,545	10,466	13,531	14,920	10,345	10,975	9,762	5,850
Humla	7,436	8,855	10,944	11,590	9,825	7,581	7,995	4,415
Mugu	4,570	5,559	6,897	8,389	7,611	5,531	5,017	2,850
Dolpa	6,003	7,602	9,342	11,588	9,127	7,989	6,606	4,000
Kalikot	5,875	6,430	8,670	11,996	10,536	5,245	4,656	2,689
Bajhang	10,165	7,966	11,942	7,637	1,688	3,631	1,480	1,297
Bajura	7,428	7,289	11,086	11,134	7,057	6,220	4,031	2,443
Doti	2,403	1,284	1,772	58	117	Closed	-	-
Achham	8,160	4,994	4,787	4,113	2,975	1,377	652	874
Baitadi	1,591	617	2,425	639	601	75	-	-
Darchula	3,351	4,097	4,768	4,339	1,544	1,703	778	85
Total	145,599	143,298	178,288	146,480	96,068	82,135	56,933	31,499

[a] Sales records for FY2003/04 are based on progress as of now.
Source: Ministry of Agriculture and Cooperatives.

Table A3.7: Changes in Production of Basic Grains, 1996/97–2002/03 (tons)

Output of:	Paddy	Maize	Millet	Wheat	Barley	Total Grains	Change	% Change
1996/1977	3,710,650	1,316,840	289,480	1,071,970	36,690	6,425,630		
1997/1998	3,640,860	1,367,340	285,120	1,030,320	37,150	6,360,790	-64,840	-1.0%
1998/1999	3,709,770	1,345,910	291,370	1,086,470	31,789	6,465,309	104,519	1.6%
1999/2000	4,030,100	1,445,450	295,380	1,183,530	30,817	6,985,277	519,968	8.0%
2000/2001	4,216,465	1,484,112	282,852	1,157,865	30,488	7,171,782	186,505	2.7%
2001/2002	4,164,687	1,510,770	282,570	1,258,045	30,790	7,246,862	75,080	1.0%
2002/2003	4,132,500	1,569,140	282,860	1,344,192	31,711	7,360,403	113,541	1.6%

Source: Ministry of Agriculture and Cooperatives.

Table A3.8: Estimated Increases in Fertilizer Use 1997/98–2002/03

	APP Estimated Demand (actual quantities)			
Year	Urea	DAP	MOP	Total
1997/98	144,142	61,978	2,690	208,810
1998/99	163,491	70,298	3,051	236,840
1999/2000	185,437	79,734	3,460	268,631
2000/01	210,329	90,438	3,925	304,692
2001/02	238,562	102,577	4,451	345,590
2002/03	248,488	76,087	8,000	332,575

APP = Agriculture Perspective Plan, DAP = diammonium phosphate, MOP = muriate of potash.
Source: MOAC, Monitoring and Evaluation Division, Fertilizer Unit.

Table A3.9: Estimated Fertilizer Use in Nepal 1997/98–2002/03[a]

Year	Urea Official Imports[b]	Urea Unofficial Imports[c]	Urea Total Supply	DAP Official Imports[b]	DAP Unofficial Imports[c]	DAP Total Supply	MOP Official Imports[b]	MOP Unofficial Imports[c]	MOP Total Supply	Total Supply	Percent of APP Estimate
1997/98	78,650	42,992	121,642	10,000	85,074	95,074	0	7,132	7,132	223,848	107.2%
1998/99	168,906	18,282	187,188	50,132	122,693	172,825	0	9,263	9,263	369,276	155.9%
1999/2000	98,347	70,562	168,909	55,990	147,586	203,576	0	13,570	13,570	386,055	143.7%
2000/01	112,363	98,002	210,365	53,700	172,668	226,368	5,140	11,339	16,479	453,212	148.7%
2001/02	95,570	101,000	196,570	47,324	165,000	212,324	4,300	12,000	16,300	425,194	123.0%
2002/03	63,020	175,000	238,020	38,442	195,000	233,442	0	16,500	16,500	487,962	146.7%

APP = Agriculture Perspective Plan, DAP = diammonium phosphate, MOAC = Ministry of Agriculture and Cooperatives, MOP = muriate of potash.

