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The Cost of Redistributive Land Reform in the Philippines: Assessment of PD 27 and RA 6657 (CARL)

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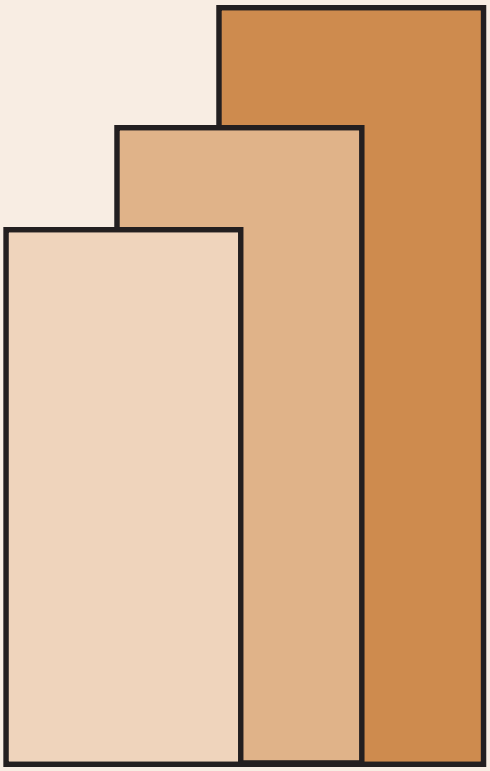

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Discussion Paper
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The Cost of Redistributive Land Reform in the Philippines: Assessment of PD27 and RA6657 (CARL)[1]

M. Ballesteros[2]

Abstract: This paper examines the cost of implementing redistributive land reform in the Philippines. Land redistribution has become the core feature of land reform in the country since 1972 with the approval of Presidential Decree 27. The coverage of the program was expanded to all agricultural lands under RA 6657 or CARL of 1988. Consequently, funding for land reform increased significantly as government chose to fully subsidize land acquisition, distribution and transfers. From 1972 to 2008, the cost to implement the program has been rising in real terms both in absolute and relative values. The substantial increases in unit cost have been traced to administrative expense and compensation to landowners. Landowners' compensation (LOC) is a major cost item specifically as land reform shifted from a confiscatory scheme to market land valuation. But the impact of market valuation has not been reflected in the initial years of CARP. It appears that most lands acquired in the early years of CARP are marginal lands thus the lower valuation compared to PD 27 which covered mostly irrigated lands with yields higher than average. The impact of market valuation on LOC has been felt in Phase II of CARP when the program started covering lands planted to higher value crops. Overtime, land reform has become a major burden to taxpayers and fully subsidizing the program is not tenable due to fiscal constraints and a growing consensus among scholars that land reform as a strategy to agriculture development has become passé. These same issues are likely to face the extension of CARP in the next five years. Government has to seriously consider alternative ways to land redistribution and alternative programs to achieve land equity and poverty reduction. The paper suggests the following strategies: (1) facilitate negotiated land reform specifically for high value crops; (2) a leaner and rationalized DAR bureaucracy; and (3) effective land tax policy.

Key words: land reform, Philippines, public expenditure

I. Introduction

Land reform in the Philippines traces its history at the beginning of the 20th century. However, redistributive land reform which mandated landownership ceiling on agricultural lands and distribution of lands in excess of the ceiling to tenants became the core feature of the program only in the 1970s. The main laws that governed this strategy are Presidential Decree

[1] This paper is a product of the research project on "Monitoring and Evaluation of Agricultural Policies Capacity Development Project (MEAP-CDP), joint Project of the World Bank Office Manila and the Philippine Institute for Development Studies (PIDS).

[2] Research Fellow, PIDS. The paper benefited from the comments and author's discussions with Cristina David, visiting economist at PIDS and lead person of the MEAP Project. The usual caveat applies.

27 of 1972 and Republic Act 6657 or the Comprehensive Agrarian Reform Law (CARL) of 1988. Both laws implemented a nationwide land reform program but PD 27 covers only rice and corn farms while CARL expanded coverage to all agriculture lands and included beneficiary development as another component of land program.

Since the enactment of PD 27 and CARL, land redistribution has become a strategy for equity and poverty alleviation. It is however the most contentious social program to date due to inefficiencies in its implementation. The long delay in the completion of the program has marginalized the impact on social welfare. There is now a growing consensus that the effectiveness of this strategy has been overtaken by events as agriculture's share in the national economy declined and as globalization compels the government to focus on strategies that will foster agriculture productivity and hasten rural diversification (Balisacan 2010).

However, the approval of the program's extension to another five years is rationalized on grounds that land redistribution has been incomplete, that is, the program failed to redistribute the "critical" or productive lands which could have resulted in net positive social impact.[3] The Department of Agrarian Reform (DAR), which administers the program estimates that about 1.337 million hectares of these private agriculture lands remain for distribution.[4] It is envisioned that land redistribution could finally be completed within the extension phase. But this would depend on the extent to which the government can finance the program. The cost to redistribute the balance is expected to be higher as DAR would now cover lands with heavy capital investments and are utilized for non-traditional or higher value crops.

It is important to point out that the success of land reform is positively correlated to easing the cost burden to taxpayers. The Korean and Taiwan land reforms succeeded because these countries deliberately reduced the fiscal burden through policies that limited land compensation and lessen administrative costs of the program (Iyer and Maurer 2009). Land redistribution thus was implemented quickly avoiding bureaucratic inertia and uncertainties often associated with long running land reform programs.

[3] The "underprovision" of extension services required to make the farmers economically viable was also used to rationalize support for the program. The heart of CARP is however land redistribution and extension support to farmers is provided not only by DAR but other agencies as well thus it can be provided even without land redistribution.

[4] Department of Agrarian Reform Inventory of CARP Scope as of 2006.

Historically, the progress of land redistribution in the country had been extremely slow. This has been attributed to the high cost of implementing the program (Iyer and Maurer 2009). The fiscal constraint specifically has prevented the Philippine government from subsidizing land reform to a greater extent and this same issue is expected to work against the completion of the program specifically as no major changes in the operational rules of redistribution were provided under the "new" law. A budget of P150 billion has been earmarked for the extension phase from 2009 to 2014. About 40% of this budget will be used for beneficiaries development which leaves P90 billion for land acquisition and distribution. This budget imply an average cost of P67,000 per hectare for the remaining lands to be acquired. Definitely too low given average land valuation of P113,000 per hectare as of 2008. Moreover, this budget will be used not only to acquire the remaining "critical" lands but also to subsidize the cost of land transfer to tenants and to complete the documentation process to beneficiaries issued collective titles.

The extent to which government can support land redistribution and reduce cost of implementation is critical in the extension phase. So far, studies on the financial aspect of land reform have been limited to estimating fund requirement of the program while other studies focused on assessment of accomplishments and impact analysis. The present paper aims to assess the cost of implementing land reform and recommend strategies to minimize cost and improve on program effectiveness.

The discussion is organized as follows: Section II provides a historical account of land reform programs in the country from 1900s onwards specifically highlighting the evolution of interventions. The next section discusses trends in government spending on land reform covering the period 1972 to 2008 which corresponds to the implementation of PD 27 and CARL. Section IV estimates expenditure by land reform programs and compares the average costs of implementing land redistribution under PD 27 and CARP. Section V estimates the value of subsidies to beneficiaries and the last section presents the summary of results and recommendations.

II. Overview of Philippine Land Reform Policy

Land reform has been a major policy intervention in the Philippines as early as the 1900s. It was facilitated by the Americans in 1902 mainly to address the growing insurgency problems caused by the excesses of the friars, who controlled most agricultural estates under

the Spanish rule. The Friars Land Act ushered in redistributive land reform but was confined to large estates mostly owned by the Catholic Church. This Act adopted a market-oriented land reform policy partly influenced by the international treaties that governed colonial nations at that time. In particular, the Treaty of Paris mandated the "protection over the property rights of the Spanish in colonized countries specifically including ecclesiastical bodies" thus the purchase of Friar lands required the payment of "just compensation" (Iyer and Maurer 2009 p.11). This valuation method implied that the landowner is entitled to full compensation which would include compensation for improvements made on the estate and other capital expenditures (e.g. sugar mills, railroads). It also meant that the purchase price for the land would be higher than the annual income from production. For instance, the American colonial government paid a price of US$6.9 million for 170,916 hectares of friar lands.[5] The estimated annual income from the land is not more than US$225,000, which meant that the sale price represented more than 26 times income (Iyer and Maurer 2009 p 13). The insular government issued bonds to raise this money and these bonds were guaranteed not by American taxpayers' money but by revenues from the government of the Philippines.

Also, the American government chose not to subsidize the land and administrative costs of the program. The land price paid by the tenant or purchaser was dependent on the prevailing price at the time of redistribution or purchase. The tenant or purchaser also pays for the cost of surveying and any administrative expenses including registration fees. To support land purchase, government loaned to farmers the land cost at lower-than-market interest rates. It was apparent then that the American government tried to reduce the fiscal cost of the program but this policy limited access to those who could afford to pay the purchase price.

The Friars Land Act has influenced subsequent land redistribution policies in the country as evident from the land reform laws that followed (Table 1). Under Republic Act 1400 of 1955 and Republic Act 3844 of 1963, redistributive land reform was confined to specific estates and land prices both for valuation and transfers to tenants followed market principles. The acquisition of landed estates was not confiscatory but voluntary on the part of the landowner or selective based on request by a majority of the tenants (i.e., at least 1/3 of tenants). The acquisition process was undertaken through expropriation proceedings by the Courts which determined the valuation of the land based on the principle of "just compensation".

[5] In 1903, 1US$ = P2.00.

Table 1. Comparative Policies on Redistributive Land Reform, 1900s-1990s

	1900s	1950s	1960s	1970s	1990s
Legal Basis	Friars Land Act of 1902	Land Reform Act (RA 1400 of 1955),	Land Reform Code (RA 3844 of 1963)	Emancipation of Rice/Corn Tenant Farmers (PD 27 of 1972)	Comprehensive Agrarian Reform Law (RA 6657 of 1988)
Coverage	Friar Lands	Selective based on Sanggunian recommendation	Selective based on Sanggunian recommendation	Mandatory for all Rice and Corn Lands	Mandatory for all Private & Public Agricultural Lands*
Land ownership Ceiling	600 Ha (indl) 1024 Ha(corp)	300 Ha (indl) 600 Ha (corp)	75 hectares	7 hectares	5 hectares
Maximum Size/Beneficiary	16 hectares	6 hectares	3 hectares	3 hectares	3 hectares
Mode of Land Acquisition	Expropriation	Expropriation	Expropriation	Confiscatory	CA, VOS, VLT
Valuation Method	Fair Market Value	Fair Market Value	Fair Market Value	Average Annual Gross Production(AGP) x 2.5	Fair Market Value
Subsidy Component	Credit subsidy	Credit subsidy	Credit subsidy	•land processing & transfer costs •credit subsidy •land cost (transfer from landowner)	•land processing & transfer costs •credit subsidy •land ammortization subsidy
Implementing Agency	Bureau of Public Lands	Land Tenure Administration	Land Authority	Department of Agrarian Reform	Department of Agrarian Reform

Note:

CA= Compulsory Acquisition
VOS= Voluntary Offer to Sell
VLT= Voluntary Land Transfer
*exclude aquaculture and livestock farms

The earlier land reform laws paid greater attention on tenancy reforms primarily the regulation of landlord tenant contracts and abolition of tenancy. Land redistribution was not prioritized because resettlement on public agricultural lands was considered an alternative to redistributive land reform. In the early years, Philippine frontier land was extensive and government chose to finance the opening up of these lands for farming rather than redistribute

existing private agricultural estates. The resettlement program was heavily subsidized (James 1979). Government financed the settlers' migration to resettlement sites including housing, farm implements, seed, work animals, health care, and food on a no-interest, long-term loan basis. Government expenditure amounted to about P449 million for the period 1954-1963 (James 1979 p.16). On the other hand, government budget on land redistribution in the 1950s to 1960s was nil. The Land Reform Act of 1955 had a budget of only P300,000 total for land acquisition from 1955 to 1962. The Land Reform Code of 1963 also had a budget of less than P1M for four years (Putzel 1990 p 122).