[a] Estimated unofficial imports for 2001/2002 and 2002/2003 calculated by consultant based on Fertilizer Use Study demand estimates. MOAC. 2003 (c). *Nepal Fertilizer Use Study*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Kathmandu.

[b] MOAC, Monitoring and Evaluation Division, Fertilizer Unit.

[c] ANZDEC Limited. 2002. *Agricultural Sector Performance Review*. ADB TA 3536-NEP. Draft Final Report. Volume 1: Main Report. Prepared for Ministry of Agriculture and Cooperatives, Nepal and Asian Development Bank, Kathmandu, Table 6.6.a, page 176.

Table A3.10: Fertilizer Nutrient Consumption and N:P:K ratios 1997/98 to 2002/03

Year	Elemental nutrients			Total nutrients	Ratio of Nutrient Consumption			Ideal
	N	P	K		N	P	K	
1997/98	73,069	43,734	4,279	121,082	1.00	0.60	0.06	1:0.5:0.3
1998/99	117,215	79,500	5,558	202,272	1.00	0.68	0.05	1:0.5:0.3
1999/00	114,342	93,645	8,142	216,129	1.00	0.82	0.07	1:0.5:0.3
2000/01	137,514	104,129	9,887	251,531	1.00	0.76	0.07	1:0.5:0.3
2001/02	128,641	97,669	9,780	236,090	1.00	0.76	0.08	1:0.5:0.3
2002/03	151,509	107,383	9,900	268,792	1.00	0.71	0.07	1:0.5:0.3

K = potassium, N = nitrogen, P = phosphorus.

Source: Ministry of Agriculture and Cooperatives.

Table A3.11: Changes in Grain/Fertilizer Price Ratios 1996/97–2002/03

Year	Rice/Urea Price Ratio	Wheat/DAP Price Ratio
1996/1977	2.19	0.64
1997/1998	2.11	0.59
1998/1999	2.35	0.69
1999/2000	2.13	0.72
2000/2001	1.47	0.74
2001/2002	1.21	0.72
2002/2003	1.22	0.71

DAP = diammonium phosphate.
Source: Ministry of Agriculture and Cooperatives.

Table A3.12: International Fertilizer Prices 1997–present

	1997			1998			1999			2000			2001		
Type[a]	**Jan**	**June**	**Dec**	**Jan**	**June**	**Dec**	**Jan**	**June**	**Dec**	**Jan**	**June**	**Dec**	**Jan**	**June**	**Dec**
Urea	165	113	94	87	88	68	65	64	69	78	108	103	122	85	105
DAP	206	200	200	195	209	202	202	185	146	149	145	156	156	135	150
MOP	87	86	88	89	90	101	102	104	101	102	101	99	99	99	98

	2002			2003			2004	
Type[a]	**Jan**	**June**	**Dec**	**Jan**	**June**	**Dec**	**Jan**	**March**
Urea	104	92	103	117	133	161	156	126
DAP	153	163	149	156	174	203	213	216
MOP	98	100	95	95	95	95	94	98

DAP = diammonium phosphate, MOP = muriate of potash.
[a] Urea, Freight on board eastern Europe, bulk. DAP, US Gulf Coast, bulk. MOP, Cost insurance freight, bulk.
Sources: Fertilizer Week Asia. Available: www.fadinap.org/int_prices/price-table.asp; MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

Table 3.13: Domestic Prices of Fertilizer

Year	Sale Price of Fertilizer (NRs/kg)[a]			Sale Price of Fertilizer ($/t)			Exch. rate[b]	Rice			Wheat		
	Urea	DAP	MOP	Urea	DAP	MOP		(NRs/kg)[c]	($/kg)	urea	(NRs/kg)[c]	($/kg)	DAP
1996/1977	6.7	16.9	8.5	117.9	296.1	149.1	57.0	14.7	0.26	2.2	10.8	0.19	0.6
1997/1998	7.4	18.6	9.4	109.0	273.5	137.7	67.9	15.6	0.23	2.1	10.9	0.16	0.6
1998/1999	7.4	18.6	9.4	108.0	271.1	136.5	68.5	17.4	0.25	2.4	12.8	0.19	0.7
1999/2000	9.6	20.4	13.9	136.2	288.1	196.3	70.8	20.5	0.29	2.1	14.6	0.21	0.7
2000/2001	12.2	19.0	13.9	162.5	253.6	185.3	75.0	18.0	0.24	1.5	14.2	0.19	0.7
2001/2002	14.1	19.0	13.6	180.1	242.7	173.7	78.3	17.1	0.22	1.2	13.6	0.17	0.7
2002/2003	14.1	19.3	14.3	180.5	247.4	183.4	78.1	17.2	0.22	1.2	13.7	0.18	0.7
March 2004[d]	19.0	22.0	18.0	267.6	309.9	253.5	71.0						

DAP = diammonium phosphate, MOP = muriate of potash.

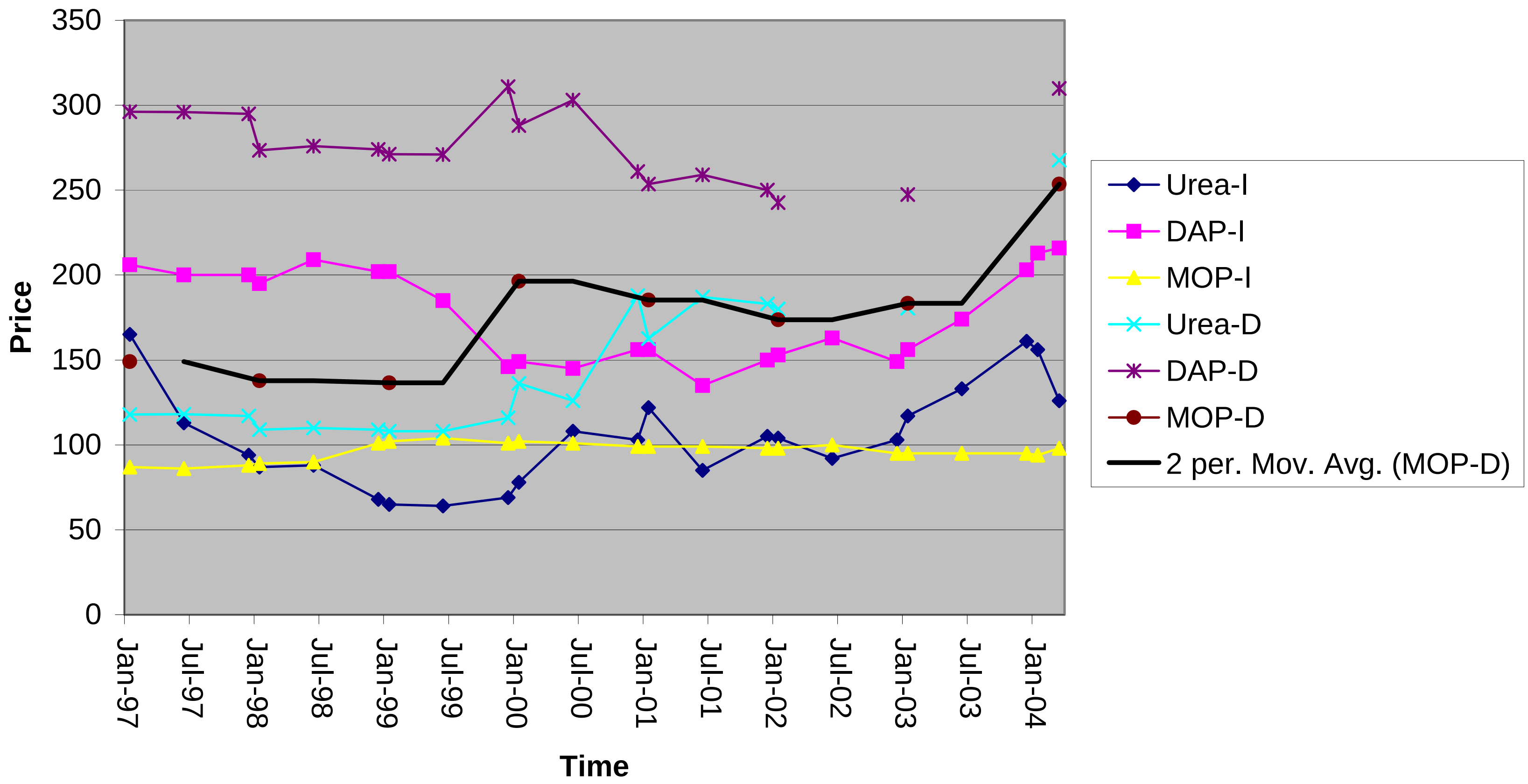
[a] MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