The tenancy situation was not also considered critical in the country at that time (Putzell, 1990 p. 122). It was believed that as long as the tenancy rate was kept below 60% of agriculture population, the tenancy condition is not critical. The Census of Agriculture in 1918 showed that the fraction of cultivated land under share tenancy and labor tenancy amounted to only 19%. While this proportion increased to 30% in 1960, tenancy rate was still way below the critical level. Moreover, government increased expenditure on credit, technology and marketing had raised productivity to a significant level without challenging existing property structure.

In the early 1970s, a radical departure from the earlier land reform policies was undertaken. The Marcos administration issued Presidential Decree 27 (PD 27) in 1972 to provide for a national and confiscatory land reform program. Ownership ceiling was pegged to 7 hectares per individual, a significant fall from the 75-hectare ceiling in the 1960s. The law potentially placed the bulk of agriculture lands under land reform except that the coverage of PD27 was limited to rice and corn farmlands. Plantations and sugar lands thus were protected from the program. The land valuation formula was also a radical change from the past. Landowners' compensation was capped to 2.5 times the annual yield similar to Taiwan's compensation formula in the 1950s.[6] This action significantly lowered the cost of landowners' compensation. On the other hand, government chose to subsidize the administrative costs of the program by assuming the costs of land surveys, subdivisions including registration and attorney's fees. The program had positive effects as land redistribution moved at a fast pace in the initial years specifically in some regions (e.g. Region 3) (Hayami, Adriano and Quisumbing, 1990). But in the later years, the program succumbed to bureaucratic inertia possibly due to dwindling funds and legal battles usually with landowners that challenged the valuation of their

[6] The Korean and Japanese land reforms used a compensation factor of 1.25 times and 7 times the annual yield, respectively (Iyer and Maurer 2009).

lands. PD 27 was not completed within 10 years and was soon taken over by events as the Marcos government was unseated as President of the Philippine Republic by the People's Power Revolution in 1986.

The enactment of the Comprehensive Agrarian Reform Law (CARL) was a response to a new political order. The People's Revolution that installed the Aquino government, led to the rise of the grassroots and non-government organizations as major players in Philippine politics. However, the Aquino government had also the support of the elite since Aquino herself belonged to the landed families. The framers of the law under Aquino combined both liberal and conservative policies on land reform. The Comprehensive Agrarian Reform Law (CARL) of 1987 expanded coverage to all agricultural lands but it also promoted market-oriented policies. The law provided for the inclusion of voluntary modes of transfers by landowners and applied just compensation in the valuation of land. The adoption of "just compensation" was said to be consistent with the Bill of Rights of the Philippine Constitutions of 1970 and 1987; therefore, the confiscatory scheme of PD 27 was considered unconstitutional. The government retained the subsidy on credit and the administrative costs of land transfer to farmers. The land reform program under CARL is also referred to as the Comprehensive Agrarian Reform Program (CARP) because of the inclusion of beneficiary support services to the land redistribution program.

The CARL has also altered the institutional arrangement in the implementation of the land reform program (Table 2). The implementation of PD 27 was presided over by the Philippine President and administered mainly by the DAR while CARP is governed by a Presidential Agrarian Reform Council or PARC which is headed by the President with the heads of implementing agencies and private sector representatives as members. DAR acts as the PARC Secretariat and co-administers land redistribution with the DENR which takes charge of the subdivision and distribution of public lands. In particular, the DAR bureaucracy has been expanded to include an Adjudication Board to handle the delivery of agrarian justice in lieu of the special agrarian courts attached to the Department of Justice under PD 27.

It was envisioned that with these institutional changes, land redistribution would be fast tracked and completed within a period of ten years from 1987 to 1997. However, did this not happen and CARP was extended for another ten years (1998 to 2008). Recently, Congress has approved another extension of the program from 2009 to June 2014. The new Act (RA 9700 of

2009) calls for the strengthening of the CARP primarily through the infusion of additional funding of P150 billion for the next five years. The enabling rules on coverage, acquisition, distribution and land valuation are practically the same as CARL.

Table 2. Institutional Arrangement in the Implementation of Land Reform Programs, PD 27 and CARP

Agency	Function	
	PD 27 ***1972-1987***	***CARP*** ***1988-2008***
I. Governing Body	Office of the President	Presidential Agrarian Reform Council
II. Land Acquisition and Distribution Component		
DAR	● Land Acquisiton, Distribution and Development	● Land mapping and survey
	● Land Valuation	● Generation and distribution of EPs and CLOAs
	● Generation and distribution of CLTs	● Legal assistance and adjudication cases
	● Agrarian legal assistance	● PARC Secretariat
LBP	● Financing and/or guaranteeing the acquisition of farm lots	● Financing and/or guaranteeing the acquisition of farm lots
	● Issuing bonds, debentures, securities and collaterals	● Land Valuation
	● Granting of short, medium and long-term loans and advances	● Issuing bonds, debentures, securities and collaterals
	● Granting of loans to farmers' cooperatives/associations	● Granting of short, medium and long-term loans and advances
		● Granting of loans to farmers' cooperatives/associations
DENR	● Defraying the cost of subdivision survey	● Land survey and approval of surveys
	● Undertaking the subdivision survey of the land, including the preparation of the plan.	● Processing and issuance of patent/CSC inventory of public A and D lands
		● Reconstitution of lost/damaged survey
		● Inventory of forest occupants
		● Public information and education campaign
LRA		● Registration and titling of EPs, CLOAs and Free Patents (FPs)
DOJ	● Adjudication of agrarian cases	
	● Legal assistance to Agricultural Lessess	
III. Program Beneficiaries Development Component		

DAR		● Training of CARP beneficiaries
		● Development of peasant fund
		● Construction of roads, bridges and multi-purpose pavements in coordination with DPWH
NIA		● Construction of communal irrigation systems
		● Rehabilitation of national irrigation systems
		● Involved in training activities alongside those of DAR, DA, NIA, DTI and DOLE.
DPWH		● Construction of multi-purpose Small Water Impounding Dams
		● Provision of Level I water supply systems for beneficaries
		● Construction of new roads and multi-purpose pavements
		● Improvement of feeder roads
DTI		● Conduct of training on management and entrepreneurship
		● Provision of marketing assistance for farmer-beneficiaries, landowners, associations and cooperatives
		● Credit and extension program
DOLE		● Conduct of training on organizational strengthening and development
DA	● Support services and development of agriculture for both beneficiaries & non-beneficiaries of agrarian reform	● Conduct of training
		● Provision of techinical and marketing assistance
		● Provision of dispersal activities
		● Infrastructure support
TLRC		● Provision of special livelihood projects for beneficiaries

Source: DAR, PD 27 Implementing Rules and Regulations

III. Trends in Public Expenditure on Land Reform, 1972 to 2008

The implementation of a nationwide and redistributive land reform starting 1972 consequently increased government spending on the program compared to the early years. Between 1972 and 2008, government expenditure on land reform amounted to a total of P 289

billion in 2007 prices (Table 3).[7] Expenditure more than doubled in the periods 1988 to 1997 and 1998 to 2008 due to the expansion of the program to beneficiaries' development. During the said periods, beneficiary development programs account for 36% and 13% of actual expenditure in the first and second phase of CARP, respectively. Considering land redistribution or the land acquisition and distribution (LAD) component alone, government spending in real terms is also higher in 1988 to 2008. Note that these figures simply reflect increasing government spending on land reform but do not imply cost effectiveness of PD 27 over CARP since annual expenditures as reported in government accounting system do not distinguish expenditures by land reform programs.[8]

Table 3. Public Expenditure on Land Reform Programs by Policy Instrument in 10-year periods (PM 2007 Prices)

Period	LOC	LPC	AJD	Total LAD	PBD	Row Total
1972-1982	7,496.86	41,943.29	2,456.41	51,896.56	-	51,896.56
	(14.5)	(80.8)	(4.7)	(100)	-	(100)
1983-1987	2,614.51	7,783.94	-	10,558.79	-	10,558.79
	(25.1)	(74.9)	-	(100)	-	(100)
1988-1997	26,261.94	45,224.70	560.61	72,261.82	40,972.51	113,234.33
	(23.3)	(40.0)	(0.5)	(63.8)	(36.2)	(100)
1998-2008	44,874.71	52,345.00	1,299.69	98,519.39	15,028.89	113,548.28
	(39.5)	(46.1)	(1.1)	(86.8)	(13.2)	(100)
Column Total	81,248.01	147,296.93	4,316.70	233,236.57	56,001.39	289,237.96
	(28.1)	(51.0)	(1.5)	(80.6)	(19.4)	(100)

Source: BESF, PARC
Note:

***LOC**: landowners' compensation includes cash portion + interest on bonds + redeemed bonds*
***LPC**: land processing support such as land survey, titling and other LAD related activities including LAD Operational Support*
***AJD**: agrarian justice delivery has two features: the agrarian legal assistance and adjudication of cases*
***PBD**: is the beneficiary support services component of CARP*
***Total LAD**: LOC + LPC + AJD*
***-** : Negligible*
***( )**: figures in parentheses refer to % to row total*

LAD gets the bulk of the budget which is apportioned to three policy instruments namely: landowner's compensation (LOC), land processing and agrarian justice delivery.

- LOC = refers to the activities undertaken by the Land Bank to determine the appropriate compensation to private landowners covered by land reform. The

[7] Based on actual expenditures or obligations incurred by land reform implementing agencies.
[8] Although CARL repealed PD27, land redistribution in the latter has not been completed and activities to complete the program are included in the budget and accomplishments of the CARP.

compensation to landowners is paid in cash and bonds which are redeemed yearly up to the 10th year. The annual expenditure on LOC includes the cash portion of compensation to landowners approved by the LBP; the payment for the redeemed portion of the bonds and the interest payments on compensation.

- Land Processing = refers to activities undertaken by DAR, DENR and LRA to identify, acquire and redistribute lands covered by land reform including beneficiary identification and land transfers to beneficiaries. The annual expenditure covers costs of land surveys, land subdivision, generation and registration of titles and other LAD related activities such as land inventory, information campaign and operational support
- Agrarian Justice Delivery = refers to the legal and adjudication support to implement land redistribution. DAR provides the legal assistance and handles cases involving agrarian conflicts. Prior to CARL, adjudication cases were handled by special courts attached to the Department of Justice. Although DAR has now an Adjudication Board, not all agrarian conflicts are settled through this system. The presence of the Board does not also preclude settlement of agrarian conflicts in the regular courts.

Land processing and LOC are the major cost component of LAD. The expenditure on land processing accounts for 63 % of total LAD expenditure and 50 % of total program cost. On the other hand, between 1988 and 2008, 45 % of total LAD expenditure is LOC. The low expenditure on LOC in the 1970s to 1980s is due to the non-payment of landowners' compensation in those years. PD 27 which was the enabling law at that time was confiscatory and land redistribution was undertaken despite non-documentation and non-processing of landowner's compensation. The implementation of PD 27 has been saddled with conflicts specifically between the State and landowners and thus LOC was extremely slow. Even after 2008, some lands covered by PD27 have yet to be acquired or documented.

Expenditure on agrarian justice, on the average, is only less than 2% of total land reform costs. The proportion in the 1970s is higher possibly due to the confiscatory process of land redistribution. However, this amount could be understated for all periods because it does not account for expenditures on agrarian cases brought to the regular courts including the Court of Appeals and the Supreme Court. For instance, the regular courts have the jurisdiction for cases relating to landowners compensation and criminal cases arising from the implementation of the

program (Leonen 2007). Also, land conflicts which are agrarian related can be directly filed in the regular courts such as disputes between putative landowners that delay or affect the implementation of any part of the agrarian reform program or disputes involving participants in the agrarian reform program and third parties. The expenditure on agrarian justice from land reform implementing agencies thus does not fully reflect the magnitude of conflict arising from land redistribution.

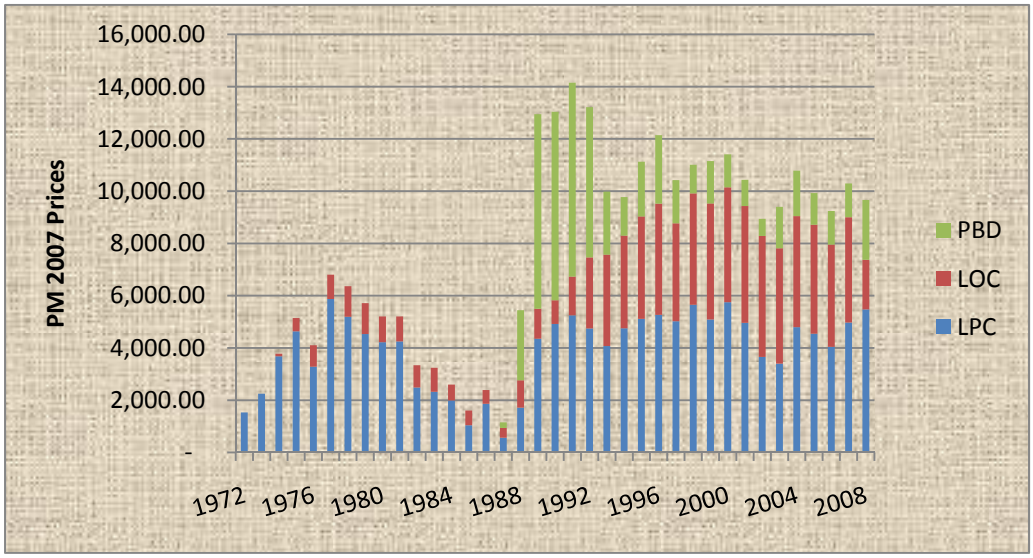

Figure 1 . Trends in Agrarian Reform Expenditure by Policy Instrument (PM 2007 Prices)

Compared to GDP, total expenditure on LAD is only less than 1% of GDP from 1972 to 2008. The average is 0.12% from 1972 to 1987 and 0.17% from 1988 to 2008 (Figure 2). This proportion remains below the 1% mark even when expenditure for beneficiary development under CARP is considered. The allocation of budget to the program though has not been consistent overtime. The percentage share of land reform expenditure to GDP ranges from low of 0.06 to a high of 0.40 percent. The percent share was highest in the years 1989 to 1997 primarily due to additional budget for beneficiary development programs. However, for both beneficiary program and LAD, the proportion of expenditure on land reform to GDP has been on a downward trend after 1998.

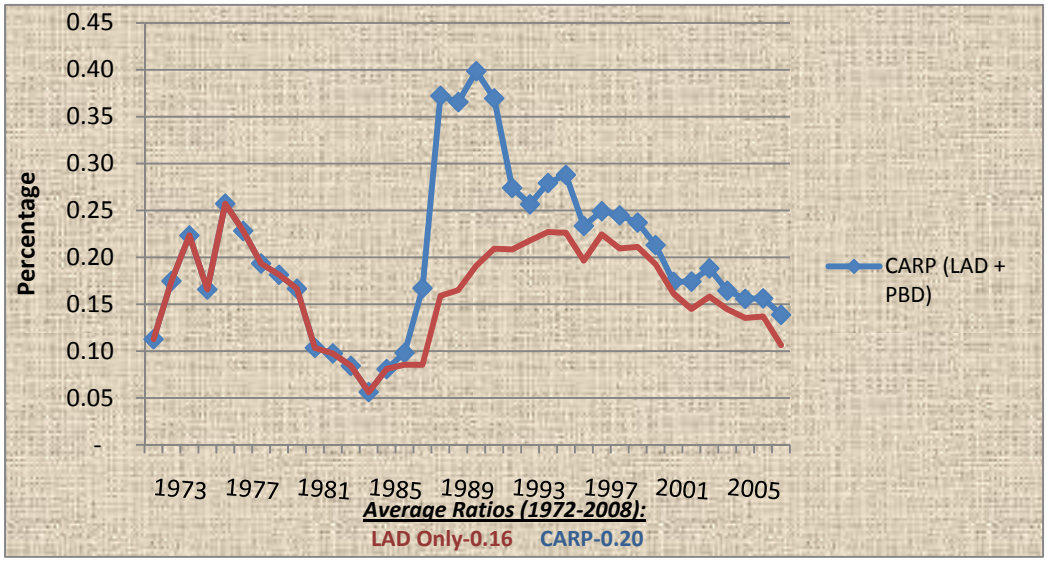

Figure 2. Percent Public Expenditure on Land Reform to GDP, 1973-2008

The budget for land reform has been sourced from both general appropriations and the Agrarian Reform Fund (ARF). For PD 27, the program was funded solely from annual appropriations thus it had to compete with other programs of government. PD 27 was implemented under a Martial Law regime and in the initial years of the program, land reform appropriations were relatively high. Towards the end of the Marcos government, funding for the program declined significantly due to both fiscal and political constraints during the period.

The ARF, on the other hand is a special fund created with the sole purpose of financing activities of CARP. The fund is sourced mainly from proceeds of the privatization of government assets by the Assets Privatization Trust (APT) or Privatization Management Office and receipts from sale of assets recovered by the Presidential Commission on Good Government (PCGG) from ill-gotten wealth. The fund is augmented by general appropriations when proceeds from APT and PCGG are low.

The trend in the percent share of agrarian reform to GDP under CARP moves in the same pattern as the availability of funding from the ARF. In the early years of the program, remittances from APT and PCGG were consistently high (Table 4). However, as funds from these sources dwindled, the percent expenditure to GDP also declined. By 1998 to 2003, the program had to rely solely on general appropriations (GAA). It had to compete with other sectors and programs for financing and as shown, the proportion declined further from an

average of 0.21 percent in 1989 to 2000 to an average of 0.13% in 2006 to 2009. The expenditure for beneficiaries' development also remained low at 0.02% for the same period.

Table 4. ARF Sources of Funds, 1987-2008 (PM)

Year	APT/PMO		PCGG		Other Sources [2]		GAA Augmentation		Total
Total	30,035 [1]	(18%)	74,545	(44%)	7,902	(5%)	55,997	(33%)	168,479
1987	1,193	(100%)	-	-	-	-	-	-	1,193
1988	5,015	(78%)	1,337	(21%)	71	(1%)	-	-	6,423
1989	3,897	(73%)	345	(7%)	1,064	(20%)	-	-	5,306
1990	3,498	(56%)	797	(13%)	1,939	(31%)	-	-	6,234
1991	3,378	(70%)	681	(14%)	794	(16%)	-	-	4,853
1992	1,602	(56%)	205	(7%)	1,067	(37%)	-	-	2,874
1993	1,323	(55%)	144	(6%)	946	(39%)	-	-	2,413
1994	1,821	(11%)	15,132	(89%)	-	-	-	-	16,953
1995	1,007	(60%)	670	(40%)	-	-	-	-	1,677
1996	482	(62%)	290	(38%)	-	-	-	-	772
1997	396	(39.6%)	227	(22.7%)	1	(0.1%)	376	(38%)	1,000
1998	-	-	1,143	(14%)	261	(3%)	6,684	(83%)	8,070
1999	129	(2%)	382	(5%)	177	(2%)	7,124	(91%)	7,812
2000	822	(9.4%)	36	(.41%)	6	(.07%)	7,878	(90.1%)	8,742
2001	68	(1%)	498	(5%)	-	-	8,932	(94%)	9,498
2002	644	(7%)	165	(2%)	-	-	9,050	(92%)	9,859
2003	219	(3%)	117	(1%)	148	(2%)	7,403	(94%)	7,887
2004	149	(1%)	8,971	(49%)	672	(4%)	8,549	(47%)	18,341
2005	123	(2%)	7,357	(96%)	212	(3%)	-	-	7,692
2006	176	(2%)	8,406	(95%)	258	(3%)	-	-	8,840
2007	14	(0.1%)	25,251	(98.8%)	286	(1.1%)	-	-	25,551
2008	3,985	(75%)	1,340	(25%)	-	(25%)	-	-	5,325

Source: PARC

Note:

( ) figures in parenthesis refer to % to total

[1] Net of custodianship expenses and other remittances credited to General Fund equivalent to 40% of sales proceeds, less Php18billion.

[2] Other sources- remittance from Landbank of the Philippines to the Bureau of Treasury on Agrarian Reform Loan(ARF credit program), Agrarian Reform Receivables(i.e. land amortization), Collection from Term Deposits

IV. The Cost of Land Redistribution by Program

While expenditure data is not categorized into land reform programs, it is possible to estimate cost by program based on DAR and Land Bank's accomplishment reports which identify outputs into PD 27 and CARP. From 1972 to 1986, the enabling law on land reform was

PD 27 thus expenditure data during this period can be attributed solely to the implementation of PD 27. The year 1987 was considered a transition period which laid the ground works for the approval of the CARL. Government spending from 1987 onwards would include both the expenditures for the completion of PD 27 program and the implementation of land redistribution based on CARL.

As mentioned earlier, the LAD component is the core component of the land reform or agrarian reform program. Government has so far acquired 2,327 hectares of private agricultural lands and 1,780 hectares of public agricultural lands and the distribution of these lands benefited a total of 2.4 million beneficiaries (Table 5).[9]

Table 5. Accomplishments of Land Redistribution Program, PD 27 and CARP (RA 6657).

	Area ('000 has.)					% Accomplishment*
	1972-1986	1987-2008			Working Scope (as of 2006)	
		Phase I	Phase II	Total		
Total	756	2,772	1,334	4,107	4,428	93%
Private Agricultural Lands	756	1,403	923	2,327	3,093	98%
OLT (CLT)	756	513	57	570	616	93%
GFI		127	38	165	243	68%
VOS		301	299	600	438	137%
CA		127	158	285	1,507	19%
VLT		335	372	707	288	245%
Public Lands	0	1,369	411	1,780	1,335	133%
Settlements	0	608	138	746	604	124%
Landed Estates	0	78	3	81	70	115%
GOL/KKK	0	683	269	952	661	144%

Note:
OLT is Operation Land Transfer; CLT is Certificate of Land Transfer; GFI is Government Financial Institutions; CA is Compulsary Acquisition; VLT is Voluntary Land Transfer, VOS is Voluntary Offer to Sell
* as % of DAR CARP Accomplishment(1987-2008)
1972-1986 accomplishment based on Ministry of Agrarian Reform data; 1987-2008 based on DAR CARP data
Phase I: 1987-1997; Phase II: 1998-2008

[9] For the average cost analysis, we consider mainly accomplishments in terms of area since beneficiaries' data can change overtime due to migration, subdivision and/or transfers undertaken by the beneficiaries themselves.

The accomplishments of PD 27 which covered mainly private lands were based on the number of CLTs printed and issued from 1972 to 1986. A total of 756,000 hectares were distributed of which 50% were outputs in the initial years of the program. The reported accomplishments under PD 27 and CARP are different due to differences in the definition of outputs. For PD 27 outputs were measured in terms of printed and distributed Certificate of Land Transfers (CLTs) while CARP records accomplishments based on titled and distributed lands. CLTs are not titles but award certificates which administratively take less time to prepare since it need not go through title registration process. The Operation Land Transfer (OLT) accomplishments reported under CARP are the lands covered by PD 27 that have been titled or issued Emancipation Patents (EPs). The initial years of CARP focused on the conversion of the CLTs into EPs.[10] There were very few titles or EPs generated under PD 27 since land titles were issued only after full payment of the land which would be after 15 years of loan amortization.[11]

On the other hand, the accomplishment of CARP excluding OLT accomplishments amount to 3.5 million hectares for the period 1987 to 2008. CARP accomplishments include both private lands and public resettlement areas. As of 2008, about 93% of targets have already been accomplished. However, the high accomplishment rate has been achieved by exceeding the targets for redistribution of public lands and private lands under voluntary schemes. Comparatively, the accomplishment of the program for compulsory acquisition (CA) which is perceived to cover the "critical" lands was dismal. CA accomplishment is only 19 % of scope and 12 % of total accomplishment on private lands.