[b] Ministry of Finance. 2003*. Economic Survey, Fiscal Year 2002/2003*. His Majesty's Government of Nepal, Ministry of Finance, Kathmandu.

[c] MOAC. 2003. *Agricultural Marketing Information Bulletin (Special Issue–2003)*. Department of Agriculture, Marketing Development Directorate, Ministry of Agriculture and Cooperatives, Kathmandu.

[d] Kathmandu retail, Operations Evaluation Mission team survey.

Figure A3: International and local fertilizer prices ($/t)



D = domestic, DAP = diammonium phosphate, I = international, MOP = muriate of potash, Mov. Avg. = moving average.
Source: MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003.* His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

Table A3.14: Recent Growth in Production of Selected Cash Crops (production, in tons)

Crop	1999/2000	2000/01	2001/02	2002/03	Change (t)	Change as % of 1999/2000
Potato	1,182,500	1,313,717	1,472,757	1.531,315	348,845	30
All Fruit Crops	447,334	473,621	473,621	518,864	71,539	16
All Vegetable Crops	1,489,665	1,738,086	1,738,086	1,799,973	310,308	21

Source: MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

Table A3.15: Changes in Profit and Yield per Hectare for Major Cropping Systems in Nepal

	Profit ($/hectare)				
Crop	1995/96	1997/98	1998/99	1999/2000	2001/02
Rice, Terai, improved variety, irrigated	114	102	83	127	100
Rice, hill, improved variety, irrigated	127	137	150	192	106
Maize, Terai, improved variety, irrigated	50	64	73	59	63
Maize, hill, improved variety, irrigated	20	24	66	86	81
Wheat, Terai, improved variety, irrigated	38	46	70	95	73
Wheat, hill, improved variety, irrigated	32	40	87	54	46

	Yield (kg/ha)				
Crop	1995/96	1997/98	1998/99	1999/2000	2001/02
Rice, Terai, improved variety, irrigated	2739	2773	2708	2854	2868
Rice, hill, improved variety, irrigated	2719	2823	2830	3054	2800
Maize, Terai, improved variety, irrigated	2250	2371	2449	2333	2330
Maize, hill, improved variety, irrigated	1700	1794	1803	2183	2201
Wheat, Terai, improved variety, irrigated	1863	2003	2049	2221	2226
Wheat, hill, improved variety, irrigated	1786	1940	1889	2095	2132

Source: MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

Table A3.16: Annual Retail Prices for Major Cereal Crops

Deflated Prices	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03
1994/95=100									
Rice, coarse	12.10	12.82	12.60	13.12	13.04	14.85	13.14	12.15	11.92
Wheat	8.50	8.17	9.21	9.14	9.55	10.57	10.36	9.71	9.52
Maize	7.59	7.74	7.86	8.05	8.60	10.18	0.00	0.00	0.00
Potato	8.16	9.18	9.16	7.23	10.89	8.88	7.96	9.47	8.79

Source: MOAC. 2004. *Statistical Information on Nepalese Agriculture, 2002/2003*. His Majesty's Government of Nepal, Ministry of Agriculture and Cooperatives, Agri-Business Promotion and Statistics Division, Singha Durbar, Kathmandu.