Note that not all private lands acquired under CARP are compensable. The enabling law, i.e. CARL, provides compulsory and voluntary modes to acquire private lands. The compulsory modes are those that fall under the CA and GFI categories. CA are mainly private lands while GFIs are agricultural lands owned by government financial institutions (GFIs) which are required to be transferred to DAR for redistribution.[12] Both CA and GFI are compensable.

[10] We surmise based on Land Bank reports and DAR data that OLT accomplishments under CARP mainly involved the documentation and titling of lands redistributed prior to CARP.

[11] Lands distributed under CARL were issued Certificate of Land Ownership Awards or CLOA titles to distinguished it from EPs. CLOA titles maybe issued individually or collectively. CLOA Individual title are issued to specific person or juridical body while CLOA collective are issued to group of organized or unorganized beneficiaries which may be considered as individual beneficiaries.

[12] EO 407 of 1990. Prior to EO 407, EO 360 of 1989 simply granted to DAR first priority over these assets (right of first refusal) but under EO 407, the transfer of GFI assets to CARP has become compulsory.

The voluntary modes include: voluntary offer to sell (VOS) and voluntary land transfer (VLT). In VOS, the landowner voluntarily surrenders or offers his land for coverage with corresponding offer price on the land. This scheme reduces bargaining and delays usually caused by resistance or non-cooperation of landowners. In VLT or direct payment scheme the landowner directly transfers land to beneficiary based on a contract approved by the DAR. Payment is made directly by the beneficiary to the landowner. The scheme does not only reduce processing time but also frees government from payment of landowners' compensation.

Both VOS and VLT contributed substantially (1.3 million hectares) to total accomplishments of CARP on private lands. These schemes were encouraged to obtain "quick results at the least cost" but they have become avenues of unscrupulous deals. For instance, VOS had been used as cover up for land speculation (Putzell 1990; 315-316) while VLT was used by landowners to implicitly transfer land to their kin or heirs with government subsidizing the costs of land transfer (Borras 2005).

Government expenditure to achieve these outputs amounted to total of P81 billion for PD 27 and P154 billion for CARP in 2007 prices (Table 6). The expenditure for PD 27 refers to the accumulated expenditures from 1972 to 2008 while CARP expenditure covers the period 1987 to 2008 excluding the amount spent for lands under OLT or PD 27 (refer to Annex A for the annual break down in current prices).

Table 6. LAD Expenditure by Land Reform Program (PM in 2007 Prices)

	PD 27	**CARP (**w/out OLT**)**		
		Total	Phase I	Phase II
LOC	22,987.41	74,045.49	27,562.72	46,482.77
	(28.3)	(48.1)	(46.4)	(49.2)
LPC	55,680.67	78,074.47	31,361.25	46,713.22
	(68.5)	(50.8)	(52.8)	(49.5)
without title(1972-1986)	49,163.44	-	-	-
titling of CLTs(1987-2008)	6,517.23	-	-	-
AJD	2,646.89	1,669.82	418.28	1,251.54
	(3.2)	(1.1)	(0.8)	(1.3)
Total LPC + AJD	58,327.55	79,744.29	31,779.53	47,964.76
Total ALL	81,314.97	153,789.77	59,342.25	94,447.53

Source: BESF, PARC

( ) figure in parentheses refer to % to total by program

For both programs, the bulk of expenditure in absolute terms is on land processing. Land processing cost amounted in real terms to P56 billion for PD 27 and P78 billion for CARP. The higher CARP expenditure is expected due to higher outputs of the program. Also, the additional activities and agencies in the implementation of LAD may have increased the cost of land processing. In particular, DAR has to conduct land inventory as part of its monitoring function. The land inventory can be costly due to poor landownership information in the country and this cost is expected to have gone up with the prevalence of informal transactions in rural land markets.

Another possible reason for high processing cost is the expanded roles of DENR and LRA in CARP. The inclusion of public lands in the coverage of CARP requires DENR as the custodian of public lands to co-implement the program. LRA with the regional Register of Deeds have also taken a prominent role in LAD since titles have to be issued to beneficiaries upon distribution. LRA is also mandated to lend support to CARP on cases involving problems on titles such as lost titles, fake or double titles.

LRA has a limited role in PD 27 since outputs did not require land titling. The expenditure on generation and registration of EPs was incurred after 1986 with the issuance of Executive Order 228 of 1987 that declared the beneficiaries of PD 27 as full owners and the conversion of their CLTs into titles registered with the Register of Deeds. The period 1972 to 1986 thus reflects primarily the expenditure on land surveys and subdivision costs while the period 1987 to 2008 reflects expenditure on land titling and registration. The land processing cost prior to 1987 amounts to total of P49 million in real terms while total cost of titling and registration based on the expenditure attributed to PD 27 for the period 1987 to 2008 amounts to P6.5 billion in 2007 prices.

Landowners' compensation (LOC) is another major expenditure item. It accounts for 28% of the total cost of PD 27 and 50% of total CARP expenditure. The method of land valuation method affects LOC. As mentioned earlier, PD 27 is based on a confiscatory valuation while CARP uses "fair market value" approach. A higher LOC is thus expected for CARP. On the other hand, considering the higher outputs of CARP, the difference in LOC of CARP and PD 27 is not much. The LOC expenditure on PD 27 corresponds to only 421,398 hectares compared to 1.0 million hectares for CARP. Comparatively, the LOC approval for PD

27 has been slow. Based on Land Bank LOC records, only 56% or of the recorded outputs of PD 27 have been processed and approved by the Land Bank for compensation compared to 100% of the compensable lands under CARP (Annex B).[13]

The "quality" of land approved for LOC also affects land valuation. For agricultural lands, the quality of land is defined primarily by productivity which also reflects the land type and its terrain. Irrigated lands and low land areas would have higher agricultural productivity compared to non-irrigated and upland areas. While PD 27 and CARP have different valuation method, the latter gives higher weight on productivity than other factors.

Table 7. Average Cost of LAD by Policy Instrument and by Program (PM in 2007 Prices)

A. Average Cost per Year				
	PD 27	**CARP(w/o OLT)**		
		ALL	*I*	*II*
LOC	621.28	3,525.98	2,756.27	4,225.71
LPC	3,561.16	3,717.83	3,136.12	4,246.66
without title(1972-1986)	3,277.56			
titling of CLTs(1987-2008)	283.60			
AJD	71.54	79.52	41.83	113.78
Legal Assistance	13.55	35.33	41.77	29.48
Adjudication	57.99	44.18	0.06	84.30
B. Average Cost per Hectare				
LOC [a]	54,550.37	70,175.18	46,955.07	99,290.33
LPC	76,304.60	22,426.54	14,231.48	36,560.68
*without title(1972-1986)**	65,062.85			
*titling of CLTs(1987-2008)***	11,241.75			
AJD [b]	3,502.89	1,888.31	977.61	2,741.98
Legal Assistance	663.31	839.04	976.22	710.45
Adjudication	2,839.58	1,049.27	1.40	2,031.54

Source: BESF, ARF, DAR Accomplishments

[a] Based on LBP approved area of Landowners Compensation

[b] PD 27: Average cost of AJD based on Total Accomplishments
CARP: Average cost of AJD based on CA,VOS Accomplishments

* accomplishment based on CLTS

** accomplishment based on EPs (or CARP OLTs)

Table 7 presents unit cost per hectare to further assess cost efficiency of the programs. In general, the implementation of CARP has been more cost efficient than PD 27 based on the

[13] The slow processing is due mainly to disagreements on manner of valuation (including that of area to be compensated) and the inability of government to obtain landowners' compliance to requirements.

cost of land processing. Land processing cost for PD 27, in real terms, amounts to P74,000 per hectare of land redistributed. Comparatively, LPC for CARP is only about P22,000 per hectare. The high cost for PD 27 is attributed to the period 1972 to 1986. The cost to process land redistribution during the period amounted to P63,000 per hectare while the cost to complete documentation and titling of these lands amounted to P11,400 per hectare. However, the high cost from 1972 to 1986 is due to capital expenditures and expenditures from agrarian support services at the Office of the DAR Secretary (Table 8). These expenditures account for more than 85% of total land processing cost. On the other hand, expenditures from offices directly involved with land acquisition and distribution as well as tenure improvement show unit cost much lower than that of CARP. This minimal cost is probable since land reform under the program has not been implemented to the fullest. However, due to the absence of detailed information on the budget, the cost comparison between PD 27 and CARP is inconclusive.

Table 8. Land Processing and other LAD Activity Expenditure (PM in 2007 Prices)

	Total 1972-1986 (PM)	%	Average Cost/ha
PD 27	*32,145.563*		
Office of the Secretary	31,066.326	96.64	41,093.02
General Administration and Staff Services	1,329.884	4.14	1,759.11
Field Operations	734.620	2.29	971.72
Capital Improvements and Assistance	14,528.065	45.19	19,217.02
Agrarian Reform Services	13,250.700	41.22	17,527.38
Policy Formulation, Program Planning and Standards Development for Agrarian Reform Services	1,223.055	3.80	1,617.80
Bureau of Resettlement	194.539	0.61	257.33
Bureau of Land Acquisiton, Distribution and Development	730.111	2.27	965.75
Bureau of Farm Management	32.821	0.10	43.41
Bureau of Land Tenure Improvement	102.089	0.32	135.04
Fiduciary Fund	19.678	0.06	26.03

	Phase I (PM)	% to Total LPC	Average Cost/ha	Phase II (PM)	% to Total LPC	Average Cost/ha
CARP (w/out OLT)	*35,806.61*			*50,080.85*		
Land Survey						
DAR	2,892.17	8.08	1,312.44	2,827.63	5.65	2,213.08
DENR	801.19	2.24		1,035.30	2.07	338.75
Inspection, Verification & Approval of Land Surveys (DENR)	247.26	0.69		130.88	0.26	42.82
CLOA Generation & Distribution (DAR)	4,098.55	11.45	1,859.89	3,893.26	7.77	3,047.11
Patent/CSC Processing &Issuance (DENR)	752.09	2.10		816.02	1.63	267.00
Inventory of Public A & D Lands (DENR)	180.08	0.50		-	-	-
Registration/Titling (LRA)	166.49	0.46	75.55	197.15	0.39	154.30
Other LAD Related activities	211.07	0.59	95.78	663.58	1.33	519.36

Agrarian Land Development Acquisition & Distribution (DAR)	6.29	0.02	2.86	290.49	0.58	227.35
OPERATIONAL SUPPORT	26,457.72	73.89	12,006.3	40,517.04	80.90	31,711.17
P S	18,690.93	52.20	8,481.79	27,077.22	54.07	21,192.33
Other MOE	7,040.27	19.66	3,194.82	13,376.99	26.71	10,469.67
Other CO	726.52	2.03	329.69	62.83	0.13	49.18

Source: BESF, DAR-PARC

Note:

Average Cost per Hectare based on Total Accomplishments per agency or program

Total Accomplishment: CARP (no OLT) : (Phase I: 1988-1997)- 2,203,653 has; (Phase II: 1998-2008)- 1,277,690 has.

DENR: (as of 2007)- 3,056,185 has

PD 27 : 755,000 has

* Details of LPC adjusted proportionately based on accomplishments of OLT and CARP (non-OLT)

It is more useful to compare cost between Phase I and Phase II of CARP since both phases have similar institutional arrangements and budget details. Comparatively, Phase I of CARP has been more cost efficient than the extension phase. As shown in Table 7, the average LPC in Phase I amounts to P14, 231 per hectare compared to P36,560 per hectare in Phase II, an increase of more than two times the average cost in real terms.

The significant increase in unit cost results from the higher costs of DAR land surveys and the generation and registration of CLOA titles (Table 8). The average land survey cost of DAR increased from P1,312 per hectare to P2,213 per hectare in real terms. It has also become more costly to generate titles per hectare as shown by the increase in cost from P1,800 to P3,000 for a land parcel with size of one hectare. The difference in costs may be partly explained by the land acquisition method used in each Phase of the program. The bulk of accomplishments in the first 10 years of CARP were on government lands (GFIs) and public resettlement areas. On the other hand, in Phase II of the program, DAR focused on the acquisition of private lands. Coverage of private lands is more tedious specifically under compulsory acquisition where landowners are often uncooperative. The inability of DAR and LRA to obtain landowners' compliance to requirements implies prolonged processing and additional efforts for these agencies. However, this situation is not sufficient to explain why average costs doubled in the extension phase. These cost items (i.e., subdivision costs and generation of CLOAs) are expected to be cheaper since DAR expedited the process of CLOA generation through the issuance of collective CLOAs.[14] The subdivision survey and generation of individual titles would follow afterwards. About 71 percent of all lands distributed under CLOA

[14] The Agrarian Reform Law of 1988 (RA 6657) allows for collective ownership, that is, collectively owned by the workers' cooperative or association, when current farm management system does not particularly require dividing the land into individual parcels. Otherwise, CLOAs should be issued individually.

or about 2 million hectares are collective CLOAs. Most CLOA collective titles were issued in Phase II of CARP.

Note that the increase in LPC is also due to expenditure on operational support. About 70% to 80% of LPC cost is operational expense which consists of personnel services, capital outlays and other monitoring expense. Overtime, it has become more expensive to maintain the LAD implementing agencies, in particular the DAR bureaucracy. While expenditure on capital has been kept at a low level, personnel and other maintenance expense in real terms ballooned to three and five times the unit cost in Phase II, respectively. Expenditure on operational support is attributed mainly to DAR which is appropriated about 90% of operational support costs (Table 9).

Expenditure on AJD for has also ballooned in Phase II of the CARP. AJD consist of two components- one, the legal assistance to ARBs through the process of mediation, conciliation and representation; and two, adjudication performed primarily by DAR's Adjudication Board (DARAB) which is vested with quasi-judicial powers and primary jurisdiction to determine and adjudicate agrarian reform matters. While the cost of legal assistance to ARBs declines overtime, the cost of adjudication has increased considerably as land reform covered more private lands. Note that in Phase I, more than 60% of CARP accomplishments are on public lands and 15% on VLT. Adjudication expense during this phase was nil. Overtime, as the coverage of private lands particularly under compulsory acquisition increases conflicts tend to rise as more landowners resort to legal arguments as a way of delaying and thwarting the implementation of the agrarian reform process.

Table 9. Operational Support (OS) Expenditure by Agency and by Year, CARP (w/out OLT)

Year	DAR		LBP [a/]		DENR		LRA		OS as percent of Total LPC
	Value (PM, 2007 prices)	% to Total OS	Value (PM, 2007 prices)	% to Total OS	Value (PM, 2007 prices)	% to Total OS	Value (PM, 2007 prices)	% to Total OS	
1987	22.98	10.01	206.65	89.99	-	-	-	-	40.73
1988	1,111.26	73.89	344.26	22.89	37.55	2.50	10.86	0.72	87.53
1989	2,379.88	67.28	907.99	25.67	222.07	6.28	27.08	0.77	81.16
1990	3,131.25	70.12	1,076.18	24.10	209.87	4.70	48.10	1.08	90.76
1991	2,354.41	58.49	1,409.36	35.01	205.02	5.09	56.63	1.41	76.69
1992	2,127.09	56.46	1,463.07	38.83	118.86	3.15	58.43	1.55	79.34

1993	2,137.30	72.06	661.97	22.32	98.88	3.33	67.95	2.29	72.82
1994	1,837.58	58.59	1,122.25	35.78	97.66	3.11	78.76	2.51	65.97
1995	1,953.67	60.97	1,025.50	32.00	121.64	3.80	103.53	3.23	62.68
1996	2,302.72	63.07	1,087.53	29.79	137.98	3.78	122.69	3.36	69.32
1997	2,493.09	64.66	1,071.80	27.80	155.80	4.04	134.71	3.49	76.73
1998	3,645.37	75.94	881.74	18.37	145.57	3.03	127.41	2.65	84.95
1999	3,031.54	72.87	869.74	20.91	142.10	3.42	116.57	2.80	81.71
2000	3,697.73	76.53	905.84	18.75	110.74	2.29	117.23	2.43	83.97
2001	3,182.57	75.46	838.32	19.88	89.50	2.12	107.08	2.54	84.98
2002	2,945.09	94.15	-	-	87.43	2.79	95.48	3.05	85.58
2003	2,572.26	93.80	-	-	82.00	2.99	88.02	3.21	80.70
2004	3,752.89	95.95	-	-	79.53	2.03	78.69	2.01	81.59
2005	3,023.99	95.29	-	-	75.42	2.38	73.93	2.33	69.82
2006	3,044.52	95.35	-	-	74.81	2.34	73.54	2.30	78.92
2007	3,790.23	96.51	-	-	67.70	1.72	69.18	1.76	78.96
2008	4,150.90	96.83	-	-	68.63	1.60	67.34	1.57	78.30
Average	**2,667.65**	**73.83**	**630.55**	**21.00**	**110.40**	**3.02**	**78.33**	**2.14**	**76.96**

Source: ARF

Operational Support (OS) includes expenditure in Personal Services (PS), Capital Outlay and other MOE. We estimated OS for LAD by agency by matching expenditure by activity with individual agency budget.
[a/] From 2002 onwards, LBP budget was mainly utilized for landowners compensation (LOC).

What about the LOC? The LOC per hectare reflects the annual expenditure for compensable lands. It includes the cash equivalent of the approved land values, the interest on bonds and the value of matured bonds. The landowner, upon acquisition of his land is paid in cash and bonds. The cash payment depends on the type of program and mode of acquisition. Under PD 27, cash payment is 10% of the land value and the balance of 90% is paid in bonds at fixed interest rate of 6% with maturity of 25 years. Under CARL, the cash portion varied from 20% to 35% based on the size of land covered and the mode of acquisition. Bond maturity has been shortened to 10 years with 1/10th of the principal value maturing every year. Bond interest rates were aligned with 91-day treasury Bills. PD 27 land valuation and method of compensating landowners was retained under CARP but the PD 27 bonds (both new and remaining) were converted into the "new" Land Bank bonds with terms aligned to that of CARP.

The average value of LOC is higher in CARP than PD 27 but comparison between programs and also between phases is not relevant due to differences in the valuation method and quality of land covered under the programs or Phase indicated. One would expect the LOC to be higher for CARP since valuation approximates market value while PD27 is confiscatory

and thus lower than market valuation.[15] On the other, Phase I of CARP may have lower value than PD 27 or Phase II CARP because of "poorer" quality of land which could refer to marginal or unproductive agricultural lands or those in upland areas. Note that there have been conjectures that, landowners tend to offer lands which are marginal under the CARP VOS scheme.

We determine the "productivity" of the land covered by PD 27 and CARP from the average land valuation provided by the Land Bank.[16] Land Bank computes land valuation based on the formula specified by law. Under PD 27, the value of rice or corn land is computed as follows:

LV = AGP * 2.5 * Price

Where LV = land value
AGP = average gross production for three consecutive normal crop years
Price = government support price for rice or corn
2.5 = multiplier

As indicated above, PD 27 valuation is based on average gross production for rice multiplied by a factor of 2.5. The selling price has been fixed to the 1972 government support price of P35/ cavan for rice or P31/cavan for corn.[17] The assumption is that lands covered by PD 27 have been distributed prior to CARP but has yet to be documented and compensated.[18]

Rice is produce under different production environment and revenues differ significantly across environments. Using PD 27 valuation formula, we estimated the average annual yield of the compensated rice land and compared to the national annual yield of rice under different environments (Annex C).[19] The results are presented in Table 10.

In general, the annual yields of paddy lands acquired under PD 27 are closest to the national pattern of annual yield of irrigated lands specifically in the early years of the program.

[15] Land Bank has been tasked to undertake land valuation for CARP. Account level valuation cannot be provided by the Land Bank but average values of approved landowner's compensation can be obtained from Annual Reports and PARC.
[16] Individual accounts are confidential and cannot be provided by the Land Bank or PARC.
[17] 1 cavan is equivalent to 50 kilos.
[18] The landowners' compensation earns an interest of 6% annual from date of coverage or distribution up to the date of LOC approval.
[19] We assumed that all compensated lands are rice lands since the bulk of lands covered by PD27 were rice farms

The same pattern of yield is also observed in the years after 2004. On the average, we can surmise that irrigated lands cover a total area of 305,000 hectares or 72% of total rice area acquired or compensated by the program. On the other hand, the years 1990 to 1994 and 2002 to 2004 show a pattern of yield similar to the national annual yield of rainfed rice. These years cover about 18% of total. In no year have we observed average yields similar to the national pattern of upland rice. Apparently, most lands acquired under PD 27 are the highly productive rice farms specifically in the first 10 years of the program. The early years of land reform has in fact translated into net social gains as pointed out in the studies of Hayami, Quisumbing and Adiano (1990) and Deininger, Olinto and Maertens (1999).

Table 10. Productivity of Rice Lands Redistributed under PD27

Year	Area (has.)	Average Land Valuation (P/Ha, Current Prices)	Estimated Average Yield on Compensated Rice Land (cavans/ha) [a]	National Annual Palay Yield by Land Type (cavans/ha/year)			
				Average[b]	*Irrigated*[b]	*Rainfed*	*Upland*
1974	6,548	6,193.95	70.79	46.13	60.68	26.59	17.17
1975	27,681	6,471.91	73.96	53.09	69.74	29.76	17.22
1976	26,884	7,467.27	85.34	54.95	71.04	30.16	19.75
1977	28,978	6,815.52	77.89	59.39	77.65	33.11	20.86
1978	31,806	7,278.19	83.18	60.35	79.35	33.54	21.61
1979	33,450	6,913.30	79.01	64.79	88.20	34.08	20.37
1980	19,230	7,315.13	83.60	69.33	88.15	36.07	19.69
1981	15,180	7,395.26	84.52	73.06	91.32	37.65	20.51
1982	21,251	7,727.17	88.31	80.37	99.20	39.13	20.26
1983	20,126	9,038.06	103.29	77.25	94.81	36.52	21.49
1984	21,013	9,034.88	103.26	81.97	96.91	40.44	21.08
1985	7,346	8,464.47	96.74	88.28	105.01	42.50	22.35
1986	7,768	9,008.88	102.96	89.93	107.28	43.22	24.20
1987	7,213	9,780.95	111.78	89.45	106.99	40.44	22.98
1988	3,406	11,056.96	126.37	88.69	104.69	40.96	23.45
1989	6,591	6,384.46	72.97	92.93	109.74	40.79	27.27
1990	6,942	5,573.32	63.70	92.55	108.30	42.68	26.22
1991	20,121	4,510.21	51.55	96.43	113.20	43.09	27.49
1992	18,765	4,526.51	51.73	95.30	111.47	42.02	32.88
1993	14,258	4,248.14	48.55	96.19	111.64	43.71	29.45
1994	12,002	4,697.55	53.69	97.21	113.99	43.19	31.92
1995	10,477	9,292.74	106.20	93.39	108.40	42.28	30.90
1996	12,457	7,535.52	86.12	98.78	114.63	43.22	28.55
1997	10,128	8,904.03	101.76	101.61	117.62	42.85	29.78
1998	7,433	11,545.81	131.95	90.68	102.91	38.46	32.77