Program Completion Report: Program-Specific Recommendations

1. The 2002 Project Completion Report for the Second Agriculture Program Loan offered a number of recommendations that remain relevant to current sector conditions and should continue to be a part of the ongoing dialogue with the Government and to be taken into consideration in formulating future assistance to the agriculture sector.

2. **Future Monitoring**. The responsibility for monitoring Agriculture Perspective Plan implementation was transferred to the Ministry of Agriculture and Cooperatives (MOAC) Monitoring and Evaluation Division. MOAC needs to revive and firmly institutionalize the consultation processes on the agriculture sector within FY2002, particularly in view of the need for close monitoring of the performance of the sector under the Tenth Plan. Key stakeholders from the Government, the private sector, and major external funding agencies should be invited to a common venue for interactions. A newsletter on the agriculture sector performance may be issued again regularly for wider dissemination of relevant data and information.

3. **Fertilizer Subsector.** The role of MOAC's Fertilizer Unit will continue to be important in promoting sound development of the fertilizer trade and the private sector involved in the trade. In this context, the Government approved a long-term fertilizer policy in February 2002. In the future, a separate Fertilizer Act will become necessary to strengthen enforcement of the relevant regulations to ensure the quality of traded fertilizers. The Act should be formulated based on sufficient experience accumulated for the deregulated market and through full consultation among key stakeholders.

4. **Organizational Reforms of the Agriculture Inputs Corporation (AIC) and the Nepal Food Corporation (NFC).** Following program completion, the Government initiated actions for the privatization of AIC's seed and fertilizer sections. The Government urgently needs to finalize the process for the third voluntary retirement scheme for AIC staff through consultation between MOAC and the Ministry of Finance. Delay will further lower staff morale and incur financial losses to AIC and ultimately to the Government. With regard to NFC, the Government remains committed to completing organizational reform and rationalization of its future role. Continued streamlining of NFC's staff and organization will be necessary. However, the completion of this reform plan may take longer under the present security situation. The Asian Development Bank’s (ADB) continued dialogue with the Government will be necessary for the promotion of competitive food grain markets. In parallel with the process of organizational reforms, AIC and NFC need to update and formulate their detailed business plans.

5. **Private Shallow Tubewell (STW) Development.** ADB has conducted a focused study with the Government on the demand for private STW development. In view of the potential risk of policy reversal on the STW capital cost subsidy, ADB will continue to have dialogue with the Government for promoting sustainable irrigation development in the country, particularly in relation to the proposed Community-Managed Irrigation Sector Project and in terms of the country's operational performance in the sector. The Government's financial resources should be directed to more effective means for the demand-driven promotion of STW development, including (i) the development of capable and motivated human resources in agriculture institutions; (ii) the expansion and strengthening of effective research and extension services; and (iii) the provision of increased training and demonstration trials, and the dissemination of information on the economics of STW investment.

6. **Rural Infrastructure Development.** The national strategy for rural infrastructure development should be implemented as planned, and the number of qualified engineers of the

Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR) should be increased. The capacity of the district-level engineering staff needs to be strengthened with continued support from DOLIDAR. The annual maintenance activities for rural roads at the district level should be enhanced, with more focus on regular and periodic maintenance. ADB will need to be engaged in a dialogue on these subsector issues in conjunction with the proposed Second Rural Infrastructure Development Project. In 2004, the renamed Decentralized Rural Infrastructure and Livelihood Project will be in the final stages of loan processing and the project design substantively addresses this issue.