1999	5,145	9,243.93	105.64	104.45	118.63	43.60	28.10
2000	3,241	11,314.41	129.31	107.71	122.24	44.60	33.45
2001	2,920	15,890.41	181.60	110.90	124.95	47.28	35.46
2002	2,120	5,363.21	61.29	115.74	129.74	49.57	37.18
2003	2,032	4,980.31	56.92	114.06	127.64	50.47	37.85
2004	1,348	6,624.63	75.71	120.82	134.77	53.28	39.96
2005	1,489	12,128.95	138.62	122.03	136.88	52.70	39.52
2006	1,912	14,513.60	165.87	128.25	142.72	56.03	42.02
2007	2,483	9,170.36	104.80	131.56	145.59	58.57	43.93
2008	1,654	9,340.99	106.75	130.23	143.01	59.68	44.76

Palay Land Type	**Total Area**	**% to Total Area**
Combined	38,458	9.13
Irrigated	305,352	72.46
Rainfed	77,588	18.41
Total	421,398	100.00

Source: BAS,DAR-PARC, Landbank Accomplishments

Note:

[a] AGP estimated from valuation formula for PD27:
Value of Rice Land=AGP x 2.5 x Php35.00/cavan
Php35.00 is government support price for one cavan (50 kilos), fixed value for all lands covered by PD27

[b] Yield per cropping from BAS data adjusted to annual yield using crop intensity in irrigated farms

Estimating the "productivity" of lands covered by CARP is not as straightforward as PD 27 since the formula takes into consideration several factors. CARP fair market valuation is operationalized by the following formula:[20]

LV = (CNI * 0.6) = (CS * 0.3) + (MV * 0.1)

Where LV = Land value
CNI = capitalized net income
CS = comparable sales
MV= market value per tax declaration

Capitalized net income (CNI) is based on productivity derived from the difference between gross revenue and operating cost. The net income is capitalized at 12% interest rate. Comparable sale (CS) is based on 70% of BIR zonal value while MV is based on government assessed value. Note that not all factors may be available at all times but Land Bank usually places premium on CNI which means that if either CS or MV are available, the corresponding weights of the missing factor is added to CNI. For instance, if CS is not available, 90% of valuation will be based on CNI and only 10% on MV.

[20] DAR AO 5 series of 1998

We derive land "productivity" by estimating a net income for lands compensated under CARP. We assume a formula with only CNI available which means that land valuation is based solely on capitalized net income. The net income derived from the CNI valuation is compared with an estimated average net income which is obtained from the percent share of net income on production and the BAS published data on the value of gross production by crop. The share of net income to gross revenue varies depending on the crops grown on the land.[21] The results are presented in Table 11.

Since there is no information on the actual crops grown in lands compensated by Land Bank, we can do comparisons of net income in two ways - one, based on rice crop alone; and two, based on combination of major crops. The latter assumes that rice, coconut, corn, sugarcane are the major crops grown in the compensated lands with the following proportions: 47, 28, 17 and 8.[22]

The results show that the net income derived from compensated lands in Phase I of CARP is similar to the national pattern of net income from rainfed rice. The similarity becomes more pronounced when rainfed production income is combined with production income of other major crops. Phase I of CARP corresponds to about 552,000 hectares acquired through VOS, CA and GFI. On the other hand, , the productivity of the compensated lands seems to have improved from 2000 onwards as the pattern of net income show similarity with irrigated rice combined with other crops. As mentioned earlier, the comparison is not straightforward and would require actual data of crops grown in the compensable lands for the analysis to be relevant. Moreover, although CARP is based on fair market value, the valuation does not imply acceptance of landowner. Note that the LBP valuation reflects a conservative estimate. It can be costly to challenge the valuation of the Bank because this can only be modified through a legal process which is expensive and can take several years to complete. Thus, landowners would resort to legal process only when the difference between Land Bank valuation and

[21] The percent share of net income to gross revenue is based on studies of production efficiency by crop. See Annex B).

[22] These proportions are based on the distribution of lands by crop of sample farmer beneficiaries surveyed in 2000 and 2006 by the Institute of Agrarian Reform and Development Studies. The actual distribution of lands from the survey is as follows: 41% rice, 25% coconut, 15% corn, 7% for sugarcane, 5% banana and 7% for other crops. For simplicity, we considered only the first major crops.

landowner's perceived fair market value is significant. Land Bank argues that there is a shorter list of landowners challenging valuation under CARP compared to PD 27.[23]

On the other hand, the World Bank study (2009) suggests that the coverage of the program has not been well-targeted and is poorly related to either poverty alleviation or land inequality. CARP accomplishment may as well be not targeted in terms of land productivity hence no clear pattern can be discerned from the results.

Table 11. LBP Land Valuation for CARP (without OLT) and Average Net Income of CARP compensated lands

Year	Area (has.)	Average Land Valuation (P/Ha, current prices)	Average Net Income (P/Ha) [a]	Net Income (P/Ha) [b]			
				Irrigated	*Rainfed*	Multicrop (Irrigated)[c]	Multicrop (Rainfed)[c]
1988	1,320	27,272.73	3,272.73	3,434.61	1,361.04	3,246.03	2,271.45
1989	1,763	20,516.17	2,461.94	4,070.81	1,664.34	3,889.51	2,758.47
1990	774	15,620.16	1,874.42	4,547.19	1,957.87	3,734.27	2,517.29
1991	125,156	12,374.16	1,484.90	4,472.17	1,882.51	3,790.60	2,573.46
1992	96,639	13,981.73	1,677.81	4,726.99	1,947.37	4,120.46	2,814.03
1993	86,642	25,404.42	3,048.53	5,630.00	2,274.59	4,545.53	2,968.49
1994	59,916	29,494.96	3,539.40	6,230.23	2,371.01	4,994.43	3,180.60
1995	73,184	36,017.03	4,322.04	8,122.55	3,044.72	5,742.92	3,356.34
1996	72,474	41,806.85	5,016.82	9,375.84	3,381.36	6,692.44	3,875.03
1997	69,134	45,121.65	5,414.60	9,635.02	3,287.80	6,957.80	3,974.61
1998	78,358	49,565.46	5,947.85	9,089.36	3,074.42	6,720.45	3,893.43
1999	60,440	50,503.14	6,060.38	10,745.91	3,381.79	7,871.69	4,410.56
2000	46,023	60,037.59	7,204.51	12,180.19	3,755.68	8,037.86	4,078.34
2001	43,529	62,461.58	7,495.39	11,759.83	3,863.07	7,962.04	4,250.57
2002	43,297	77,955.98	9,354.72	12,937.53	4,372.39	9,115.52	5,089.91
2003	42,908	86,076.26	10,329.15	12,573.02	4,461.12	9,099.88	5,287.29
2004	29,061	88,185.54	10,582.26	13,738.30	5,032.79	10,261.60	6,170.00
2005	33,205	94,468.91	11,336.27	15,471.45	5,496.34	11,074.86	6,386.56
2006	33,686	100,619.25	12,074.31	16,002.94	5,860.82	11,929.20	7,162.40
2007	35,263	101,857.19	12,222.86	17,728.24	6,571.75	13,056.83	7,813.28
2008	22,380	113,712.69	13,645.52	21,094.08	8,469.03	15,721.84	9,788.06

Source: BAS, DAR-PARC

[a] LV= (CNI x 1.0) ; $\frac{NI}{0.12}$ = CNI

LV= loan value — 1.0= factor

CNI= capitalized net income — 12%= interest rate

NI= (LV x 0.12)

[23] The information about landowners which challenge Land Bank valuation is confidential.

[b] Net income based on studies on production income of crops (Annex Tables). We used the share of residual to gross revenue to compute for net income.Gross revenue based on average annual production value by crops from BAS.

[c] Multicrop based on IARDS survey on distribution of CARP acquired lands by Crop.

V. Subsidy to Farmers from Land Redistribution

Government chose to fully subsidize land redistribution under PD 27 and CARP. Conceptually, the subsidy comes in the following forms: (1) lower than market price of land; (2) below market interest rate on credit; and (3) exemption from payment of land transfer and titling costs including transfer fees. This section provides an estimate of the value of this subsidy.

Beneficiaries of redistributive land reform pay for the cost of the land. This cost is simply the purchase price of the land or the actual amount paid to landowners. Under P.D 27, compensation to landowners was capped at 2.5 times the average annual yield. This valuation implies that farmers pay a lower price for the land than what they would have paid in the market. The price difference or the cost of land subsidy is borne by the landowners who receive compensation at lower than market. For instance, the Korean land reform capped compensation at 1.25 times annual yield when land values averaged 5 times annual yield thus beneficiaries effectively received 75 percent of land value from landlords (Iyer and Maurer 2009). Similarly, in Taiwan land compensation was limited to 2.5 annual yields when historical price of paddy was 4 to 6 times annual yields. This policy effectively transferred to tenants 50 percent of land value. In the absence of historical data on land market values in the Philippines, the transfer to farmers cannot be estimated using value of capital stock of the land. It is however possible to estimate the value of transfers from the value of the future stream of benefits from owning land (David 2010). The annual stream of benefits can be represented by the returns to land or the factor share of land to the annual value of production (David 2010). This method of estimation assumes that the best use of land is agriculture thus rents due to urbanization factors are not reflected in the value of transfer.

David (2010) computed the annual stream of benefits for PD 27 from the area of CLTs redistributed to tenants annually multiplied by the annual value of production based on national production and the factor share of land assumed to be 30% for rice. All transferred lands were assumed to be grown to rice. The same methodology was employed for CARP. Although

CARP uses market valuation, greater weights are given on productivity than other factors. Moreover, as indicated above, the other basis for valuation is the zonal and/or assessed values which do not reflect the true market value since these valuations are used for tax purposes.[24]

We thus used stream of benefits to estimate the value of transfer from land received by the beneficiaries of CARP. For comparison, only the compensable lands under CARP which are accomplishments on VOS, CA and GFI modes of acquisition were included. Since CARP consisted of several crops, two alternative estimates were made. The first estimate assumes that only one crop (rainfed rice) is grown on these lands while the second estimate assumes that rice, coconuts, corn and sugarcane are grown on these lands with proportions based on the results of survey conducted in 2000 and 2006 among sample beneficiaries of CARP.[25]

The net present value of the estimated annual benefits net of amortization paid by farmers represents the minimum value of transfer received by farmers. The estimates show that this value is higher for PD 27 compared to CARP estimates despite the smaller area redistributed under the former (Table 12). The total area distributed under CARP VOS, GFI and CA modes amount to more than one million hectares compared to more than 750,000 hectares for PD 27. It is possible that the lower value is due to the assumption of rainfed crop but even with multicrop assumption, the net present value of transfers is still below that of PD 27.

Table 12. Estimated Value of Subsidy to Farmers from Land Redistribution

	PD 27 1972-2008	CARP 1988-2008	
		Rainfed[b]	Multicrop[c]
Resource Transfer[a]	47,449	29,870	35,584
Transfer Cost Subsidy[d]	4,907	6,821	6,821
Total Transfer to Farmers	52,356	36,691	42,405
Interest Rate Subsidy[e]	3,140	10,490	10,490
TOTAL Subsidy	55,496	47,181	52,895

Note:

[a]Net present value at 6% discount rate of stream of annual earnings from

[24] For instance, assessed value in practice is usually one-third of the market value.

[25] Details on the estimates can be found in C. David (2010) Monitoring and Evaluation of Agricultural Policy Indicators. Philippine Institute for Development Studies and the World Bank Office Philippines. Draft Main Report. (forthcoming).

distributed compensable lands net of amortization payments.

[b]Assume only rainfed rice is grown.

[c]Assume multicrop rice, coconut, corn, sugarcane are grown with the following proportions 47, 28,17 and 8 percent, respectively (see David 2010).

[d] P6,500 is the estimated land transfer cost per hectare (assumed one parcel) at current prices; Transfer cost is multiplied with area of CARP distributed compensable lands and PD 27 distributed CLTs.

[e]Int $S_i = (i_m - i_p)$ Lg

where S= interest subsidy

i_m= market interest based on long-term treasury bill rates

i_p= 6% interest rate given to ARBs for purchased of land under PD 27 and CARP

L= amount of loan granted annualized for the term of loan

PD 27= 15 and 30 years; CARP= 30 years

In addition to resource transfer, farmers benefit from government subsidy on the costs of land titling which include cost of land surveys, land subdivisions and title registration. The cost of land transfer and titling include the cost of surveys and subdivision and generation of title. An estimate of the current cost of land transfer or titling is as follows: (1) survey and subdivision cost of P3,500 per parcel based on current surveyors' tariff rates; and (2) the cost of title generation and registration which is estimated at an average of P3,047 per hectare based on DAR expenditure data. The total fixed costs of land transfer for one parcel with a size of one hectare would amount to P6,500 or 8% of average gross palay production per hectare. The estimated total land transfer costs is about P4.9 billion for PD 27 and P6.8 billion for CARP based on the total hectarage of redistributed compensable lands. The total direct transfers to farmers from land redistribution thus amount to P52.3 billion for PD 27 and P 42.4 billion for CARP multicrop estimate.

The government also provided tenants the credit for the purchase of the land at a fixed rate of 6% for 30 years. This rate is way below market interest rates on long term Treasury Bills which ranged from 12% to 24% between 1972 and 2006. Starting 2006, the country entered into a low interest rate period with interest rates even less than 6% thus eliminating this subsidy. However, the total accumulated interest rate subsidy in previous years has reached more than P13 billion for both PD 27 and CARP. While the interest rate subsidy is not a direct transfer to farmers it represents an implicit benefit to farmers and forgone earnings of government.

Credit subsidy also includes the value of loan defaults. Many of the beneficiaries have been delinquent on their loans. Loan delinquency under both PD 27 and CARP has been high. Collection efficiency amounts to less than 2% of the amortization due and collectible in the early

years (Annex E). While collection efficiency improved in the later years, amortization payments remain below sustainable levels. Compared to the value of transfers, the value of amortization paid by farmers constitutes less than 1% of total transfers for PD 27 and 2% for CARP (David 2010). A lower collection is expected for the CARP since valuation is based on just compensation or fair market value.[26] This valuation implies that annual amortization could exceed farm incomes because both income and investment are capitalized. The CARL mandated a ceiling on annual amortization of farmers based on the value of production as follows: " 2.5% of AGP for the first three years; 5% of AGP for the fourth and fifth years; and 10% of AGP from 6th to 30th year or regular amortization whichever is lower". Adjustment on the amount is made through either reduction in interest rates or the principal. Government thus ends up subsidizing loan amortization and consequently the land cost.[27]

The CARL imposes foreclosure for delinquent accounts, i.e, non-payment for 3 annual amortizations but in practice government has been lenient towards delinquent farmers. Delinquent loans are usually restructured thus raising difficulties in the estimation of value of credit subsidies due to loan deficiency.

VI. Summary and Conclusions

Land redistribution has become the core feature of Philippine land reform programs with the approval of PD 27 in 1972 and RA 6657 or CARL in 1988. With these laws, funding for land redistribution increased significantly. Government total expenditure on land reform though remained at less than 0.5 percent of GDP. The financing for the program specifically in the last two decades has been dependent on proceeds from the sale of sequestered Marcos wealth. Overtime, these proceeds have dwindled. While budget augmentation from annual appropriations has been provided, the amount was just sufficient to fund operational support for DAR which implies lesser funds for land acquisition and distribution. Historically, government has had limited funding for land reform and it is unlikely that this will change in the future.

[26] "Just compensation" as defined by law means "*fair market value* or the price which a buyer will pay without coercion and a seller will accept without compulsion". Just compensation basically approximates the market value thus the presumption is that the landowner is paid the actual value of land.

[27] Lands planted to naturally grown trees (e.g. narra, yakal) and the cost/value of permanent structures or improvements on lands are not covered by the amortization subsidy (DAR AO2 s.1998).

On the other hand, the cost to implement the program in particular CARP has been rising. A major cost component is the landowner's compensation (LOC). In contrast to PD 27, the CARL mandated landowners to be compensated at market value of the land which implies that government absorbs the difference in cost based on farm incomes and the market price of land. In the initial Phase of CARP, the LOC cost has been relatively low since the bulk of CARP accomplishments were non compensable lands, that is resettlement areas and VLT. However, as government moved to Phase II and started with the distribution of compensable and more productive lands, the average LOC per hectare more than doubled. The higher LOC from CARP does not imply more productive lands than PD 27. On the contrary, analysis of land valuation shows that lands covered under PD 27 are mostly irrigated rice lands with yields higher than average while lands redistributed under CARP show lower productivity.

Aside from a higher LOC, it has become costly to subsidize land processing and titling. About 50% percent of total program cost is attributed to land processing and other LAD related activities. The proportion is higher for PD 27 but this was mainly due to high capital expenditure during the period. In contrast, the rising expenditure in real terms of CARP has been traced to the average costs of land survey and title generation which more than doubled in Phase II of the program.

The administrative costs to maintain the DAR bureaucracy has also increased significantly. On the average about 77 percent of the costs of land processing is operational expense, the bulk (or 74%) of which is allocated to DAR to support its operation. In the last two years of CARP Phase II, almost 97% of operational cost has been obligated to DAR. Operational cost has increased substantially despite lower accomplishments in the latter phase of CARP.

Expenditure on AJD has also ballooned as the coverage of private lands under compulsory acquisition increases and more landowners resort to legal arguments to delay the land redistribution process.

The new law on CARP's 5 year extension has been passed without major changes in the implementation of the program. Moreover, the remaining lands to cover are mostly private lands which are targeted for compulsory acquisition. The next phase of CARP would require higher LAD expenditure both in terms of payment to landowners and the administrative cost of

implementing the program. The average cost to implement land redistribution is estimated at P36,560 in 2007 prices and land cost of P113,700 in 2007 prices. Considering that about 1.3 million hectares of private lands have yet to be distributed, the budget requirement would amount to about P195 billion higher than the P150 billion extension budget. This amount is the minimum since it does not include increase in bond interest rates and the cost of agrarian justice delivery which has ballooned in Phase II of CARP and is expected to increase as DAR focuses on lands under compulsory acquisition.

The value of direct subsidies received by beneficiaries of land redistribution is significant amounting to P52 billion for PD 27 and about P36 to P42 billion for CARP. However, one has to consider fiscal constraints and political realities in the extension of the program. Several studies have shown that there are alternative ways to land redistribution and alternative programs to achieve land equity and poverty reduction. An alternative scheme to land redistribution espoused by the World Bank (World Bank 2008) is negotiated land reform which would allow for flexible contractual arrangements between tenants and landowners and decentralized and community managed approaches. These schemes will minimize deadlock caused primarily by land valuation issues. The valuation formula adopted for CARP proved to be complex with government paying the full amount of land cost subsidy. On the other hand, a departure from just compensation is unconstitutional. A negotiated arrangement could provide strategies that will allow land transfers which will match the capacities and productivity of tenants. The landowner and tenant can share in the cost of land with government subsidy limited to administrative costs and credit subsidy. These schemes can move CARP to a fiscally sustainable path.

The current system of government purchase of land on the basis of just compensation can also have distortive effects. Government will contribute to rising values of agriculture land thus making it difficult for the next generation of farmers to buy land because values rise faster than productivity and inflation.

Tax policy is another alternative to land reform or land redistribution to achieve equity objectives. Government can use the tax system to constrain rapid increase in agricultural land prices as well as limit land concentration. A tax policy is not only cost effective but revenue generating thus unburdening government from fiscal pressures.

There is also a need to rationalize the DAR bureaucracy and identify areas for cost reduction. In particular, DAR's administration on legal assistance and adjudication should be reviewed. The DAR has several layers of adjudication from the provincial, regional and national levels. Leonen (2007) argued that under this arrangement, government pays for the time of the adjudicators no matter how private the benefits of the conflict thus government end up subsidizing both the farmer and landowners. Arbitration would be a more cost effective arrangement specifically for disputes which are agrarian in nature. Arbitration has been shown to reduce the layers of dispute processing and allows costs to be allocated such that it will be borne by the private parties when the benefits are purely private. Consequently, the State has to move towards a leaner DAR bureaucracy as land redistribution is completed. The development of the agrarian sector can be merged with programs of the Department of Agriculture and local government units.

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Annex A. LAD Expenditure by Program (PM in current prices)

Year	PD 27				CARP(w/o OLT)			
	Other LAD			LOC	Other LAD			LOC
	Total	LPC	AJD		Total	LPC	AJD	
1972	50.86	43.04	7.81					
1973	81.56	74.00	7.56					
1974	169.83	160.51	9.32	4.06				
1975	232.13	220.90	11.23	24.08				
1976	181.77	169.28	12.50	42.53				
1977	344.63	327.93	16.70	52.12				
1978	334.00	317.00	17.00	71.45				
1979	338.00	318.00	20.00	82.82				
1980	363.29	338.02	25.27	79.02				
1981	383.97	380.60	3.37	85.16				
1982	245.78	241.84	3.95	82.79				
1983	257.78	257.78	-	102.50				
1984	339.58	339.58	-	102.93				
1985	209.30	209.30	-	112.68				
1986	384.32	384.32	-	108.46				
1987	-	-	-	221.34				
1988	150.06	140.62	9.43	243.23	195.31	193.53	1.78	94.26
1989	392.14	382.24	9.90	429.10	534.51	532.56	1.95	114.78
1990	208.46	197.22	11.23	534.66	975.79	954.23	21.56	59.61
1991	56.28	53.54	2.74	139.93	1,318.26	1,286.71	31.55	870.42
1992	61.09	59.63	1.46	256.18	1,192.00	1,178.28	13.72	1,319.30
1993	57.80	55.74	2.06	236.57	1,340.72	1,317.41	23.31	1,437.55
1994	59.79	58.51	1.28	344.58	1,565.65	1,549.38	16.27	1,720.19
1995	86.94	84.58	2.36	294.88	1,884.92	1,860.16	24.76	2,059.76
1996	71.17	69.21	1.95	401.97	2,101.30	2,073.05	28.24	2,338.64
1997	65.56	65.46	0.11	334.47	2,084.76	2,083.09	1.68	2,283.09
1998	90.74	89.77	0.96	268.42	2,795.05	2,780.61	14.44	2,829.61
1999	80.55	78.10	2.45	270.48	2,705.28	2,664.78	40.51	3,177.36
2000	93.48	90.82	2.66	241.69	3,316.01	3,269.38	46.63	3,432.09

2001	84.63	82.43	2.20	245.98	2,997.59	2,959.27	38.31	3,666.82
2002	66.02	64.72	1.30	166.02	2,770.14	2,743.20	26.93	3,390.74
2003	54.48	53.26	1.23	159.18	2,684.45	2,654.53	29.92	3,361.33
2004	64.67	63.06	1.61	159.38	4,040.46	3,990.41	50.05	3,436.11
2005	58.59	56.69	1.90	160.22	4,077.70	4,011.42	66.28	3,572.91
2006	86.70	66.55	20.15	200.31	4,355.04	3,791.31	563.73	3,529.07
2007	89.03	85.18	3.86	304.56	4,383.62	4,288.42	95.19	4,325.29
2008	65.34	61.43	3.91	174.75	5,297.12	5,135.81	161.31	2,364.53
Total	5,960.33	5,740.88	219.45	6,738.48	52,615.66	51,317.55	1,298.11	49,383.47
Grand Total	*13, 100.05*				*101,999.13*			

Source: BESF, ARF

Annex B. Land Redistribution Accomplishments Approved by LBP for LOC

Year	PD 27			CARP		
	DAR(has.)	LBP(has.)	%Approved	DAR(has.) [a]	LBP(has.)	%Approved
1974	237,121	6,548	2.76			
1975	77,790	27,681	35.58			
1976	29,875	26,884	89.99			
1977	33,642	28,978	86.14			
1978	44,241	31,806	71.89			
1979	46,812	33,450	71.46			
1980	53,520	19,230	35.93			
1981	26,556	15,180	57.16			
1982	74,907	21,251	28.37			
1983	54,544	20,126	36.90			
1984	44,717	21,013	46.99			
1985	19,765	7,346	37.17			
1986	11,458	7,768	67.80			