7. **Pesticide Disposal and Management.** The Government needs to expedite the process for completing the long-standing issue on the disposal of obsolete pesticides and for strengthening the mechanism to avoid recurrence of this issue. In this context, discussions with possible funding agencies for external assistance under the Global Environment Facility should be further enhanced. In 2004, the Government is still seeking one single development partner to finance and implement a program for removal of all stocks of obsolete pesticides.

MANAGEMENT RESPONSE ON THE PROGRAM PERFORMANCE AUDIT REPORT ON THE SECOND AGRICULTURE PROGRAM LOAN IN NEPAL (Loan 1604-NEP[SF])

On 1 March 2005, the Director General, Operations Evaluation Department, received the following response from the Managing Director General on behalf of Management:

1. The PPAR recommends steps on future ADB project support for agriculture, and also reiterates the recommendations of the Project Completion Report (PCR) of the subject loan project (the Project). Management in general agrees with these recommendations and will continue to actively monitor developments in the sector, including those related to the Project.

2. In particular, we would like to take note of the following aspects:

(i) On the PPAR's recommendations for future ADB lending, development of the pipeline projects listed in the footnote of para. 76 is proceeding.

(ii) On rural microcredit, action has already been taken to enhance capacity of the savings and credit cooperative societies established under the Microcredit Project for Women (L1237-NEP) through additional support provided under the newly approved project for Gender Equality and Empowerment of Women (L2143-NEP). New Projects for Decentralized Community-Based Water Management (2007) and Agribusiness (2007) will also consider linkages to rural microcredit as appropriate.

(iii) A draft fertilizer act was prepared in 2002, but could not be finalized due to dissolution of Parliament. However, we understand that the Ministry of Agriculture and Cooperatives (MOAC) is planning to set up a new committee to review the draft and forward it to Cabinet for discussion. Then, it would have to go to the Royal Palace for enactment as an ordinance. However, given the present political uncertainty in Nepal, MOAC cannot provide a timeframe to complete the process.

(iv) The National Food Cooperation (NFC) and the Agriculture Inputs Corporation have been reformed or restructured over the past several years, entailing downsizing of their staff by 34% in total. Food distribution by NFC is now operational only in remote hill or mountain districts. Although further downsizing of staff is planned, this has not been possible during the past two years due to the shortage of Government budget for staff compensation.

(v) There has been no further progress in the area of obsolete pesticide disposal. The Government has not been able to find donor assistance to dispose of pesticides, as was envisioned at the time of the PCR.

(vi) Monitoring of agriculture sector performance, as recommended by the Agriculture Sector Performance Review (TA 3536-NEP) and the PCR, is underway with assistance from the DFID-financed Agriculture Perspective Plan (APP) support program.

(vii) Lastly, we would like to embellish the discussion in para. 34 of the PPAR about what we view as one of the major achievements of the Project: withdrawal of the capital cost subsidy on shallow tubewells (STW). The Government appears committed to sustain this reform, although some politicians and bureaucrats still support such subsidies to agriculture. Implementation of the Community Groundwater Irrigation Sector Project (CGISP: Loan 1609-NEP) is proceeding well, and will provide a sound basis for the follow-on Decentralized Community-Based Water Management Project. The STW subsidy is not an issue at the district/farm levels. The Executing Agency is confident of achieving this year's target of 3,000 STW Installations. Based on 2004 data, the average cost per STW (including installation) had decreased by more than one-third (from NRs55,000 during the subsidy regime to NRs35,000 late last year) because of the much wider range of options available to farmers (capacity, brand, diesel versus electric motors, and so on) due to the deregulation of the STW trade. Thus, we are confident that the zero subsidy policy is working and can be sustained in the future. Moreover, CGISP is being implemented in a highly participatory and pro-poor manner; thus, the effect of the insurgency on the project's implementation has so far been minimal.