1987		7,213				
1988		3,406		-	1,320 *	-
1989		6,591		4,946	1,763	35.64
1990		6,942		12,516	774	6.18
1991		20,121		55,311	125,156	226.28
1992		18,765		76,223	96,639	126.78
1993		14,258		107,262	86,642	80.78
1994		12,002		79,843	59,916	75.04
1995		10,477		67,841	73,184	107.88
1996		12,457		86,053	72,474	84.22
1997		10,128		64,801	69,134	106.69
1998		7,433		58,776	78,358	133.32
1999		5,145		54,714	60,440	110.47
2000		3,241		43,951	46,023	104.71
2001		2,920		49,764	43,529	87.47
2002		2,120		47,850	43,297	90.48
2003		2,032		45,911	42,908	93.46
2004		1,348		46,893	29,061	61.97
2005		1,489		46,542	33,205	71.34
2006		1,912		38,643	33,686	87.17
2007		2,483		35,832	35,263	98.41
2008		1,654		25,773	22,380	86.84
Total	754,948	421,398	55.82	1,049,445	1,053,832	100.42

Source: DAR-PARC, Landbank Annual Reports

[a] refers only to accomplishment based on CA, VOS, GFI

* initially identified as PD 27 but was considered for coverage under CARL

Annex C. Average Gross Production(Mt) and Average Value of Gross Production(Php), per Hectare by Crop

Year	Average Palay		Irrigated Palay		Rainfed Palay		Corn		Coconut		Sugar	
	Mt/ha.	P/Ha.	Mt/ha.	P/Ha.	Mt/ha.	P/Ha.	Mt/ha.	P/Ha.	Mt/ha.	P/Ha.	Mt/ha.	P/Ha.
1972	1.51	900.92	1.93	1,751.79	1.33	738.00	0.80	538.82	4.29	739.53	56.23	4,932.20
1973	1.60	1,127.26	2.00	1,976.86	1.41	647.37	0.75	575.70	3.68	1,286.41	61.44	6,051.94
1974	1.57	1,250.67	2.07	2,410.71	1.33	997.73	0.68	740.99	2.71	1,444.28	71.08	6,125.09
1975	1.76	1,444.15	2.31	2,865.26	1.49	1,290.40	0.76	954.19	4.04	937.06	66.91	5,830.33
1976	1.79	1,600.93	2.32	3,173.77	1.51	1,298.16	0.81	1,156.55	4.56	984.06	67.61	8,299.69
1977	1.96	1,695.46	2.56	3,360.21	1.66	1,514.55	0.89	1,348.49	3.79	1,376.33	60.75	8,467.94
1978	2.03	1,864.33	2.67	3,639.82	1.68	1,471.47	0.90	1,433.09	3.56	2,090.94	58.59	7,118.11
1979	2.17	1,937.87	2.95	3,939.68	1.70	1,522.48	0.93	1,497.54	2.76	2,677.35	70.67	8,852.39
1980	2.20	2,165.35	2.80	4,331.47	1.80	1,770.92	0.95	1,758.58	2.82	2,553.86	72.77	9,351.18
1981	2.31	2,702.32	2.89	5,332.56	1.88	2,231.28	1.00	2,076.67	3.05	2,350.68	79.01	20,167.57
1982	2.49	3,091.62	3.07	6,166.10	1.96	2,451.12	1.01	2,242.22	2.84	1,928.97	85.96	11,147.61
1983	2.39	3,397.66	2.93	6,743.63	1.83	2,343.05	1.00	2,263.10	2.66	2,549.38	69.76	11,674.40
1984	2.48	5,767.55	2.93	11,288.17	2.02	3,750.07	1.01	4,128.40	1.87	6,883.06	83.76	16,372.12
1985	2.66	8,685.61	3.17	17,123.50	2.12	6,563.12	1.10	5,270.31	2.63	5,492.02	61.98	15,707.36
1986	2.67	7,588.36	3.18	15,248.67	2.16	6,096.20	1.14	4,828.65	3.43	3,753.96	69.94	16,802.06
1987	2.62	7,781.40	3.14	15,870.30	2.02	5,946.63	1.16	5,500.69	3.23	4,602.15	63.92	23,057.53
1988	2.64	8,674.92	3.12	17,173.03	2.05	6,805.19	1.18	5,552.25	2.47	5,966.19	89.50	42,674.83
1989	2.70	10,032.41	3.19	20,354.05	2.04	8,321.69	1.23	8,184.79	2.53	7,214.39	96.52	49,113.99
1990	2.81	11,790.07	3.29	22,735.97	2.13	9,789.35	1.27	8,184.29	3.54	6,023.95	80.03	35,762.23
1991	2.82	11,157.77	3.32	22,360.86	2.15	9,412.54	1.30	7,869.16	2.79	6,132.27	68.91	40,573.26
1992	2.85	12,105.37	3.34	23,634.97	2.10	9,736.83	1.39	10,872.75	3.05	7,487.88	81.11	38,607.57
1993	2.87	14,494.17	3.34	28,149.98	2.19	11,372.96	1.52	13,024.04	3.68	7,514.84	77.47	34,610.39
1994	2.89	15,772.94	3.38	31,151.16	2.16	11,855.05	1.50	12,041.73	3.66	7,466.80	66.46	45,500.02
1995	2.80	21,012.71	3.26	40,612.77	2.11	15,223.59	1.53	15,662.55	3.98	6,838.08	65.05	35,065.77
1996	2.86	23,358.88	3.31	46,879.20	2.16	16,906.80	1.52	16,495.19	3.79	8,700.37	67.21	42,115.05
1997	2.93	24,026.07	3.39	48,175.08	2.14	16,438.98	1.59	16,698.79	4.14	9,704.77	76.71	43,662.09
1998	2.70	23,835.85	3.06	45,446.78	1.92	15,372.09	1.62	15,131.30	3.43	10,786.28	76.50	41,365.64
1999	2.95	26,692.45	3.35	53,729.57	2.18	16,908.96	1.74	17,492.35	2.97	10,274.04	75.76	59,778.07
2000	3.07	30,572.34	3.48	60,900.94	2.23	18,778.40	1.80	19,843.03	4.17	8,532.83	62.01	38,481.22
2001	3.19	29,991.40	3.59	58,799.13	2.36	19,315.36	1.82	20,070.20	4.18	7,682.13	69.76	49,355.10
2002	3.28	32,704.59	3.68	64,687.66	2.48	21,861.95	1.80	19,683.38	4.42	11,308.20	71.66	61,296.56
2003	3.37	33,192.66	3.77	62,865.08	2.52	22,305.60	1.92	21,689.48	4.45	12,140.87	80.75	61,210.76
2004	3.51	35,810.68	3.92	68,691.52	2.66	25,163.93	2.14	30,929.87	4.41	15,871.41	86.72	55,946.55
2005	3.59	40,551.25	4.02	77,357.25	2.63	27,481.72	2.15	26,552.30	4.57	16,272.27	85.11	61,495.76
2006	3.68	41,312.06	4.10	80,014.71	2.80	29,304.10	2.37	35,446.02	4.48	15,059.30	80.30	84,402.34
2007	3.80	46,281.14	4.21	88,641.22	2.93	32,858.75	2.54	41,174.55	4.42	17,771.65	58.06	75,480.97
2008	3.77	55,613.54	4.14	105,470.42	2.98	42,345.13	2.60	49,138.90	4.53	23,706.30	66.84	84,885.71

Source: BAS

Annex D. Factor Shares (%) to Gross Revenue per hectare

Rice									
Factor	**Central Luzon Loop [1]**		**IRRI Survey**				**1985 DIS survey**		
	1986/1987	*1998/1999*	*1985*		*1998*		Favorable rainfed		Unfavorable rainfed
			CL	Panay	CL	Panay	CL2	P2	P3
Factor shares									
Total Revenue	100	100	100	100	100	100	100	100	100
Current inputs	20	24	29	21	17	27	29	18	22
Capital	10	11	15	11	6	11	13	8	13
Owned	4	4	4	2	1	1	4.0	2.1	5.6
Hired	7	7	11	9	5	10	8.9	6.3	7.4
Labor	22	32	26	29	26	40	26	26	46
Family	5	6	12	10	5	9	12.9	8.4	25.9
Hired	17	27	14	19	21	31	12.9	17.9	20.4
Land	48	34	30	39	51*	22**	33	47	19
Residual	35	24	17	21	41	6	14.9	15.8	24.1
Leasehold rent	13	10	13	18	10	16	17.8	31.6	-5.6

Coconut								
	Average		**Farm Size**					
			Small		*Medium*		*Large*	
			P/hectare	%				
Total Revenue			*10,597.00*	*100*				
Total Expense			*3,718.00*	*35.09*				
Inputs			157.00	1.48				
Labor			3,267.00	30.83				
Transport			253.00	2.39				
Other cost			41.00	0.39				
Land			6,879.00	64.91				
Residual			4,049.00	38.21				
Land Rent			2,830.00	26.71				

Sugarcane								
Total Revenue	*80,389.86*	*100*	*75,722.52*	*100*	*80,154.05*	*100*	*85,293.01*	*100*
Total Expense	58,915.91	*73.35*	57,871.95	*76.43*	56,621.51	*70.64*	62,254.27	72.99
Inputs	14,721.15	18.39	14,900.96	19.68	15,775.94	19.68	13,486.55	15.81
Labor	28,871.87	35.97	28,310.98	37.39	28,707.76	35.82	29,596.86	34.70
Transport	8,831.39	10.99	8,817.18	11.64	8,130.31	10.14	9,546.69	11.19
Other cost	6,491.50	8.08	5,842.83	7.72	4,007.50	5.00	9,624.17	11.28
Land	26,605.89	33.10	22,475.57	29.68	29,532.54	36.84	27,809.57	32.60
Residual	21,473.95	26.65	17,850.57	23.57	23,532.54	29.36	23,038.74	27.01
Land Rent	5,131.94	6.40	4,625.00	6.11	6,000.00	7.49	4,770.83	5.59

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Note:

[1] Average Dry and Wet Seasons

* increased yields due to improved technologies

** decreased yields due to drought

Annex E. Schedule of Land Amortization Collectibles and Actual Collections by LBP

Year	Actual Collection (PM)		Total Ammortization Due and Collectible (PM)	Collection Rate(%)
	PD 27	CA, VOS, VLT		
1974	9.02		39.18	2.97
1975	11.93		241.27	0.60
1976	13.06		403.72	1.05
1977	14.33		586.62	1.21
1978	16.00		826.43	1.35
1979	17.77		1,078.94	1.51
1980	19.79		1,192.67	1.66
1981	20.80		1,345.55	1.91
1982	23.63		1,497.25	1.53
1983	25.69		1,659.88	1.53
1984	27.38		1,825.61	1.53
1985	28.13		1,894.35	1.53
1986	28.56		1,910.12	2.01
1987	0.00		1,970.17	1.50
1988	5.56	1.64	2,001.19	3.90
1989	7.31	37.03	2,006.78	25.30
1990	9.43	5.67	2,013.32	16.80
1991	8.61	6.33	2,053.66	18.30
1992	6.78	10.33	2,090.00	13.60
1993	7.51	53.97	2,119.21	14.00
1994	8.02	21.93	2,064.03	38.60
1995	11.04	37.90	494.00	38.10
1996	10.51	49.05	552.00	30.60
1997	10.17	74.58	999.68	31.10
1998	16.09	64.32	1,038.93	28.00
1999	15.01	524.09	732.00	21.30
2000	10.25	140.07	796.24	18.60
2001	11.10	216.47	792.61	17.60
2002	13.44	170.56	883.08	19.50
2003	11.68	174.54	1,008.92	15.70
2004	14.23	186.41	1,013.11	20.60
2005	10.80	197.34	828.28	29.00
2006	12.69	192.98	1,179.50	25.00
2007	21.24	209.55	1,748.14	23.70
2008	12.25	239.47	1,995.55	27.37

Source: LBP Annual Report and Strategic Planning Group, LandBank